WEST VIRGINIA
SECRETARY OF STATE

JOE MANCHIN III

ADMINISTRATIVE LAW DIVISION

Form #5

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OFFICE WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF AGENCY ADOPTION OF A PROCEDURAL OR INTERPRETIVE RULE OR A LEGISLATIVE RULE EXEMPT FROM LEGISLATIVE REVIEW

AGENCY: West Virginia Board of Education TITLE NUMBER: 126

CITE AUTHORITY: W.Va. Constitution, Article XII, §2, W.Va. Code §18-2-5 and §18-9A-22

RULE TYPE: PROCEDURAL _____ INTERPRETIVE _____

EXEMPT LEGISLATIVE RULE X
CITE STATUTE(s) GRANTING EXEMPTION FROM LEGISLATIVE REVIEW
W.Va. Code §§29A-3B-1, et seq.; *W.Va. Board of Education v. Hechler*, 180 W.Va. 451; 376 S.E.2d 839 (1988).

AMENDMENT TO AN EXISTING RULE: YES ____ NO X

IF YES, SERIES NUMBER OF RULE BEING AMENDED: _____

TITLE OF RULE BEING AMENDED: _____

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED: 44M

TITLE OF RULE BEING PROPOSED: Content Standards and Objectives for Technical and Adult Education in West Virginia Schools (2520.13)

THE ABOVE RULE IS HEREBY ADOPTED AND FILED WITH THE SECRETARY OF STATE. THE EFFECTIVE DATE OF THIS RULE IS July 1, 2003.

David Stewart
State Superintendent of Schools

$2.80 W/out manual
$64.10 With manual

EXECUTIVE SUMMARY

POLICY 2520.13
CONTENT STANDARDS AND OBJECTIVES FOR TECHNICAL AND ADULT EDUCATION IN WEST VIRGINIA SCHOOLS

Background:
Policy 2520.13 defines the content standards and objectives for the programs of study for technical and adult education as required by Policy 2510 and establishes a standardized format for such. The content standards and objectives cover courses in the areas of Agricultural Education, Business Education, Diversified Cooperative Training, Family & Consumer Sciences, Health Occupations, Lodging Management, Marketing Education, Occupational Family & Consumer Science, Technical and Industrial Education, Technology Education and Travel West Virginia.

The policy was presented to the West Virginia Board of Education on April 18, 2002, as a revision to the existing Policy 2520. Those revisions were out on public comment until June 21, 2002. The policy was approved by the Board on July 11, 2002, to become effective July 1, 2003. Subsequently, due to the length of the resulting Policy 2520 and in anticipation of further additions for both academic and technical courses, the policy was split, with the content standards and objectives for technical and adult courses designated as Policy 2520.13.

Summary of Comments and Revisions:
Only one comment, relating to a Family and Consumer Science course called BASE, was received. No changes have been made as a result of that comment. We believe the provision of technical assistance to that teacher will suffice. If discussions with other middle school FACS teachers indicate a need, we will make revisions to that course in the future

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OFFICE WEST VIRGINIA
SECRETARY OF STATE

TITLE 126
LEGISLATIVE RULE
BOARD OF EDUCATION

SERIES 44M
CONTENT STANDARDS AND OBJECTIVES FOR TECHNICAL AND ADULT EDUCATION IN WEST VIRGINIA SCHOOLS (2520.13)

§126-44M-1 General.

1.1. Scope. - West Virginia Board of Education Policy 2510 provides a definition of a delivery system for, and an assessment and accountability system for, a thorough and efficient education for West Virginia public school students. Policy 2520.13 defines the content standards (or instructional goals) and objectives for the technical and adult programs of study required by Policy 2510.

1.2. Authority. -- W.Va. Constitution, Article XII, §2, W.Va. Code §18-2-5 and §18-9A-22.

1.3. Filing Date. -- December 3, 2002.

1.4. Effective Date. -- July 1, 2003.

1.5. Repeal of former rule. -- This is new rule.

§126-44M-2. Purpose.

2.1. This policy defines the content standards (or instructional goals) and objectives for the programs of study required by Policy 2510 in technical and adult education courses.

§126-44M-3. Incorporation by Reference.

3.1. A copy of Content Standards and Objectives for Technical and Adult Education in West Virginia Schools is attached and incorporated by reference into this policy. Copies may be obtained in the Office of the Secretary of State and in the West Virginia Department of Education, Office of Program Services.

§126-44M-4. Summary of the Content Standards (or Instructional Goals) and Objectives

4.1. The West Virginia Board of Education has the responsibility for establishing high quality standards pertaining to all education programs (W.Va. Code §18-9A-22). The content standards and objectives provide a focus for teachers to teach and students to learn those skills and competencies essential for future success in the workplace and further education. The document includes content standards for technical and adult education in West Virginia Schools.

West Virginia Department of Education
Office of Program Services

Policy 2520.13
Content Standards and Objectives For Technical and Adult Education In West Virginia Schools

Foreword

The West Virginia Board of Education and the West Virginia Department of Education are pleased to present Policy 2520.13: Content Standards and Objectives for Technical and Adult Education in West Virginia Schools.

Committees of educators from across the state gathered to work on curriculum refinement. The committees incorporated content based on the most current research, national standards and best teaching practices in the field. Primary issues that have been addressed in the current revision are building a rigorous and challenging curriculum, ensuring a curriculum that is accessible to every student, and designing a format that can easily be used and understood.

West Virginia educators have played a key role in shaping the content standards. Their contribution was critical in creating a policy that is meaningful for the classroom.

The content standards and objectives combine to give teachers a powerful resource for planning instruction. The focus throughout the document remains on achieving at a high level and on offering all students in West Virginia rigor and challenge.

David Stewart
State Superintendent of Schools

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Explanation of Terms

Content Standards (or Instructional Goals) are broad descriptions of what students should know and be able to do in a content area. Content standards describe what students' knowledge and skills should be at the end of a course.

Objectives are incremental steps toward accomplishment of content standards. Objectives are organized around the content standards. Objectives build as students advance in their knowledge and skills.

Numbering of Standards

The number for each content standard is composed of three parts, each part separated by a period:

- The WVEIS course code;
- The letter S, for Standard; and
- The standard number.

Illustration: 0101.S.1 refers to Agriculture and Natural Resources I content standard #1.

Numbering of Objectives

The number of each objective is composed of two parts, each part separated by a period:

- The WVEIS code;
- The number of the content standard addressed; and
- The objective number.

Illustration: 0101.1.1 refers to Agriculture and Natural Resources I content standard #1, objective #1.

Unique Electronic Numbers (UENs)

Unique Electronic Numbers (or UENs) are numbers that help to electronically identify, categorize and link specific bits of information. Once Policy 2520.13 is available on the Web, each standard and each objective will have a Unique Electronic Number (UEN) that will always remain the same.

The codes printed in Policy 2520.13 form the basis of the UENs. The only additional set of numbers that will be added to each code to formulate its UEN will be a prefix that indicates the year and month that a particular version of Policy 2520.13 is approved by the State Board of Education. The date is not explicitly printed in the document but it is assumed to be part of every UEN. As sections of 2520.13 are revised, UENs will be changed to reflect the new approval date.

The prefix for the UENs in this section of Policy 2520.13 is "200207, indicating that the Board approval date is July, 2002.

UENs (Unique Electronic Numbers) are unique numbers that facilitate implementation of WV Standards into Electronic formats such as Databases and XML Files. The WV

Department of Education encourages everyone who is going to use the WV Content Standards in any kind of electronic distribution, alignment, or software development to use the UENs so that all efforts can be cross-referenced and there is consistency across initiatives.

Agriculture and Natural Resources I — WVEIS Code 0101

This area of study is designed to provide students with core skills and competencies needed for pursuing careers in agriculture and natural resources. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts.

Standard 1: Orientation to the Agriculture and Natural Resource Industries (0101.S.1)

Students will describe the natural resource industry.

Agriculture and Natural Resource Industries Objectives

Students will:
0101.1.1 Identify appropriate career opportunities in agriculture and natural resources.
0101.1.2 Relate the importance of agriculture and natural resources to state, national and international economies.
0101.1.3 Identify major agricultural and natural resources issues.
0101.1.4 Identify the scientific principles in food and fiber production.

Standard 2: Leadership in Agriculture and Natural Resources (0101.S.2)

Students will show leadership skills necessary for success in agriculture and natural resources.

Leadership in Agriculture and Natural Resources Objectives

Students will:
0101.2.1 Participate in meetings using parliamentary law.
0101.2.2 Use interpersonal skills in team problem solving.
0101.2.3 Prepare and deliver a brief presentation on an agricultural or natural resources topic.

Standard 3: Developing Work-Based Experience Program (0101.S.3)

Students will develop work-based experience programs in agriculture and natural resources.

Developing Work-Based Experience Program Objectives

Students will:
0101.3.1 Define and explain supervised experience programs in agriculture and natural resources.
0101.3.2 Explore opportunities for work-based experiences through supervised experience programs.
0101.3.3 Define record keeping terms for supervised experience programs.
0101.3.4 Complete budgets for potential supervised experience programs.
0101.3.5 Establish a supervised experience program in agriculture or natural resources.
0101.3.6 Utilize marketing principles.
0101.3.7 Demonstrate competency in agriscience problem solving.

Standard 4: Computer Applications in Agriculture and Natural Resources (0101.S.4)

Students will display skills involving computer application in natural recourses.

Computer Applications in Agriculture and Natural Resources Objectives

Students will:
0101.4.1 Utilize keyboarding skills to operate agriculture and natural resources software.
0101.4.2 Search the Internet to secure agriculture and natural resources information.

Standard 5: Applying Basic Mechanical Skill in Agriculture and Natural Resources (0101.S.5)

Students will demonstrate basic mechanical skills.

Basic Mechanical Skill in Agriculture and Natural Resources Objectives

Students will:
0101.5.1 Demonstrate principles of safety.
0101.5.2 Demonstrate basic tool conditioning skills.
0101.5.3 Demonstrate basic carpentry skills.
0101.5.4 Demonstrate basic welding skills.
0101.5.5 Demonstrate basic cold metal skills.

Standard 6: Introductory Animal Science and Production (0101.S.6)

Students will demonstrate animal science and production skills.

Animal Science and Production Objectives

Students will:
0101.6.1 Explore various animal production opportunities.
0101.6.2 Explain management/health requirements of animals.
0101.6.3 Identify desirable characteristics for selecting large and small animals.
0101.6.4 Identify different types of animal digestive systems.

Standard 7: Introductory Plant Science and Production (0101.S.7)

Students will demonstrate plant science and production skills.

Introductory Plant Science and Production Objectives

Students will:
0101.7.1 Explore various plant production opportunities.
0101.7.2 Explain plant production requirements (macronutrients, micronutrients, pH).
0101.7.3 Identify the major parts of a plant.
0101.7.4 Describe the function of the major parts of a plant.

Standard 8: Basic Environmental Concerns (0101.S.8)

Students will demonstrate basic environmental skills.

Basic Environmental Concerns Objectives

Students will:
0101.8.1 Explain major environmental concerns - e.g. acid rain, air pollution, soil degradation and surface and groundwater pollution.
0101.8.2 Use measurement devices to collect and test soil and water samples.
0101.8.3 Explain the concepts of soil science and their relationship to agriculture.

Standard 9: Investigations and Problem Solving (0101.S.9)

Students will participate in investigations and problem solving in agriscience.

Investigations and Problem Solving Objectives

Students will:
0101.9.1 Engage in hands-on activities demonstrating agriscience and natural resources concepts and principles.

Agriculture and Natural Resources II WVEIS Code 0102

This area of study is designed to provide students with core skills and competencies needed for pursuing advanced careers in agriculture and natural resources. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts.

Standard 1: Developing Work Based (0102.S.1)

Students will develop a work based experience program.

Developing Work Based Objectives

Students will:
0102.1.1 Analyze records of supervised experience programs to make sound decisions for expanding.
0102.1.2 Identify marketing trends and cycles.
0102.1.3 Identify employment trends and cycles.
0102.1.4 Identify the scientific principles in food and fiber production.

Standard 2: Computer Applications (0102.S.2)

Students will utilize computer applications in agriculture and natural resources.

Computer Applications Objectives

Students will:
0102.2.1 Use computer resources to solve problems related to work-based experience programs.

Standard 3: Ecosystem Management (0102.S.3)

Students will understand ecosystem management.

Ecosystem Management Objectives

Students will:
0102.3.1 Explain the impact of agriculture and forestry on ecosystems.
0102.3.2 Explain the relationship of wetlands to agriculture and natural resources.
0102.3.3 Test, interpret and analyze water and soil test data.

Standard 4: Leadership in Agriculture and Natural Resources (0102.S.4)

Students will display leadership skills in agriculture and natural resources.

Leadership in Agriculture and Natural Resources Objectives

Students will:
0102.4.1 Conduct meetings using parliamentary law.
0102.4.2 Serve as a small group team leader.
0102.4.3 Present prepared and extemporaneous speeches on issues affecting agriculture and natural resources.
0102.4.4 Participate in committees and leadership development activities.
0102.4.5 Participate in committee service.

Standard 5: Application of Mechanical Skills (0102.S.5)

Students will apply mechanical skills to augment agriculture and natural resource activities.

Application of Mechanical Skills Objectives

Students will:
0102.5.1 Read and transfer measurements.

0102.5.2 Develop bill of materials and calculate costs.
0102.5.3 Demonstrate advanced tool conditioning skills.
0102.5.4 Demonstrate advanced welding skills.
0102.5.5 Demonstrate building construction skills.
0102.5.6 Service and maintain small engines.
0102.5.7 Apply mechanical skills in repair and construction projects related to supervised experience programs.

Standard 6: Advanced Animal Science and Production (0102.S.6)

Students will demonstrate advanced animal science reproduction skills.

Advanced Animal Science and Production Objectives

Students will:
0102.6.1 Compare animal digestive systems.
0102.6.2 Analyze nutrient requirements of animals and calculate rations.
0102.6.3 Identify symptoms of nutrient deficiencies.
0102.6.4 Describe the use of feed additives and growth stimulants.
0102.6.5 Explain the role of breeding and selection in animal improvement.
0102.6.6 Recognize steps to maintain animal health.
0102.6.7 Explain biotechnology applications in animal production.

Standard 7: Advanced Plant Science and Production (0102.S.7)

Students will demonstrate advanced plant science and production skills.

Advanced Plant Science and Production Objectives

Students will:
0102.7.1 Describe approved practices in plant nutrition.
0102.7.2 Identify symptoms and management strategies for plant nutrient deficiencies.
0102.7.3 Identify pest management measures.
0102.7.4 Explain biotechnology applications in plant production.

Standard 8: Forestry (0102.S.8)

Students will exhibit skills enhancing selective forestry activities.

Forestry Objectives

Students will:
0102.8.1 Identify trees of major economic importance.
0102.8.2 Identify relationships among forests, wildlife and water resources.
0102.8.3 Select best management practices for timber stand improvement.

Standard 9: Investigations and Problem Solving (0102.S.9)

Students will participate in investigations and problem solving in agriscience.

Investigations and Problem Solving Objectives

Students will:
0102.9.1 Students will engage in advanced hands-on activities relating to agriscience and natural resources concepts.

Agriculture Mechanics I — WVEIS Code 0112

This area of study is designed to provide learners with job entry-level skills in the agricultural mechanics industry. Major instructional concepts include an orientation to mechanics industry, leadership, safety, drawing and blueprinting, shop, hand and power tools.

Standard 1: Orientation to the Agricultural Mechanics Industry (0112.S.1)

Students will describe mechanics as a career.

Agricultural Mechanics Industry Objectives

Students will:
0112.1.1 Identify various career opportunities in agricultural mechanics.
0112.1.2 Develop computer skills.
0112.1.3 Develop resume and job seeking skills.

Standard 2: Leadership in Agricultural Mechanics (0112.S.2)

Students will participate effectively in a group (FFA) setting.

Leadership in Agricultural Mechanics Objectives

Students will:
0112.2.1 Define the function and history of the FFA.
0112.2.2 Identify parliamentary procedure skills need to conduct a meeting.
0112.2.3 Perform individual leadership skills in preparing and presenting a speech.
0112.2.4 Prepare and identify components of a program of activities.

Standard 3: Understanding Safety and Fire Control Procedures (0112.S.3)

Students will maintain a safe working environment.

Understanding Safety and Fire Control Procedures Objectives

Students will:
0112.3.1 Utilize personal safety devices.
0112.3.2 Identify general shop safety rules.
0112.3.3 Maintaining a safe working environment.
0112.3.4 Identify and comply with safety rules relating to operation of farm tractors and equipment.

Standard 4: Understanding and Interpreting Drawing and Blueprints (0112.S.4)

Students will use blueprints to plan projects.

Understanding and Interpreting Drawing and Blueprints Objectives

Students will:
0112.4.1 Apply dimensions to drawings and free hand sketches.
0112.4.2 Calculate costs and bill of materials.

Standard 5: Using Shop Hand and Power Tools (0112.S.5)

Students will safely and correctly demonstrate metal fabrication.

Using Shop Hand and Power Tools Objectives

Students will:
0112.5.1 Identify and use common hand tools and power equipment.
0112.5.2 Perform cold metal procedures - cutting, drilling and threading.
0112.5.3 Perform various arc-welding functions.

0112.5.4 Perform various oxy-acetylene tasks.
0112.5.5 Conduct arc welding projects that relate to SAEs.

Standard 6: Technology Applications (0112.S.6)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0112.6.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in agricultural mechanics.
- Locate, evaluate, and collect information from a variety of sources related to agricultural mechanics.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0112.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0112.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agricultural mechanics.
0112.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agricultural mechanics.

Standard 7: Process/Workplace Skills in Agribusiness (0112.S.7)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills in Agribusiness Objectives

Students will:
0112.7.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0112.7.2 Explore careers available in agricultural mechanics.
0112.7.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.
0112.7.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0112.7.5 Demonstrate correct language usage in all oral and written work.
0112.7.6 Perform effectively in both leadership and non-leadership roles.
0112.7.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0112.7.8 Participate as a team member to complete a variety of assignments.

Standard 8: Laboratory Investigation (0112.S.8)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0112.8.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0112.8.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0112.8.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0112.8.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Agricultural Mechanics II WVEIS Code 0113

This area of study provides students with more advanced concepts and practical application in the areas of leadership, computer application, ag engines, structures, electricity and fencing.

Standard 1: Introduction to Basic Principles of Agricultural Engines – Gasoline and Diesel (0113 .S.1)

Students will learn the basic principles of agricultural engines – gasoline and diesel.

Gasoline and Diesel Objectives

Students will:
0113.1.1 Interpret basic principles of agricultural engines.
0113.1.2 Apply principles of tune-up procedure.
0113.1.3 Perform engine overhauls.
0113.1.4 Demonstrate problem solving in operation and maintenance of engines.
0113.1.5 Identify hydraulic systems.
0113.1.6 Identify and use diagnostic testing equipment.

Standard 2: Agricultural Structures (0113.S.2)

Students will use agriculture construction techniques.

Agricultural Structures Objectives

Students will:
0113.2.1 Identify basic building construction techniques related to agricultural structures.
0113.2.2 Select and install appropriate fasteners.
0113.2.3 Select kinds and grades of lumber for the job.
0113.2.4 Identify roof designs and materials.
0113.2.5 Exhibit concrete and masonry skills.
0113.2.6 Identify, select and use plumbing fixtures.
0113.2.7 Select and use various painting and finishing materials.

Standard 3: Agricultural Electricity (0113.S.3)

Students will use proper safety in electrical wiring.

Agricultural Electricity Objectives

Students will:
0113.3.1 Demonstrate electrical theory and skills with agricultural electrical units.
0113.3.2 Identify terminology, circuits, breakers, switches and service entrance panels based on state codes.
0113.3.3 Identify, select and use electric motors, motor controls, pulley sizes and speeds.
0113.3.4 Demonstrate proper safety procedures in all electrical work.

Standard 4: Fencing (0113.S.4)

Students will explore fencing for agricultural applications.

Fencing Objectives

0113.4.1 Identify and understand the various types of fencing, tools and equipment.
0113.4.2 Analyze the economics of various fencing systems.

Standard 5: Agricultural Equipment (0113.S.5)

Students will maintain, adjust and repair agricultural equipment.

Agricultural Equipment Objectives

Students will:

0113.5.1 Identify agricultural machinery and equipment.
0113.5.2 Perform maintenances procedures as recommended in service manuals.
0113.5.3 Identify agricultural lubricants and fuels.

Standard 6: Technology Applications (0113.S.6)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0113.6.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in agricultural mechanics.
- Locate, evaluate, and collect information from a variety of sources related to agricultural mechanics.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0113.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0113.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to a agricultural mechanics.
0113.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of an agricultural mechanics.

Standard 7: Process/Workplace Skills in Agribusiness (0113.S.7)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills in Agribusiness Objectives

Students will:

0113.7.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0113.7.2 Explore careers available in agricultural mechanics.
0113.7.3 Use a variety of sources to investigate the educational requirements of various careers in agricultural mechanics.
0113.7.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0113.7.5 Demonstrate correct language usage in all oral and written work.
0113.7.6 Perform effectively in both leadership and non-leadership roles.
0113.7.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0113.7.8 Participate as a team member to complete a variety of assignments.

Standard 8: Lab Investigation (0113.S.8)

Students will safely conduct laboratory investigations and exploratory learning.

Lab Investigation Objectives

Students will:

0113.8.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0113.8.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0113.8.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0113.8.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser

discs) to collect, analyze, and/or report data, interact with simulations, and research.

Agribusiness Management WVEIS Code 0131

Agribusiness management is for students who seek further agriculture, business, advancement and management techniques that will enable them to become successful in owning and operating a business.

Standard 1: Agribusiness Concepts (0131.S.1)

Students will Identify different types of business organizations.

Agribusiness Concepts Objectives

Students will:
0131.1.1 Identify agribusiness organizational structures.
0131.1.2 Distinguish between partnership, limited partnership and joint venture.
0131.1.3 Describe regular and sub-chapter S corporations.
0131.1.4 Explain the difference between cooperatives and corporations.

Standard 2: Agripreneurship (0131.S.2)

Students will describe the risks and rewards of becoming an entrepreneur.

Agripreneurship Objectives

Students will:
0131.2.1 Define entrepreneurship.
0131.2.2 Recognize advantages and disadvantages of being self-employed.
0131.2.3 Identify personal characteristics of successful agripreneurs.
0131.2.4 Explain why businesses succeed.

Standard 3: Preparing a Business Plan (0131.S.3)

Students will develop a business plan and technical resources.

Preparing a Business Plan Objectives

Students will:
0131.3.1 Identify and complete the components of a business plan.
0131.3.2 Prepare a cash flow statement for a proposed agribusiness.
0131.3.3 Identify sources of technical assistance in establishing and maintaining a successful business.
0131.3.4 Explain risk management.

Standard 4: Business Law (0131.S.4)

Students will identify the basic business law involved in agriculture.

Business Law Objectives

Students will:
0131.4.1 Identify the types and sources of laws.
0131.4.2 Describe liability and negligence laws.
0131.4.3 Describe health and safety regulations.
0131.4.4 Identify legal requirements and common laws and legal documentation of a successful business operation.

Standard 5: Marketing and Sales Management (0131.S.5)

Students will develop a marketing and sales plan.

Marketing and Sales Management Objectives

Students will:

0131.5.1 Develop and maintain a marketing strategy.
0131.5.2 Explain methods of advertising.
0131.5.3 Identify sources of information in using marketing research.
0131.5.4 Demonstrate successful marketing techniques.

Standard 6: Financial Management (0131.S.6)

Students will develop various financial records of an agribusiness.

Financial Management Objectives

Students will:

0131.6.1 Use computers in maintaining business documents and records.
0131.6.2 Use computers to make sales and business projections.
0131.6.3 Prepare sales literature and advertisements.

Standard 7: Technology Applications in Agribusiness (0131.S.7)

Students will apply technology to investigate real-world problems.

Technology Applications in Agribusiness Objectives

Students will:

0131.7.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in agribusiness.
- Locate, evaluate, and collect information from a variety of sources related to agribusiness.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0131.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0131.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agribusiness.
0131.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agribusiness.

Standard 8: Process/Workplace Skills in Agribusiness (0131.S.8)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills in Agribusiness Objectives

Students will:

0131.8.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0131.8.2 Explore careers available in agribusiness.
0131.8.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.
0131.8.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0131.8.5 Demonstrate correct language usage in all oral and written work.
0131.8.6 Perform effectively in both leadership and non-leadership roles.
0131.8.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0131.8.8 Participate as a team member to complete a variety of assignments.

0132.4.2 Perform various tissue culturing techniques.
0132.4.3 Discuss the stages of plant growth and investigate and analyze alterations in plant growth as a result of biotechnology.
0132.4.4 Evaluate the impact of biotechnology on making plants more resistant to insects, diseases and frost.

Standard 5: Laboratory Investigation (0132.S.5)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0132.5.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0132.5.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0132.5.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0132.5.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 6: Ethical Questions Created by Biotechnology (0132.S.6)

Students will demonstrate an understanding of ethical issues associated with biotechnology.

Ethical Questions Created by Biotechnology Objectives

Students will:
0132.6.1 Examine ethical questions raised by biotechnology.
0132.6.2 Distinguish the difference between fact and opinion.

Standard 7: Leadership Development for the Biotechnology Industry (0132.S.7)

Students will research and debate issues in biotechnology.

Biotechnology Industry Objectives

Students will:
0132.7.1 Obtain current information from printed sources and the Internet concerning biotechnology and evaluate for accuracy.
0132.7.2 Debate biotechnology issues.

Standard 8: Technology Applications (0132.S.8)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0132.8.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in agricultural biotechnology.
- Locate, evaluate, and collect information from a variety of sources related to agricultural biotechnology.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0132.8.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0132.8.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agricultural biotechnology.

0132.8.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agricultural biotechnology.

Standard 9: Process/Workplace Skills (0132.S.9)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0132.9.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0132.9.2 Explore careers available in agricultural biotechnology.
0132.9.3 Use a variety of sources to investigate the educational requirements of various careers in agricultural biotechnology.
0132.9.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0132.9.5 Demonstrate correct language usage in all oral and written work.
0132.9.6 Perform effectively in both leadership and non-leadership roles.
0132.9.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0132.9.8 Participate as a team member to complete a variety of assignments.

Agricultural Biotechnology WVEIS Code 0132

This course is designed to provide knowledge, skills and competencies regarding the application of biotechnology to agriscience. The course establishes a basic understanding of biotechnology, genetics, and agricultural applications and explores related careers.

Standard 1: Orientation to Biotechnology (0132.S.1)

Students will research application of biotechnology in agriscience.

Biotechnology Objectives

Students will:
0132.1.1 Investigate biotechnology and its applications to agriscience.
0132.1.2 Research the biotechnology industry and make predictions regarding future uses in agriscience and the impact on the industry and consumer.

Standard 2: Genetics and Genetic Engineering (0132.S.2)

Students will describe genetic engineering.

Genetics and Genetic Engineering Objectives

Students will:
0132.2.1 Define and exhibit an understanding of basic genetic terms.
0132.2.2 Explain the concept of habitability.
0132.2.3 Compare and contrast methods of transferring genetic information.
0132.2.4 Relate the concepts of dominant and recessive genes to common heritable traits.
0132.2.5 Explain and simulate recombinant DNA procedures.
0132.2.6 Explain and perform procedures used in tissue culturing.
0132.2.7 Research emerging methods of genetic engineering.
0132.2.8 Properly and safely manipulate equipment and procedures used in performing genetic engineering tasks.

Standard 3: The Application of Biotechnology to Animal Management and Reproduction (0132.S.3)

Students will apply principles of biotechnology to animal production.

Animal Management and Reproduction Objectives

Students will:
0132.3.1 Apply principles of biotechnology to animal selection.
0132.3.2 Apply principles of biotechnology to animal health.
0132.3.3 Apply principles of biotechnology to the management of animal waste.
0132.3.4 Explore the application of artificial insemination in animal science.
0132.3.5 Describe the purposes and procedures of embryo transfer.
0132.3.6 Investigate and discuss the application of biotechnology to estrus manipulation.
0132.3.7 Explore developments in biotechnology regarding gender selection.

Standard 4: The Application of Biotechnology to Plant Propagation, Growth and Development (0132.S.4)

Students will apply principles of biotechnology to plant production.

Plant Propagation, Growth and Development Objectives

Students will:
0132.4.1 Design, conduct, evaluate and revise experiments related to the application of biotechnology to both sexual and asexual plant propagation.

Agricultural Cooperative Education WVEIS Code 0133

This course is designed for seniors in agricultural education classes. Students must be their third or fourth year with satisfactory grades. Students will be placed in an agricultural occupation and will receive wages, credits toward graduation and receive school-release time of a maximum of three hours per day. Students who wish to enroll will need approval from program coordinator. An attendance contract will be required. The contract will be signed by the student, parent/guardian, administrator and program coordinator. This course will give students experience in a potential agricultural career.

Standard 1: Orientation (0133.S.1)

Students will prepare for employment.

Orientation Objectives

Students will:
0133.1.1 Determine areas of major interest in agriculture (production, agribusiness, entrepreneurship).
0133.1.2 Complete required information sheet and papers for program.
0133.1.3 Identify required policies.
0133.1.4 Establish experience program record-book procedures.
0133.1.5 Establish an appropriate training program and evaluation procedures.

Standard 2: Interpersonal Skill Development (0133.S.2)

Students will develop skills necessary to maintain employment.

Interpersonal Skill Development Objectives

Students will:
0133.2.1 Develop an understanding of employer/employee relationships.
0133.2.2 Establish job-site ethics.
0133.2.3 Describe appropriate dress, etiquette and health habits.
0133.2.4 Determine job skills and responsibilities.
0133.2.5 Budget time effectively for job completion.
0133.2.6 Develop leadership and decision-making skills.
0133.2.7 Demonstrate a courteous attitude to customers, employers and fellow employees.
0133.2.8 Display willingness to learn new techniques and follow directions.

Standard 3: Job Site Safety Skills (0133.S.3)

Students will demonstrate a safety "attitude."

Job Site Safety Skills Objectives

Students will:
0133.3.1 Establish a safe working environment.
0133.3.2 Obtain appropriate training from supervisor using acceptable procedures.
0133.3.3 Identify procedures for reporting safety violations.
0133.3.4 Identify the location of first aid kits, emergency phone numbers and exits.
0133.3.5 Demonstrate proper use of equipment.

Standard 4: Career Awareness and Employment Skills (0133.S.4)

Students will develop documents and skills to obtain employment.

Career Awareness and Employment Skills Objectives

Students will:

0133.4.1 Identify areas of potential career interests.
0133.4.2 Determine contents of job application and complete a letter of application.
0133.4.3 Compose an appropriate job resume.
0133.4.4 Demonstrate job-interviewing skills.
0133.4.5 Identify methods to locate potential jobs.

Standard 5: Technology Applications (0133.S.5)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0133.5.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in agribusiness.
- Locate, evaluate, and collect information from a variety of sources related to agribusiness.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0133.5.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0133.5.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agribusiness.
0133.5.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agribusiness.

Standard 6: Process/Workplace Skills in Agribusiness (0133.S.6)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills in Agribusiness Objectives

Students will:

0133.6.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0133.6.2 Explore careers available in agribusiness.
0133.6.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.
0133.6.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0133.6.5 Demonstrate correct language usage in all oral and written work.
0133.6.6 Perform effectively in both leadership and non-leadership roles.
0133.6.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0133.6.8 Participate as a team member to complete a variety of assignments.

Standard 7: Lab Investigation (0133.S.7)

Students will safely conduct laboratory investigations and exploratory learning.

Lab Investigation Objectives

Students will:

0133.7.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

0133.7.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0133.7.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0133.7.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

*Credit varies according to school-release time for placement. In most cases, the program will involve 2 hours/3 credits.

Agricultural Experience Program WVEIS Code 0134

Students enrolled in agricultural education courses have the unique opportunity for experiential learning on a grand scale. Students may select and participate in appropriate agricultural enterprises which provide opportunity to acquire skills, earn money and develop responsibility while also earning high school credit. This course code provides county school systems the vehicle whereby credit can be awarded for such individual student agricultural experiences occurring as an outgrowth from other agricultural education courses.

Standard 1: Selecting Supervised Agricultural Experience Program (0134.S.1)

Students will identify and investigate appropriate enterprises for SAE.

Supervised Agricultural Experience Program (SAE) Objectives

Students will:

0134.1.1 Define and explain the meaning and purpose of SAE.
0134.1.2 Complete a personal interest and resource inventory to identify an appropriate potential SAE.
0134.1.3 Explore and become engaged in appropriate agricultural enterprises through placement and/or entrepreneurship.

Standard 2: Maintaining Supervised Agricultural Experience Program Records (0134.S.2)

Students will accurately maintain SAE records.

Supervised Agricultural Experience Program Records Objectives

Students will:

0134.2.1 Explain the types of records utilized in agricultural enterprises.
0134.2.2 Define and demonstrate the use of net worth statements, inventories, income and expense logs and other pertinent financial records.
0134.2.3 Maintain neat and accurate records for individual SAEs.

Standard 3: Evaluating and Improving Supervised Agriculture Experience Program (0134.S.3)

Students will summarize and evaluate progress in individual SAEs.

Evaluating and Improving Supervised Agriculture Experience Program Objectives

Students will:

0134.3.1 Summarize financial records to determine net income from the SAE.
0134.3.2 Calculate efficiency factors related to individual SAEs.
0134.3.3 Explore opportunities for SAE expansion and/or improvement.
0134.3.4 Research and examine career opportunities related to individual SAEs.

Agriscience 11 WVEIS Code 0135

This area of agriscience is designed to provide students with knowledge, skills and competencies needed to enter various occupations in agriculture and natural resources. Topics covered in agriscience are animal science, plant science, agricultural mechanics, microcomputer applications, and leadership and supervised agricultural experience programs. The program combines knowledge and skills with experiential learning and FFA for a total program effect.

Standard 1: Agricultural Buildings And Equipment (0135.S.1)

Students will apply agricultural mechanical skills in solving agriscience problems.

Agricultural Buildings and Equipment Objectives

Students will:
0135.1.1 Compare and contrast fencing systems, materials, tools and management practices.
0135.1.2 Analyze and discuss types of agricultural buildings and related construction.
0135.1.3 Interpret agricultural equipment service manuals and maintenance schedules.
0135.1.4 Perform basic transit procedures.

Standard 2: Pesticide Safety and Management (0135.S.2)

Students will describe basic pesticide safety.

Pesticide Safety and Management Objectives

Students will:
0135.2.1 Investigate and discuss pesticide types and pest control.
0135.2.2 Examine control methods, chemical formulation and equipment used to control pests in the greenhouse.
0135.2.3 Identify information on a pesticide label.
0135.2.4 Explore the safe handling and disposal of pesticides.
0135.2.5 Identify and perform the steps in calibrating a sprayer.
0135.2.6 Research integrated pest management.

Standard 3: Health and Care of Farm Related Animals (0135.S.3)

Students will explain how to maintain animal health.

Health and Care of Farm Related Animals Objectives

Students will:
0135.3.1 Investigate and discuss the symptoms of unhealthy animals.
0135.3.2 Identify and diagnose symptoms of disease and parasites.
0135.3.3 Analyze the treatment and prevention of animal disease.
0135.3.4 Utilize techniques in administering medicine and immunizing.
0135.3.5 Examine the treatment and prevention of animal parasites.
0135.3.6 Identify and illustrate the methods for administering medicines to animals.
0135.3.7 Design and utilize a herd health program.
0135.3.8 Differentiate between animal welfare and animal rights.

Standard 4: Work-based Experiential Programs (Supervised Agricultural Experience Programs) (0135.S.4)

Students will conduct work-based experience programs.

Work-based Experiential Programs Objectives

Students will:
0135.4.1 Complete and summarize record book enterprises related to students Supervised Agricultural

Experience Program.
0135.4.2 Calculate efficiency factors related to students Supervised Agricultural Experience Program.

Standard 5: Managing Farm Woodlots (0135.S.5)

Students will describe farm woodlot management.

Managing Farm Woodlots Objectives

Students will:
0135.5.1 Compare and contrast the methods of identifying trees.
0135.5.2 Identify trees common to West Virginia.
0135.5.3 Evaluate major forest type and primary uses.
0135.5.4 Measure tree height and diameter.
0135.5.5 Identify and utilize units of measurement (mile, rod, chair & acre).
0135.5.6 Calculate the number of acres in a timber tract.
0135.5.7 Examine the habitat necessary for wildlife.

Standard 6: Laboratory Investigations/Hands-on Learning (0135.S.6)

Students will safely conduct laboratory investigation and exploratory learning.

Laboratory Investigations/hands-on Learning Objectives

Students will:
0135.6.1 Engage in active inquiries, investigations, and hands-on activities for a minimum of 50 percent of the instructional time to develop conceptual understanding and laboratory skills.
0135.6.2 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0135.6.3 Conduct explorations in a variety of environments (e.g., laboratories and outdoor locations).
0135.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laserdiscs) to collect, analyze and/or report data, interact with simulations, and research.

Standard 7: Leadership Development in Agriscience (0135.S.7)

Students will display leadership skills in Agriscience

Leadership Development in Agriscience Objectives

Students will:
0135.7.1 Conduct meetings using parliamentary law.
0135.7.2 Serve as a small group team leader.
0135.7.3 Present prepared and extemporaneous speeches on issues affecting agriscience.
0135.7.4 Engage in committees and leadership development activities.
0135.7.5 Model and exhibit community service.

Standard 8: Principles of Safety (0135.S.8)

Students will demonstrate principles of safety.

Principles of Safety Objectives

Students will:
0135.8.1 Wear appropriate protective gear.
0135.8.2 Maintain a safe working environment.
0135.8.3 Identify and engage in safety practices on the farm and in the work place.

Standard 9: Technology Applications (0135.S.9)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0135.9.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in agriscience.
- Locate, evaluate, and collect information from a variety of sources related to agriscience.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0135.9.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0135.9.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agriscience.

0135.9.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agriscience.

Standard 10: Process/Workplace Skills (0135.S.10)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0135.10.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0135.10.2 Explore careers available in agriscience.

0135.10.3 Use a variety of sources to investigate the educational requirements of various careers in agriscience.

0135.10.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0135.10.5 Demonstrate correct language usage in all oral and written work.

0135.10.6 Perform effectively in both leadership and non-leadership roles.

0135.10.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0135.10.8 Participate as a team member to complete a variety of assignments.

Agriscience 12 WVEIS Code 0136

The area of agriscience is designed to provide students with knowledge, skills and competencies needed to enter various occupations in agriculture and natural resources. Topics covered in agriscience are animal science, plant science, agricultural mechanics, microcomputer applications, leadership and supervised agricultural experience programs. The program combines knowledge and skills with experiential learning and FFA for a total program effect.

Standard 1: Appling Agriculture Mechanic Skills (0136.S.1)

Students will apply agriculture mechanic skills in solving problems in agriscience.

Appling Agriculture Mechanic Skills Objectives

Students will:
0136.1.1 Tune-up and perform maintenance procedures on agricultural engine driven machines.
0136.1.2 Perform basic electrical wiring skills.
0136.1.3 Adjust and maintain hay equipment.
0136.1.4 Form, mix, pour and finish concrete.

Standard 2: Land Use Capabilities and Soil Conservation (0136.S.2)

Students will demonstrate land use capabilities and soil conservation in agriscience.

Land Use Capabilities and Soil Conservation Objectives

Students will:
0136.2.1 Evaluate and classify soils according to land use factors.
0136.2.2 Define and determine physical properties of soil.
0136.2.3 Recommend land use and soil conservation practices.
0136.2.4 Test soil and analyze fertility recommendations.
0136.2.5 Explain the function and management of soil pH.
0136.2.6 Describe the process of soil testing.
0136.2.7 Interpret and apply data generated by soil testing.

Standard 3: Landscape Design and Turfgrass Management (0136.S.3)

Students will engage in activities in landscape design and turfgrass management.

Landscape Design and Turfgrass Management Objectives

Students will:
0136.3.1 Identify turfgrass species, purposes and desired locations.
0136.3.2 Explain steps for turfgrass establishment.
0136.3.3 Calculate fertilizer application rates.
0136.3.4 Identify common turf insects, weeds, diseases and biological control.
0136.3.5 Identify ornamental tree and shrubs.
0136.3.6 Select trees and shrubs for appropriate landscape use.
0136.3.7 Install and maintain landscape plant materials.

Standard 4: Animal Reproduction (0136.S.4)

Students will display a working knowledge of animal reproduction.

Animal Reproduction Objectives

Students will:
0136.4.1 Describe genetic principles of animal breeding.
0136.4.2 Identify parts of the male and female reproductive tracts.
0136.4.3 Explain the estrus cycle and gestation period of farm animals.

0136.4.4 Describe techniques of artificial insemination, embryo transplant and pregnancy testing.
0136.4.5 Select breeding stock using performance test data.
0136.4.6 Identify biotechnology implications for animal production.

Standard 5: Farm and Agribusiness Financing (0136.S.5)

Students will engage in activities to augment the understanding of farm and agribusiness financing.

Farm and Agribusiness Financing Objectives

Students will:
0136.5.1 Describe the economic principles of supply and demand.
0136.5.2 Identify sources of credit.
0136.5.3 Calculate simple interest on a loan.
0136.5.4 Explain income tax requirements.
0136.5.5 Identify the functions of government agricultural agencies and programs.
0136.5.6 Describe the steps in planning an agribusiness.

Standard 6: Employment Skills (0136.S.6)

Students will conduct activities designed to enhance employment skills.

Employment Skills Objectives

Students will:
0136.6.1 Identify personal traits necessary to secure and maintain a job.
0136.6.2 Initiate a job search.
0136.6.3 Develop a resume.
0136.6.4 Complete a job application.
0136.6.5 Participate in simulated job interviews.

Standard 7: Work Based Experience (0136.S.7)

Students will conduct activities designed to enhance employment skills.

Work Based Experience Objectives

Students will:
0136.7.1 Complete and summarize record book enterprises related to students supervised agricultural experience program.
0136.7.2 Calculate efficiency factors related to students supervised agricultural experience program.

Standard 8: Computer Application (0136.S.8)

Students will engage in computer applications in agriscience.

Computer Application Objectives

Students will:
0136.8.1 Use computer resources to solve problems related to work-based experience programs.

Standard 9: Leadership in Agriscience (0136.S.9)

Students will develop leadership skills in agriscience.

Leadership in Agriscience Objectives

Students will:
0136.9.1 Conduct meetings using parliamentary law.
0136.9.2 Serve as a small group team leader.
0136.9.3 Present prepared and extemporaneous speeches on issues affecting agriscience.
0136.9.4 Participate in committee and leadership development activities.

0136.9.5 Participate in community services.

Standard 10: Safety (0136.S.10)

Students will demonstrate principles of safety.

Safety Objectives

Students will:
0136.9.1 Wear appropriate protective gear.
0136.9.2 Maintain a safe working environment.
0136.9.3 Identify safety practices on the farm and in the work place.

Animal And Veterinary Science – Large Animals WVEIS Code 0137

This course is designed to give students advanced knowledge of veterinary science, which includes the study of large farm animals (horses, cattle, sheep, goats and swine). This course will provide an understanding of breeds, animal health, nutrition, anatomy and physiology, training, economic and marketing principles and related employment skills. Students will develop a thorough knowledge of large animals and their management in health care related to technician and veterinarian skills.

Standard 1: Leadership (0137.S.1)

Students will participate in activities to develop leadership in animal and veterinary science.

Leadership Objectives

Students will:

0137.1.1 Participate in committee and leadership development activities associated with FFA.
0137.1.2 Complete and summarize records of SAE Program and health program on individual animals.
0137.1.3 Shadow appropriate career opportunities in Veterinary Medicine.
0137.1.4 Initiate a job search and complete application for entry into college level programs in Veterinary Science.
0137.1.5 Develop communication skills through prepared and extemporaneous speaking.

Standard 2: History And Selection of Farm Animals (0137.S.2)

Students will examine the history and selection of farm animals.

History and Selection of Farm Animals Objectives

Students will:

0137.2.1 Trace the history of domestic farm animals and relate it to human and animal health.
0137.2.2 Classify farm animals according to purposes/use.
0137.2.3 Identify breeds of large animals (horses, cattle, sheep, goats, swine).
0137.2.4 Relate the characteristics of breeds to methods of selection.

Standard 3: Handling and Restraint (0137.S.3)

Students will demonstrate safe methods for handling and restraining farm animals.

Handling and Restraint Objectives

Students will:

0137.3.1 Identify and use tools related to handling and restraint of large animals.
0137.3.2 Demonstrate methods of techniques used in restraint of large animals.
0137.3.3 Utilize basic commands and animal behavior methods to control animals.
0137.3.4 Utilize safety practices when handling and caring for animals.

Standard 4: Grooming and Clipping (0137.S.4)

Students will demonstrate safe grooming and clipping procedures.

Grooming and Clipping Objectives

Students will:

0137.4.1 Utilize safety practices in grooming and clipping large animals.
0137.4.2 Identify and utilize tools pertinent to the grooming, brushing and bathing of large animals.
0137.4.3 Demonstrate the ability to follow post-operative care and management of animals.

Standard 5: Anatomy and Physiology (0137.S.5)

Students will describe anatomy and physiology.

Anatomy and Physiology Objectives

Students will:

0137.5.1 Identify the major parts and examine the functions of the skeletal system.
0137.5.2 Identify the major parts and examine the functions of the muscular system.
0137.5.3 Identify the major parts and examine the functions of the nervous system.
0137.5.4 Identify the major parts and examine the functions of the endocrine system.
0137.5.5 Identify the major parts and examine the functions of the respiratory system.
0137.5.6 Identify the major parts and examine the functions of the circulatory system.
0137.5.7 Identify the major parts and examine the functions of the reproductive system.
0137.5.8 Identify the major parts and examine the functions of the excretory system.
0137.5.9 Identify the major parts and examine the functions of the digestive system.
0137.5.10 Compare and contrast ruminant and monogastric systems.
0137.5.11 Investigate the functions of other small animal digestive systems (avian, rabbits, reptiles).

Standard 6: Animal Health and Management (0137.S.6)

Students will display a working knowledge of managing animal health.

Animal Health and Management Objectives

Students will:

0137.6.1 Determine the type of care and housing facilities needed for large animals.
0137.6.2 Examine mechanical injury and perform basic first aid requirements for large farm animals.
0137.6.3 Identify signs/symptoms of disease, as well as prevention and treatment of large animals.
0137.6.4 Utilize techniques in administering medicine and immunizing large farm animals.
0137.6.5 Understand veterinarian hospital design, procedures and care of equipment and supplies used with a large farm animal.
0137.6.6 Recognize relationships between owner, animal and veterinarian to maintain a healthy client relationship.

Standard 7: Laboratory Investigation (0137.S.7)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:

0137.7.1 Engage in active inquiries, investigations and hands-on activities for a minimum of 50 percent of the instructional time to develop conceptual understanding and laboratory skills.
0137.7.2 Properly and safely manipulate equipment, materials, chemicals, organisms and models.
0137.7.3 Conduct explorations in a variety of environments (e.g., laboratories and outdoor locations).
0137.7.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laserdiscs) to collect, analyze and/or report data, interact with simulations, and research.
0137.7.5 Recognize the value of laboratory procedures in evaluating the functions of organs to assist in disease diagnosis of large animals.
0137.7.6 Utilize and care for diagnostic testing equipment and supplies used in a veterinarian clinic and field operations.
0137.7.7 Collect laboratory samples and interpret test results to diagnose animal health.

Standard 8: Nutrition (0137.S.8)

Students will describe animal nutrition.

Nutrition Objectives

Students will:

0137.8.1 Define, discuss and utilize terms associated with large animal nutrition.
0137.8.2 List and describe the basic nutrients and their functions.
0137.8.3 Analyze feed labels and determine the nutritional value of feeds and feedstuffs.
0137.8.4 Recognize signs of nutritional deficiencies.
0137.8.5 Analyze feeding and care requirements for maintaining pregnancy of large animals.

Standard 9: Marketing

Student will research regulations impacting animal care business.

Marketing Objectives

Students will:

0137.9.1 Record data and complete information required by law and regulations in the management of large animals.
0137.9.2 Calculate and analyze cost of owning and operating a large animal health clinic.

Standard 10: Technology Applications (0137.S.10)

Student will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0137.10.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in animal science.
- Locate, evaluate, and collect information from a variety of sources related to animal science.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0137.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics, and telecommunications.
0137.10.3 Use TV/satellite, VCR and Laserdiscs/DVD to retrieve information to complete assignments related to animal science.
0137.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of animal science.

Standard 11: Process/Workplace Skills and Animal Science (0137.S.11)

Student will demonstrate personal and group workplace skills.

Process/Workplace Skills and Animal Science Objectives

Students will:

0137.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0137.11.2 Explore careers available in animal science.
0137.11.3 Use a variety of sources to investigate the educational requirements of various careers in animal science and related sciences.
0137.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0137.11.5 Demonstrate correct language usage in all oral and written work.
0137.11.6 Perform effectively in both leadership and non-leadership roles.
0137.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0137.11.8 Participate as a team member to complete a variety of assignments.

Animal And Veterinary Science – Small Animals WVEIS Code 0138

This agricultural science course is designed to give students a working knowledge of veterinary science through the study of many animals including dogs, cats, birds, reptiles and other pets. This course will provide an understanding of breeds, animal health, nutrition, training, anatomy and physiology, grooming, economic and marketing principles and related employment skills. Students will develop a thorough knowledge of animals along with their management in health care related to technician and veterinarian skills.

Standard 1: Leadership (0138.S.1)

Students will become involved in activities to develop leadership in animal and veterinary science.

Leadership Objectives

Students will:
0138.1.1 Demonstrate an awareness of FFA and its components.
0138.1.2 Utilize record-keeping skills in work-based experience programs.
0138.1.3 Research appropriate career opportunities in veterinary medicine.
0138.1.4 Draft a resume, fill out a job application, demonstrate job seek/keep and computer skills.
0138.1.5 Develop and exhibit personal relation and communication skills.
0138.1.6 Demonstrate an awareness of employment and animal welfare ethics.

Standard 2: History and Selection of Small Animals (0138.S.2)

Students will examine the history and selection of small animals.

History and Selection of Small Animals Objectives

Students will:
0138.2.1 Trace the history of domestic animals and relate it to human and animal health.
0138.2.2 Classify small animals according to purposes/use.
0138.2.3 Identify breeds of small animals (dogs, cats, birds, reptiles, etc.).
0138.2.4 Examine the characteristics of small animals and incorporate into laboratory experimentation and disease evaluation.

Standard 3: Handling and Restraint (0138.S.3)

Students will demonstrate safe methods for handling and restraining small animals.

Handling and Restraint Objectives

Students will:
0138.3.1 Identify and use tools related to handling and restraint of small animals.
0138.3.2 Demonstrate methods and techniques used in restraint of small animals.
0138.3.3 Develop a basic understanding of animal behavior.
0138.3.4 Demonstrate the ability to follow post-operative care and management of animals.
0138.3.5 Utilize safety practices when handling and caring for animals.

Standard 4: Grooming and Clipping (0138.S.4)

Students will demonstrate safe grooming and clipping procedures.

Grooming and Clipping Objectives

Students will:
0138.4.1 Utilize safety practices in grooming and clipping small animals.
0138.4.2 Identify and use animal grooming tools.
0138.4.3 Demonstrate an awareness of grooming practices (bathing, clipping, nail trimming, combing/brushing).

0138.4.4 Use proper care in applying topical medications.

Standard 5: Anatomy and Physiology (0138.S.5)

Students will describe anatomy and physiology.

Anatomy and Physiology Objectives

Students will:
0138.5.1 Identify the major parts and examine the functions of the skeletal system.
0138.5.2 Identify the major parts and examine the functions of the muscular system.
0138.5.3 Identify the major parts and examine the functions of the nervous system.
0138.5.4 Identify the major parts and examine the functions of the endocrine system.
0138.5.5 Identify the major parts and examine the functions of the respiratory system.
0138.5.6 Identify the major parts and examine the functions of the circulatory system.
0138.5.7 Identify the major parts and examine the functions of the reproductive system.
0138.5.8 Identify the major parts and examine the functions of the excretory system.
0138.5.9 Identify the major parts and examine the functions of the digestive system.
0138.5.10 Compare and contrast ruminant and monogastric systems.
0138.5.11 Investigate the functions of other small animal digestive systems (avian, rabbits, reptiles).

Standard 6: Animal Health and Management (0138.S.6)

Students will describe the principles of managing animal health.

Animal Health and Management Objectives

Students will:
0138.6.1 Determine the type of care and housing facilities needed.
0138.6.2 Examine mechanical injury and perform basic first aid.
0138.6.3 Identify signs/symptoms of disease, as well as prevention and treatment.
0138.6.4 Utilize techniques in administering medicine and immunizing.
0138.6.5 Understand veterinarian hospital design, procedures and care of equipment and supplies.
0138.6.6 Recognize relationship between owner, animal and veterinarian to maintain a healthy client relationship.

Standard 7: Laboratory Investigation (0138.S.7)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0138.7.1 Engage in active inquiries, investigations and hands-on activities for a minimum of 50 percent of the instructional time to develop conceptual understanding and laboratory skills.
0138.7.2 Properly and safely manipulate equipment, materials, chemicals, organisms and models.
0138.7.3 Conduct explorations in a variety of environments (e.g., laboratories and outdoor locations).
0138.7.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laserdiscs) to collect, analyze and/or report data, interact with simulations, and research.
0138.7.5 Recognize the value of laboratory procedures in evaluating the functions of organs to assist in disease diagnosis.
0138.7.6 Utilize and care for diagnostic testing equipment and supplies used in a veterinarian clinic.
0138.7.7 Collect laboratory samples and interpret test results to diagnose animal health.

Standard 8: Nutrition (0138.S.8)

Students will describe animal nutrition.

Nutrition Objectives

Students will:
0138.8.1 Define, discuss and utilize terms associated with nutrition.
0138.8.2 List and describe the basic nutrients and their functions.
0138.8.3 Analyze pet food labels and determine the nutritional value of feeds and feedstuffs.
0138.8.4 Recognize signs of nutritional deficiencies.
0138.8.5 Analyze feeding and care requirements throughout life cycle and pregnancy.

Standard 9: Marketing (0138.S.9)

Student will research regulations impacting animal care business.

Marketing Objectives

Students will:
0138.9.1 Research types of laws, regulations and licenses as needed in a veterinarian clinic.
0138.9.2 Calculate and analyze costs of owning and operating an animal care business.

Standard 10: Technology Applications (0138.S.10)

Student will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0138.10.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in animal science.
- Locate, evaluate, and collect information from a variety of sources related to animal science.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0138.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics, and telecommunications.
0138.10.3 Use TV/satellite, VCR and Laserdiscs/DVD to retrieve information to complete assignments related to animal science.
0138.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of animal science.

Standard 11: Process/Workplace Skills and Animal Science (0138.S.11)

Student will demonstrate personal and group workplace skills.

Process/Workplace Skills and Animal Science Objectives

Students will:
0138.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0138.11.2 Explore careers available in animal science.
0138.11.3 Use a variety of sources to investigate the educational requirements of various careers in animal science and related sciences.
0138.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0138.11.5 Demonstrate correct language usage in all oral and written work.
0138.11.6 Perform effectively in both leadership and non-leadership roles.
0138.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0138.11.8 Participate as a team member to complete a variety of assignments.

Animal Processing — WVEIS Code 0139

This course is designed to provide students with basic knowledge and skills in meat processing occupations. Students will be able to exhibit these skills in the areas of sanitation and safety, slaughtering, processing and retailing, job seek/keep skills and microcomputer applications.

Standard 1: Leadership (0139.S.1)

Students will demonstrate skills necessary to be employed.

Leadership Objectives

Students will:
0139.1.1 Participate in FFA activities.
0139.1.2 Write, deliver and evaluate a speech and/or oral presentation.
0139.1.3 Explore careers in processing.
0139.1.4 Determine appropriate job seek/keep skills.
0139.1.5 Demonstrate knowledge of ethical conduct in the workplace.

Standard 2: Sanitation/Safety (0139.S.2)

Students will safely handle meat products.

Sanitation/Safety Objectives

Students will:
0139.2.1 List USDA sanitary practices relating to personal hygiene, sanitization of equipment and maintenance of facilities.
0139.2.2 Explain safe methods of handling tools, equipment and livestock in processing and slaughtering.
0139.2.3 Identify proper temperatures and time periods for storage and handling of fresh and frozen meat and meat products.
0139.2.4 Identify proper storage and handling techniques for consumables and by-products.

Standard 3: Slaughtering (0139.S.3)

Students will demonstrate slaughtering procedures.

Slaughtering Objectives

Students will:
0139.3.1 List common breeds, USDA classes and grades of live cattle, sheep and swine.
0139.3.2 Demonstrate how to yield and quality grade hanging carcasses.
0139.3.3 Describe humane processes for stunning and bleeding animals.
0139.3.4 Properly skin, eviscerate and split carcasses of cattle.
0139.3.5 Skin or scald and scrape, eviscerate and split pork carcasses.
0139.3.6 Skin, fist and eviscerate lamb and mutton carcasses.
0139.3.7 Compute dressing percentage, percent shrink, return on offal and slaughter cost.
0139.3.8 Properly weigh and mark carcasses.

Standard 4: Processing (0139.S.4)

Students will prepare retail meat products.

Processing Objectives

Students will:
0139.4.1 Identify primal cuts of beef, pork and lamb.

0139.4.2 Break carcasses into primal cuts.
0139.4.3 Identify retail cuts of beef, pork and lamb.
0139.4.4 Identify common boneless cuts of boxed beef and pork.
0139.4.5 Cut primal cuts and boxed products into various retail cuts.
0139.4.6 List methods of value added processing (grinding, curing, smoking, pre-cooking) and packaging of beef pork and lamb

Standard 5: Retailing (0139.S.5)

Students will utilize merchandise product for customers.

Retailing Objectives

Students will:
0139.5.1 Prepare attractive displays of meat and meat products.
0139.5.2 Demonstrate knowledge and skills in customer relations.
0139.5.3 Exhibit an understanding of retail value; trim loss, shelf life and seasonal demand as related to pricing of products.

Standard 6: Technology Applications (0139.S.6)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0139.6.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in animal processing.
- Locate, evaluate, and collect information from a variety of sources related to animal processing.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0139.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0139.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to animal processing.
0139.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of animal processing.

Standard 7: Process/Workplace Skills (0139.S.7)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:
0139.7.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0139.7.2 Explore careers available in animal processing.
0139.7.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.
0139.7.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0139.7.5 Demonstrate correct language usage in all oral and written work.
0139.7.6 Perform effectively in both leadership and non-leadership roles.
0139.7.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0139.7.8 Participate as a team member to complete a variety of assignments.

Standard 8: Laboratory Investigation (0139.S.8)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:

0139.8.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

0139.8.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

0139.8.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0139.8.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Animal Science And Production WVEIS Code 0140

This agriculture science course is designed to give students a working knowledge of the commercial livestock industry, which includes beef, sheep, swine, horses, goats, dairy and poultry. The course provides an understanding of breeds, animal health, animal nutrition, anatomy and physiology, selection, and economic and marketing principles related to employment. Students will develop a working knowledge of land use and livestock production to maintain an economical level of production. Upon completion of this course students will have the skills needed for an entry-level position or entrance into a degree program.

Standard 1: Leadership (0140.S.1)

Students will develop leadership skills.

Leadership Objectives

Students will:
0140.1.1 Describe FFA and its components.
0140.1.2 Utilize record-keeping skills in work-based experience programs (SAE).
0140.1.3 Identify careers in the animal industry.
0140.1.4 Identify employability skills.
0140.1.5 Develop personal relation and communication skills.
0140.1.6 Describe employment and animal welfare ethics.

Standard 2: History and Selection of Animals (0140.S.2)

Students will provide background information and describe characteristics of animals.

History and Selection of Animals Objectives

Students will:
0140.2.1 Relate the history of domestic animals to modern animal production.
0140.2.2 Describe and classify small animals according to purpose/use.
0140.2.3 Identify breeds of animals.
0140.2.4 Relate the characteristics of breeds to methods of selection (beef, sheep, swine, horses, goats, dairy and poultry).

Standard 3: Handling and Restraint (0140.S.3)

Students will demonstrate safe handling and restraining techniques.

Handling and Restraint Objectives

Students will:
0140.3.1 Identify and use tools related to handling/restraint of animals.
0140.3.2 Identify methods and techniques used in modern husbandry practices.
0140.3.3 Describe techniques in grooming and showing livestock.
0140.3.4 Describe safety practices for managing and handling livestock.

Standard 4: Animal Health and Management (0140.S.4)

Students will demonstrate animal health and management skills.

Animal Health and Management Objectives

Students will:
0140.4.1 Determine the type of care and housing facilities needed for livestock.
0140.4.2 Describe mechanical injury and treatment requirements.
0140.4.3 Identify signs/symptoms of disease and parasites, as well as prevention and treatment.
0140.4.4 Utilize techniques in administering medicine and immunizing.

0140.4.5 Design and utilize a herd health program in livestock production.

Standard 5: Anatomy and Physiology (0140.S.5)

Students will utilize the fundamentals of anatomy and physiology in the commercial production of livestock.

Anatomy and Physiology Objectives

Students will:
0140.5.1 Identify the major parts and functions of the anatomy of various types of livestock.
0140.5.2 Identify the major parts and functions of the digestive system.
0140.5.3 Identify the major parts and functions of the reproductive system.
0140.5.4 Identify the functions of the skeletal, muscular, nervous, hormonal, respiratory, circulatory and excretory system as they relate to livestock management.
0140.5.5 Identify and explain modern livestock breeding techniques.
0140.5.6 Analyze and explain data utilizing genotypic information to form a superior livestock program.

Standard 6: Nutrition (0140.S.6)

Students will describe the role of nutrition in animal production.

Nutrition Objectives

Students will:
0140.6.1 Define terms associated with nutrition.
0140.6.2 List and describe the basic nutrients and their functions.
0140.6.3 Balance rations and determine the nutritional value of feeds and feedstuffs.
0140.6.4 Identify signs of nutritional deficiencies.
0140.6.5 Identify feeding and care requirements throughout life cycle and pregnancy of livestock.
0140.6.6 Identify and design various forage management programs for economical livestock production

Standard 7: Marketing (0140.S.7)

Students will demonstrate competencies in marketing livestock.

Marketing Objectives

Students will:
0140.7.1 Research and study various livestock marketing techniques.
0140.7.2 Identify transportation and safety methods for livestock handling.
0140.7.3 Research types of laws, regulations and licenses needed for modern livestock sales.
0140.7.4 Analyze costs of owning and operating a livestock business.

Standard 8: Technology Applications (0140.S.8)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0140.8.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in animal science and production.
- Locate, evaluate, and collect information from a variety of sources related to animal science and production.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0140.8.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0140.8.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to animal science and production.
0140.8.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of animal science and production.

Standard 9: Process/Workplace Skills (0140.S.9)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:
0140.9.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0140.9.2 Explore careers available in animal science.
0140.9.3 Use a variety of sources to investigate the educational requirements of various careers in animal and science production.
0140.9.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0140.9.5 Demonstrate correct language usage in all oral and written work.
0140.9.6 Perform effectively in both leadership and non-leadership roles.
0140.9.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0140.9.8 Participate as a team member to complete a variety of assignments.

Standard 10: Laboratory Investigation (0140.10)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0140.10.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0140.10.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0140.10.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0140.10.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Aquaculture WVEIS Code 0141

This course of study is designed to provide experiential knowledge, skills and entrepreneurial competencies needed to enter various occupations in aquaculture and other scientific fields within aquaculture. This course integrates curricula of biology, physics, earth science and chemistry in producing aquatic species.

Standard 1: Orientation to the Aquaculture Industry (0141.S.1)

Students will examine the role of aquaculture in state, national and international economies.

Aquaculture Industry Objectives

Students will:
0141.1.1 Explore the role of aquaculture in the past, present and future.
0141.1.2 Relate the importance of aquaculture to state, national, and international economies.
0141.1.3 Examine employment trends and cycles related to aquaculture.

Standard 2: Leadership Development in Aquaculture (0141.S.2)

Students will participate in activities to develop leadership in the aquaculture industry.

Leadership Development in Aquaculture Objectives

Students will:
0141.2.1 Present prepared and extemporaneous speeches on issues concerning the aquaculture industry.
0141.2.2 Participate in community service.
0141.2.3 Demonstrate problem solving and decision making skills.
0141.2.4 Conduct meetings using parliamentary law.

Standard 3: Production Systems in Aquaculture (0141.S.3)

Students will design, establish and maintain aquaculture systems.

Production Systems in Aquaculture Objectives

Students will:
0141.3.1 Identify components of an aquaculture system and calculate water volumes, flow rates, solubility, density, etc.
0141.3.2 Research appropriate species for closed and flow-through systems.
0141.3.3 Explain basic animal management requirements for warm and cold-water species.
0141.3.4 Investigate and discuss factors that influence site selection.
0141.3.5 Using a bill of materials, design and/or construct a closed system.

Standard 4: Developing Work-based Experiential Programs (Supervised Agricultural Experience Programs) in Aquaculture (0141.S.4)

Students will explore entrepreneurial and employment opportunities in aquaculture.

Aquaculture Objectives

Students will:
0141.4.1 Define and explain the different supervised experience programs that are available in aquaculture.
0141.4.2 Prepare a business plan for implementation.
0141.4.3 Explore careers associated within the aquaculture industry.
0141.4.4 Create and demonstrate the key aspects of a marketing plan.
0141.4.5 Demonstrate different ways a fish can be processed.

Standard 5: Anatomy and Physiology (0141.S.5)

Students will identify and explain functions and disorders of body systems in aquatic species.

Anatomy and Physiology Objectives

Students will:
0141.5.1 Identify and explain the functions of body systems in aquatic species.
0141.5.2 Explain the process of spawning.
0141.5.3 Distinguish common fish health problems in closed systems.
0141.5.4 Investigate the role of breeding and selection in genetic improvement.

Standard 6: Nutrition (0141.S.6)

Students will describe nutrition affecting aquatic species.

Nutrition Objectives

Students will:
0141.6.1 Identify and compare common types of feed.
0141.6.2 Calculate feed rates.
0141.6.3 Calculate feed conversion.
0141.6.4 Calculate feed efficiency.
0141.6.5 Describe the nutritional needs of fish at different stages of growth.

Standard 7: Water Chemistry and its Relationship to Aquaculture (0141.S.7)

Students will perform water quality procedures and rebate results to performance of aquatic species.

Water Chemistry Objectives

Students will:
0141.7.1 Explain water quality parameters.- pH, Oxygen level, nitrates, nitrates, etc.
0141.7.2 Demonstrate sampling and testing techniques.
0141.7.3 Design a wastewater management system.

Standard 8: Safety in Aquaculture Laboratories (0141.S.8)

Students will demonstrate principles of safety in aquaculture.

Aquaculture Laboratories Objectives

Students will:
0141.8.1 Maintain a safe working environment in the aquaculture laboratory.
0141.8.2 Demonstrate and apply laboratory safety in aquaculture settings.

Standard 9: Laboratory Practices and Procedures/Hands-on Learning (0141.S.9)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Practices and Procedures Objectives

Students will:
0141.9.1 Engage in active inquiries, investigations and hands-on activities for a minimum of 50 percent of the instructional time to develop conceptual understanding and laboratory skills.
0141.9.2 Properly and safely manipulate equipment, materials, chemicals, organisms and models.
0141.9.3 Conduct explorations in a variety of environments (e.g., laboratories and outdoor locations).
0141.9.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laserdiscs) to collect, analyze and/or report data, interact with simulations, and research.

Standard 10: Technology Applications in Aquaculture (0141.S.10)

Students will apply technology to investigate real-world problems.

Technology Applications in Aquaculture Objectives

Students will:

0141.10.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in aquaculture.
- Locate, evaluate, and collect information from a variety of sources related to aquaculture.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0141.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics, and telecommunications.

0141.10.3 Use TV/satellite, VCR and Laserdiscs/DVD to retrieve information to complete assignments related to aquaculture.

0141.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of aquaculture.

Standard 11: Process/workplace Skills and Aquaculture (0141.S.11)

Students will demonstrate personal and group workplace skills.

Workplace Skills Objectives

Students will:

0141.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0141.11.2 Explore careers available in aquaculture.

0141.11.3 Use a variety of sources to investigate the educational requirements of various careers in aquaculture and related sciences.

0141.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0141.11.5 Demonstrate correct language usage in all oral and written work.

0141.11.6 Perform effectively in both leadership and non-leadership roles.

0141.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0141.11.8 Participate as a team member to complete a variety of assignments.

Computers In Agriculture WVEIS Code 0142

This course is designed to expose students to computer programming, software and applications and graphical and electronic information technology as it relates to the agriculture industry. Students will be able to utilize computers and related technology in desktop publishing, record-keeping, agricultural production, agribusiness and telecommunications. Students will also relate these applications to potential occupations within the computer technology field.

Standard 1: Word Processing and Communications (0142.S.1)

Students will demonstrate skills involving word processing in agriculture.

Word Processing and Communications Objectives

Students will:
0142.1.1 Prepare documents using word processing software.
0142.1.2 Utilize keyboarding skills for preparing reports and letters.
0142.1.3 Improve writing skills through the use of grammatical aids.
0142.1.4 Utilize data management systems.

Standard 2: Spreadsheet Applications (0142.S.2)

Students will use agricultural data in computer-based spreadsheets.

Spreadsheet Applications Objectives

Students will:
0142.2.1 Use software programs to integrate mathematical functions into agricultural production and agribusiness systems.
0142.2.2 Manipulate numerical data as it relates to cost benefit analysis.
0142.2.3 Prepare budgets, financial statements, income reports and production records.
0142.2.4 Complete applications relating to work-based experiences (Supervised Agricultural Experience Programs).

Standard 3: Graphical Presentations (0142.S.3)

Students will utilize graphical presentation software.

Graphical Presentations Objectives

Students will:
0142.3.1 Utilize graphic based software for presentations.
0142.3.2 Prepare visual aids for communicative demonstrations.

Standard 4: Electronic Information Systems (0142.S.4)

Students will demonstrate skills involving electronic information systems.

Electronic Information Systems Objectives

Students will:
0142.4.1 Utilize telecommunications resources in writing documents, manipulating data and transmitting information.
0142.4.2 Retrieve data from agricultural networks.
0142.4.3 Investigate product-marketing principles using computer technology.
0142.4.4 Integrate computer technology into agricultural production systems through the use of remote control and remote sensor science.
0142.4.5 Explore Global Positioning Satellite applications in agriculture.

Standard 5: Agricultural Journalism and Desktop Publishing (0142.S.5)

Students will produce agricultural publications.

Agricultural Journalism and Desktop Publishing Objectives

Students will:

0142.5.1 Prepare newspaper and magazine articles for publishing.
0142.5.2 Manufacture flyers, programs and booklets using graphic software.
0142.5.3 Design a template for printing books, articles and programs.

Standard 6: Process/Workplace Skills (0142.S.6)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0142.6.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0142.6.2 Explore careers available in computer technology.
0142.6.3 Use a variety of sources to investigate the educational requirements of various careers in computer technology.
0142.6.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0142.6.5 Demonstrate correct language usage in all oral and written work.
0142.6.7 Perform effectively in both leadership and non-leadership roles.
0142.6.8 Evaluate information for reliability, completeness, and applicability to various assignments.
0142.6.9 Participate as a team member to complete a variety of assignments.

Environmental Technology WVEIS Code 0143

This class will cover various aspects of environmental science applications to prevent detrimental effects on our ecosystem. Units will include solid and hazardous waste, water purification, wastewater treatment, solid erosion control, nutrient management and environmental surveying.

Standard 1: Solid Waste (0143.S.1)

Students will identify solid waste.

Solid Waste Objectives

Students will:
0143.1.1 Analyze sources of solid waste.
0143.1.2 Examine hazards in solid waste materials and disposal.
0143.1.3 Compare and contrast methods of solid waste disposal.
0143.1.4 Explain and participate in recycling.
0143.1.5 Describe composting.
0143.1.6 Explore methods and benefits of composting.

Standard 2: Hazardous Waste (0143.S.2)

Students will identify hazardous waste materials.

Hazardous Waste Objectives

Students will:
0143.2.1 Identify types of hazardous waste.
0143.2.2 Describe ecotoxicology.
0143.2.3 Explain hazardous waste disposal.
0143.2.4 Explain safety procedures and simulate clean up of spills.

Standard 3: Water Purification (0143.S.3)

Students will identify water purification.

Water Purification Objectives

Students will:
0143.3.1 Describe the composition of water.
0143.3.2 Explain the importance of water.
0143.3.3 Identify sources of water.
0143.3.4 Investigate and discuss how water is stored and distributed.
0143.3.5 Research how water is used and managed.
0143.3.6 Name and distinguish various types of wetlands.
0143.3.7 Explore the benefits and function of wetlands.
0143.3.8 Analyze how human action affects wetlands.

Standard 4: Wastewater Treatment and Disposal (0143.S.4)

Students will identify wastewater treatments and disposals.

Wastewater Treatment and Disposal Objectives

Students will:
0143.4.1 Identify sources of wastewater.
0143.4.2 Describe hazards in wastewater.
0143.4.3 Compare and contrast ways of treating wastewater.
0143.4.4 Research the products of wastewater treatment, including the production and use of biosolids.
0143.4.5 Recognize and investigate the important biological, chemical, and biogeochemical processes

in wastewater treatment.
0143.4.6 Explain the components and operation of a wastewater treatment system.

Standard 5: Soil Erosion Control (0143.S.5)

Students will identify soil erosion.

Soil Erosion Control Objectives

Students will:
0143.5.1 Identify and describe the physical properties of soil and their impact on soil erosion.
0143.5.2 Compare and contrast types of soil erosion.
0143.5.3 Illustrate soil conservation practices for urban and agricultural areas.
0143.5.4 Utilize a soil survey to make environmental decisions.
0143.5.5 Explain the best management practices to control sediment from urban areas, agriculture and forests.
0143.5.6 Examine soil erosion control devices.

Standard 6: Nutrition Management (0143.S.6)

Students will identify nutritional management of soil.

Nutrition Management Objectives

Students will:
0143.6.1 Investigate and discuss non-point source pollution.
0143.6.2 Utilize soil nutrient testing procedures to determine available nutrients.
0143.6.3 Utilize nutrient testing procedures to determine organic matter content.
0143.6.4 Complete a nutrient management plan.
0143.6.5 Calibrate a nutrient spreader for rate of application.
0143.6.6 Perform water-testing procedures and interpret results to determine impacts of non-point source pollution.

Standard 7: Environmental Surveying (0143.S.7)

Students will identify the trade of environmental surveying.

Environmental Surveying Objectives

Students will:
0143.7.1 Demonstrate basic surveying skills.
0143.7.2 Utilize topographical maps to make environmental decisions.
0143.7.3 Apply design principles to pond and wetland construction, sediment basins, and other similar structures.
0143.7.4 Identify and accurately utilize surveying equipment.

Standard 8: Leadership (0143.S.8)

Students will participate in related activities.

Leadership Objectives

Students will:
0143.8.1 Participate in WV Envirothon and other activities related to the curriculum.
0143.8.2 Utilize Internet World Wide Net to explore specialty areas in horticulture.

Standard 9: Laboratory Investigation (0143.S.9)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:

0143.9.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

0143.9.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

0143.9.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0143.9.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 10: Technology Applications (0143.S.10)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0143.10.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in environmental technology.
- Locate, evaluate, and collect information from a variety of sources related to environmental technology.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0143.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0143.10.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to environmental technology.

0143.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of environmental technology.

Standard 11: Process/Workplace Skills (0143.S.11)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0143.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0143.11.2 Explore careers available in environmental technology.

0143.11.3 Use a variety of sources to investigate the educational requirements of various careers in environmental technology.

0143.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0143.11.5 Demonstrate correct language usage in all oral and written work.

0143.11.6 Perform effectively in both leadership and non-leadership roles.

0143.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0143.11.8 Participate as a team member to complete a variety of assignments.

Food Science and Processing WVEIS Code 0144

This course is designed to provide students with knowledge, skills and competencies needed to enter various food science and food products processing careers. Major concepts covered are leadership, nutrition, food safety, and food products processing and marketing of food products.

Standard 1: Leadership (0144.S.1)

Students will demonstrate leadership skills.

Leadership Objectives

Students will:
0144.1.1 List food science and food products processing related careers.
0144.1.2 Participate in FFA activities.
0144.1.3 Complete a Supervised Agricultural Experience (SAE) Program.
0144.1.4 Present individual and group presentations on food products processing related topics.
0144.1.5 Conduct meetings using parliamentary law.

Standard 2: Nutrition (0144.S.2)

Students will explain basics of good nutrition and good health.

Nutrition Objectives

Students will:
0144.2.1 Identify six basic nutrients and related nutrient deficiencies.
0144.2.2 Read and interpret information on product labels.
0144.2.3 Demonstrate knowledge of food groups by classifying foods accordingly.
0144.2.4 Explain procedures involved in enhancing the nutritional value of food.
0144.2.5 Relate retail cost and nutritional value of food palatability.
0144.2.6 Demonstrate an awareness of the effects of food on physical health and well being.

Standard 3: Food Safety (0144.S.3)

Students will describe factors affecting food safety.

Food Safety Objectives

Students will:
0144.3.1 Identify common risks and safety hazards involved in storage, handling, processing and preparation of food products.
0144.3.2 Understand the influence of potable water on processing, storing and packaging food.
0144.3.3 Describe the effects of microbes on food spoilage during processing, handling, storage and food preparation.
0144.3.4 Describe FSIS and USDA inspection and grading standards relating to food products.
0144.3.5 Relate the importance of product testing to providing a safe and wholesome food supply (including drugs/hormones, pesticides and consumer quality issues.)

Standard 4: Food Products Processing (0144.S.4)

Students will explore different techniques of processing foods.

Food Products Processing Objectives

Students will:
0144.4.1 Analyze the effects of food processing techniques on the nutritional value of foods.
0144.4.2 Demonstrate food-processing techniques used in the dairy products industry. (fermentation, pasteurization and homogenization).
0144.4.3 Describe techniques used in cereal grain processing. (bleaching, grinding, milling and

enriching).

0144.4.4 List processing techniques used in the meat industry. (cooking, curing, grinding).

0144.4.5 Demonstrate an awareness of food processing techniques used in the fruit and vegetable industry (canning, freezing, heating.)

0144.4.6 Dehydrate food items to produce less perishable products.

0144.4.7 Describe and demonstrate food preservation techniques.

0144.4.8 Identify bioengineered food items and describe microbiological processing techniques.

Standard 5: Marketing (0144.S.5)

Students will explore factors that influence food cost and consumption trends.

Marketing Objectives

Students will:

0144.5.1 Describe the relative cost of food in the U.S. as compared to other counties.

0144.5.2 Identify trends and cycles in food product markets.

0144.5.3 Relate pricing of products to trends and cycles in markets.

0144.5.4 Demonstrate an awareness of different packaging techniques and their effects on product quality.

0144.5.5 List transportation methods used in marketing products.

Standard 6: Technology Applications (0144.S.6)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0144.6.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in food science and processing.
- Locate, evaluate, and collect information from a variety of sources related to food science and processing.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0144.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0144.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to food science and processing.

0144.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of food science and processing.

Standard 7: Process/Workplace Skills (0144.S.7)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0144.7.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0144.7.2 Explore careers available in food science and processing.

0144.7.3 Use a variety of sources to investigate the educational requirements of various careers in food science.

0144.7.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0144.7.5 Demonstrate correct language usage in all oral and written work.

0144.7.6 Perform effectively in both leadership and non-leadership roles.

0144.7.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0144.7.8 Participate as a team member to complete a variety of assignments.

Standard 8: Laboratory Investigation (0144.S.8)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0144.8.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0144.8.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0144.8.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0144.8.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Hydroponics WVEIS Code 0145

This course emphasizes the scientific method in the production of hydroponic plants. The curriculum provides problem solving experiences and skills in plant propagation, plant growth and development in a soilless media.

Standard 1: Orientation to Hydroponics and Industry (0145.S.1)

Students will explore hydroponics technique and identify the progress in the industry.

Hydroponics and Industry Objectives

Students will:
0145.1.1 Describe the history and development of hydroponic growing techniques.
0145.1.2 Identify advantages and constraints of hydroponics.
0145.1.3 Compare and contrast traditional growing methods to soilless culture.

Standard 2: Classification of Hydroponic Plant Production System (0145.S.2)

Students will recognize the diversity of hydroponic systems and media.

Classification Objectives

Students will:
0145.2.1 Describe the difference between open and closed plant production system.
0145.2.2 Identify types and characteristics of soilless media.
0145.2.3 Describe solution, culture methods and nutrient film technique.

Standard 3: Plant Growth and Development (0145.S.3)

Students will describe plant structures and environmental requirements for plant growth.

Plant Growth and Development Objectives

Students will:
0145.3.1 Identify plant structures and functions.
0145.3.2 Describe environmental requirements for plant growth.

Standard 4: Leadership and Interpersonal Skill Development (0145.S.4)

Students will demonstrate leadership skills through personal, organizational and workplace experiences.

Leadership and Interpersonal Skill Development Objectives

Students will:
0145.4.1 Serve as a small group team leader.
0145.4.2 Identify leadership and decision making skills.
0145.4.3 Participate in committee and leadership development activities.
0145.4.4 Conduct community and school improvement projects.

Standard 5: Developing Work-Based Experiential Programs (0145.S.5)

Students will explore careers and plan a SAE.

SAE Objectives

Students will:
0145.5.1 Determine areas and careers of major interest in agriculture.
0145.5.2 Manage school-based hydroponics laboratory enterprises.
0145.5.3 Establish experience program record book procedures.

Standard 6: Laboratory Safety Skills (0145.S.6)

Students will practice and demonstrate safety in the laboratory.

Safety Skills Objectives

Students will:
0145.6.1 Establish a safe working environment.
0145.6.2 Identify safety polices and procedures.
0145.6.3 Demonstrate proper use of equipment.

Standard 7: Computer Applications in Hydroponics and Plant Science (0145.S.7)

Students will apply technology to investigate real-world problems.

Computer Applications Objectives

Students will:
0145.7.1 Use Internet for research applications in hydroponics.
0145.7.2 Identify how computer based systems may be used for hydroponics environmental control.
0145.7.3 Utilize keyboarding and word processing skills to prepare class reports.

Standard 8: Greenhouse Structures (0145.S.8)

Students will recognize environmental components for structure construction and operation.

Greenhouse Structures Objectives

Students will:
0145.8.1 Identify environmental controls (heating and cooling components) of a greenhouse.
0145.8.2 Explain the function of greenhouse structure components.
0145.8.3 Determine the appropriate site and location of a hydroponics greenhouse.

Standard 9: Producing Hydroponic Crops (0145.S.9)

Students will determine appropriate amendments and identify effective procedures for hydroponic crop management.

Hydroponic Crops Objectives

Students will:
0145.9.1 List requirements of hydroponic tomatoes and lettuce production systems.
0145.9.2 Identify other plants that may be produced hydroponically.
0145.9.3 Test, interpret and manage pH.
0145.9.4 Measure electrical conduction of nutrient solution.
0145.9.5 Mix and manage hydroponic solutions.
0145.9.6 Determine methods of biological insect control.
0145.9.7 Identify mineral deficiencies.

Leadership Development WVEIS Code 0146

This course is designed to provide students with basic leadership skills. Instructional areas include leadership styles, goal setting, time management, public speaking, job skills and interpersonal relationships.

Standard 1: Leadership Styles (0146.S.1)

Students will describe various leadership styles.

Leadership Styles Objectives

Students will:
0146.1.1 Define leadership.
0146.1.2 Explain traits and styles.
0146.1.3 Explore different personality traits.
0146.1.4 Recognize informal leader.

Standard 2: Developing Formal Leadership Methods (0146.S.2)

Students will explain leadership methods.

Formal Leadership Objectives

Students will:
0146.2.1 Describe duties of officers in an organization.
0146.2.2 Define all different forms of motions.
0146.2.3 Identify proper conduct for meetings.

Standard 3: Public Speaking (0146.S.3)

Students will acquire skills in public speaking.

Public Speaking Objectives

Students will:
0146.3.1 Present two required speeches.
0146.3.2 Prepare an introduction for invited guest speakers.
0146.3.3 Observe invited quest speakers for different speaking styles.
0146.3.4 Become involved in a controlled debate.
0146.3.5 Conduct small group discussions on current events.

Standard 4: Community Service (0146.S.4)

Students will develop skills to participate in community service.

Community Service Objectives

Students will:
0146.4.1 Conduct community projects. Depending on the community the class can do many different projects with the Chamber of Commerce, Rotary, United Way, etc.
0146.4.2 Conduct school improvement projects. Work with the student council in developing projects that will improve the school grounds, buildings, etc.
0146.4.3 Conduct projects that deal with drug awareness, drinking and driving, etc.

Standard 5: Goal Setting (0146.S.5)

Students will use goal setting, time management and stress management.

Goal Setting Objectives

Students will:

0146.5.1 Explore goal setting (long term and short term).
0146.5.2 Describe methods of time management.
0146.5.3 Identify stress reduction methods.

Standard 6: Job Seeking Skills (0146.S.6)

Students will develop job-seeking skills.

Job Seeking Skills Objectives

Students will:

0146.6.1 Explore areas of proper dress in the work place.
0146.6.2 Prepare a cover letter and resume.
0146.6.3 Describe proper interview techniques for an oral interview.

Standard 7: Interpersonal Relations (0146.S.7)

Students will demonstrate interpersonal relationships for job success.

Interpersonal Relations Objectives

Students will:

0146.7.1 Explain and discuss a paradigm shift.
0146.7.2 Write thank you letters to the teachers before graduation.
0146.7.3 Explore conflict resolution.
0146.7.4 Hold mock social gathering with adults.
0146.7.5 Explore proper ethics and values.

Standard 8: Technology Application (0146.S.8)

Students will apply technology to investigate real-world problems.

Technology Application Objectives

Students will:

0146.8.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in leadership development.
- Locate, evaluate, and collect information from a variety of sources related to leadership development.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0146.8.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0146.8.3 Use TV/Satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to leadership development.
0146.8.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of leadership development.

Outdoor Recreation WVEIS Code 0147

This area of study is designed to provide students with knowledge and skills in outdoor recreation that will be useful in various occupations in the field. Major emphasis will be on careers, public relations and teamwork.

Standard 1: Leadership Development (0147.S.1)

Students will participate in activities to promote leadership development.

Leadership Development Objectives

Students will:
0147.1.1 Identify the year FFA was formed.
0147.1.2 Name the author of the creed.
0147.1.3 Identify the location of the state and national convention.
0147.1.4 Name the state and national FFA advisors.
0147.1.5 Name the degree levels in FFA.
0147.1.6 Identify parts of the emblem.
0147.1.7 Present a speech on outdoor recreation.

Standard 2: Career Development (0147.S.2)

Students will research career development in outdoor recreation.

Career Development Objectives

Students will:
0147.2.1 Identify regional career opportunities in outdoor recreation including. Park Ranger, Recreation Manager, Instructor, Conservation Officer, First Aid/Safety Expert, Entertainment Manager, Business Manager, Outdoor Guide, Youth Camp Operator, Campground Owner, Riding Stable Owner and Lifeguard.
0147.2.2 Profile outdoor recreation specialists.
0147.2.3 Develop teamwork skills and activities.
0147.2.4 Develop public relation skills.

Standard 3: Outdoor Safety (0147.S.3)

Students will participate in activities to promote outdoor safety.

Outdoor Safety Objectives

Students will:
0147.3.1 Obtain Red Cross first aid certificate.
0147.3.2 Obtain Red Cross adult CPR certificate.
0147.3.3 Identify potential outdoor safety hazards.
0147.3.4 Identify poisonous plants.
0147.3.5 Identify poisonous insects.
0147.3.6 Identify poisonous animals.
0147.3.7 Identify safety inspection procedures for outdoor recreation equipment.

Standard 4: Natural Resource and Recreation (0147.S.4)

Students will identify natural resource and recreation areas.

Natural Resource and Recreation Objectives

Students will:
0147.4.1 Describe geological formations.
0147.4.2 Recognize services required for recreational areas.

0147.4.3 Recognize facilities required for recreational areas.
0147.4.4 Identify endangered species of plants and animals.
0147.4.5 Identify wetlands and riparian zones.
0147.4.6 Describe local, state and federal laws related to recreational enterprises.

Standard 5: Business Opportunities and Promotions (0147.S.5)

Students will recognize business opportunities and promotions.

Business Opportunities and Promotions Objectives

Students will:
0147.5.1 Recognize income potential from various types of recreational enterprises.
0147.5.2 Identify business procedures required of recreational enterprises.
0147.5.3 Design advertising media to promote a recreational area effectively.

Standard 6: Laboratory Investigation (0147.S.6)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0147.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0147.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0147.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0147.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Technology Application (0147.S.7)

Students will apply technology to investigate real-world problems.

Technology Application Objectives

Students will:
0147.7.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in outdoor recreation.
- Locate, evaluate, and collect information from a variety of sources related to outdoor recreation.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0147.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0147.7.3 Use cameras and/or camcorders to record activities and progress of special projects in the area of outdoor recreation.

Standard 8: Process/Work Place Skills (0147.S.8)

Students will demonstrate personal and group workplace skills.

Process/Work Place Skills Objectives

Students will:
0147.8.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0147.8.2 Explore careers available in outdoor recreation.

0147.8.3 Use a variety of sources to investigate the educational requirements of various careers in biotechnology and related sciences.
0147.8.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0147.8.5 Demonstrate correct language usage in all oral and written work.
0147.8.6 Perform effectively in both leadership and non-leadership roles.
0147.8.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0147.8.8 Participate as a team member to complete a variety of assignments.

Poultry Science and Production WVEIS Code 0148

This agricultural science course is designed to give students a working knowledge of the poultry industry, which includes chickens, turkeys and other avian species. The course provides an understanding of breeds, animal health, animal nutrition, anatomy and physiology, selection and economic and marketing principles related to employment. Students will develop a working knowledge of land use and poultry production to maintain an economical level of production. Upon completion course students will have the skills needed for an entry-level position or entrance into a degree program.

Standard 1: Orientation to the Poultry Industry (0148.S.1)

Students will explore different facets of the poultry industry.

Poultry Industry Objectives

Students will:
0148.1.1 Describe the importance of the poultry industry to the state and national economy.
0148.1.2 Identify different types of poultry enterprises.
0148.1.3 Relate consumption trends in poultry products.
0148.1.4 Identify and analyze career opportunities in the poultry industry.

Standard 2: Selection for Production (0148.S.2)

Students will use industry standards for poultry selection.

Selection for Production Objectives

Students will:
0148.2.1 List the classes of poultry and identify common breeds.
0148.2.2 Describe characteristics of birds that relate to productivity.
0148.2.3 Explain criteria to consider in selecting a breed for various types of production.
0148.2.4 Describe factors that influence chick purchase decisions.
0148.2.5 Describe characteristics associated with high egg production and procedures used in culling.
0148.2.6 Describe selection characteristics of parent and grandparent seed stock lines.

Standard 3: Nutrition and Management (0148.S.3)

Students will study factors that affect profitability.

Nutrition and Management Objectives

Students will:
0148.3.1 Describe factors that affect cost of poultry and egg production.
0148.3.2 Determine facility and equipment requirements for various poultry enterprises.
0148.3.3 Formulate rations for laying flocks, turkeys and broilers.
0148.3.4 Describe methods of disease and parasite control.
0148.3.5 Explain environmentally friendly methods of litter and dead bird disposal.
0148.3.6 Use computer programs to maintain inventory, expenses, income and other pertinent records.

Standard 4: Poultry Health and Management (0148.S.4)

Students will recognize best management practices for flock health.

Poultry Health and Management Objectives

Students will:
0148.4.1 Determine the type of care and housing facilities needed for poultry.
0148.4.2 Identify mechanical injury and treatment requirements.
0148.4.3 Identify signs/symptoms of disease and parasites, as well as prevention and treatment.

0148.4.4 Utilize techniques in administration of medicine and immunization.
0148.4.5 Design and utilize a flock health program in poultry production.

Standard 5: Anatomy and Physiology (0148.S.5)

Students will utilize the fundamentals of anatomy and physiology in the production of poultry.

Anatomy and Physiology Objectives

Students will:
0148.5.1 Identify the major parts and functions of the anatomy of various types of poultry.
0148.5.2 Identify the major parts and functions of the digestive system.
0148.5.3 Identify the major parts and functions of the reproductive system.
0148.5.4 Identify the functions of the skeletal, muscular, nervous, hormonal, respiratory, circulatory and excretory system as they relate to poultry management.
0148.5.5 Identify and explain modern poultry breeding techniques.
0148.5.6 Analyze and explain data utilizing genotypic information to form a superior poultry program.

Standard 6: Solid Waste (0148.S.6)

Students will explore strategies for handling poultry waste.

Solid Waste Objectives

Students will:
0148.6.1 Describe sources of solid waste associated with poultry industries.
0148.6.2 Explain hazards in solid waste materials and disposal.
0148.6.3 Describe ways of disposing of solid waste.
0148.6.4 Identify NRCS and SCS programs available for assistance in litter disposal.
0148.6.5 Explain recycling.
0148.6.6 Describe composting.
0148.6.7 Identify methods and benefits of composting.

Standard 7: Marketing (0148.S.7)

Students will demonstrate competencies in marketing livestock.

Marketing Objectives

Students will:
0148.7.1 Research and study various livestock marketing techniques.
0148.7.2 Identify transportation and safety methods for livestock handling.
0148.7.3 Research types of laws, regulations and licenses needed for modern livestock sales.
0148.7.4 Analyze costs of owning and operating a livestock business.

Standard 8: Leadership and Communication (0148.S.8)

Students will demonstrate leadership in the poultry industry.

Leadership and Communication Objectives

Students will:
0148.8.1 Present written and oral reasons in poultry judging events.
0148.8.2 Participate in FFA meetings and activities.
0148.8.3 Prepare and present speeches on issues involving the poultry industry using information available from magazines, trade journals, the Internet and other sources.

Standard 9: Technology Applications (0148.S.9)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0148.9.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in poultry production.
- Locate, evaluate, and collect information from a variety of sources related to poultry production.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0148.9.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0148.9.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to poultry production.

0148.9.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of poultry production.

Standard 10: Process/Workplace Skills in Agribusiness (0148.S.10)

Students will demonstrate personal and group workplace skills.

Agribusiness Objectives

Students will:

0148.10.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0148.10.2 Explore careers available in agribusiness.

0148.10.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.

0148.10.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0148.10.5 Demonstrate correct language usage in all oral and written work.

0148.10.6 Perform effectively in both leadership and non-leadership roles.

0148.10.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0148.10.8 Participate as a team member to complete a variety of assignments.

Standard 11: Lab Investigation (0148.S.11)

Students will safely conduct laboratory investigations and exploratory learning.

Lab Investigation Objectives

Students will:

0148.11.1 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

0148.11.2 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0148.11.3 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

0148.11.4 Conduct a supervised agricultural experience program with appropriate records.

Small Animal Care and Management WVEIS Code 0149

This course is designed to give students a working knowledge of the small animal care industry, which includes dogs, cats, birds, reptiles and other pets. The course provides an understanding of breeds, animal health, nutrition, training, anatomy and physiology, grooming, economic and marketing principles and related employment skills. Students will develop a thorough knowledge of small animals, their management and a keen business sense relating to small animals. Upon completion of this course, students will have the skills needed for an entry-level position or entrance into a degree program.

Standard 1: Leadership (0149.S.1)

Students will demonstrate leadership skills for success in the small animal industry.

Leadership Objectives

Students will:
0149.1.1 Identify FFA and it's components.
0149.1.2 Utilize record-keeping skills in work-based experience programs (SAE).
0149.1.3 Identify appropriate career opportunities in the small animal care industry.
0149.1.4 Draft a resume, fill out a job application, and demonstrate job seek/keep skills.
0149.1.5 Develop personal relation and communication skills.
0149.1.6 Identify animal welfare ethics and other issues.
0149.1.7 Develop a working relationship with local veterinarians.

Standard 2: History and Selection of Animals (0149.S.2)

Students will provide background information and describe the desirable characteristics of domestic animals.

Animals Objectives

Students will:
0149.2.1 Relate the history of domestic animals to modern animal production.
0149.2.2 Describe and classify small animals according to purposes/uses.
0149.2.3 Identify breeds of small animals (dogs, cats, birds, reptiles, etc.).
0149.2.4 Relate the characteristics of breeds to methods of selection.
0149.2.5 Be able to differentiate between domestic and exotic animals.

Standard 3: Training, Handling and Restraint (0149.S.3)

Students will demonstrate safe handling and restraining techniques.

Training, Handling and Restraint Objectives

Students will:
0149.3.1 Identify and use tools related to training and handling/restraint of small animals.
0149.3.2 Identify methods and techniques used in restraint and training of small animals.
0149.3.3 Utilize basic commands and training methods.
0149.3.4 Identify AKC guidelines for instructing dogs.
0149.3.5 Utilize safety practices in training and handling.

Standard 4: Grooming and Clipping (0149.S.4)

Students will demonstrate skills in grooming and clipping.

Grooming and Clipping Objectives

Students will:
0149.4.1 Utilize safety practices in grooming and clipping small animals.

0149.4.2 Identify tools used in grooming.
0149.4.3 Describe grooming practices (bathing, clipping, nail trimming, combing/brushing).
0149.4.4 Use proper care in applying topical medications.

Standard 5: Anatomy and Physiology (0149.S.5)

Students will utilize the fundamentals of anatomy and physiology in caring for small animals.

Anatomy and Physiology Objectives

Students will:
0149.5.1 Identify the major parts and functions of the skeletal system.
0149.5.2 Identify the major parts and functions of the muscular system.
0149.5.3 Identify the major parts and functions of the nervous system.
0149.5.4 Identify the major parts and functions of the endocrine system.
0149.5.5 Identify the major parts and functions of the respiratory system.
0149.5.6 Identify the major parts and functions of the circulatory system.
0149.5.7 Identify the major parts and functions of the reproductive system.
0149.5.8 Identify the major parts and functions of the excretory system.
0149.5.9 Identify the major parts and functions of the digestive system.
0149.5.10 Explain the difference between ruminant and monogastric systems.
0149.5.11 Describe functions of other small animals systems (avian, rabbits, reptiles).

Standard 6: Animal Health and Management (0149.S.6)

Students will demonstrate competencies in animal health and management.

Animal Health and Management Objectives

Students will:
0149.6.1 Determine the type of care and housing facilities needed.
0149.6.2 Identify mechanical injury and basic first aid requirements.
0149.6.3 Identify signs/symptoms of disease, as well as prevention and treatment.
0149.6.4 Utilize techniques in administering medicine and immunizing.

Standard 7: Nutrition (0149.S.7)

Students will describe the role of nutrition in small animal care.

Nutrition Objectives

Students will:
0149.7.1 Define terms associated with nutrition.
0149.7.2 List and describe the basic nutrients and their functions.
0149.7.3 Analyze pet food labels and determine the nutritional value of feeds and feedstuffs.
0149.7.4 Identify signs of nutritional deficiencies.
0149.7.5 Identify feeding and care requirements throughout life cycle and pregnancy.

Standard 8: Marketing (0149.S.8)

Students will demonstrate competencies in marketing small animals.

Marketing Objectives

Students will:
0149.8.1 Explore types of markets available.
0149.8.2 Identify transportation methods.
0149.8.3 Research types of laws, regulations and licenses needed in local area.
0149.8.4 Analyze costs of owning and operating a small animal care business.

Standard 9: Technology Applications (0149.S.9)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0149.9.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in agribusiness.
- Locate, evaluate, and collect information from a variety of sources related to agribusiness.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0149.9.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0149.9.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to agribusiness.

0149.9.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of agribusiness.

Standard 10: Process/Workplace Skills in Agribusiness (0149.S.10)

Students will demonstrate personal and group workplace skills.

Agribusiness Objectives

Students will:

0149.10.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0149.10.2 Explore careers available in agribusiness.

0149.10.3 Use a variety of sources to investigate the educational requirements of various careers in agribusiness and related sciences.

0149.10.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0149.10.5 Demonstrate correct language usage in all oral and written work.

0149.10.6 Perform effectively in both leadership and non-leadership roles.

0149.10.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0149.10.8 Participate as a team member to complete a variety of assignments.

Standard 11: Laboratory Investigation (0149.S.11)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:

0149.11.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

0149.11.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

0149.11.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0149.11.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Soil And Plant Science (Agronomy) WVEIS Code 0150

This area of study is designed to provide students with scientific knowledge and experiences essential to careers in soil and plant science. The course includes major units in soil formation, soil properties, land classification, fertility, plant growth and the impact of agriculture on the environment.

Standard 1: Orientation to Soil and Plant Science (0150.S.1)

Students will soil and plant science.

Soil and Plant Science Objectives

Students will:
0150.1.1 Research career opportunities in soil and plant science.
0150.1.2 Describe the impact of agriculture on the environment.
0150.1.3 List and describe the function of federal, state and local entities and interest groups concerned with soil and plant science.
0150.1.4 Examine the role of soil and plants in the ecosystem.

Standard 2: Leadership Development (0150.S.2)

Students will participate in various FFA activities.

Leadership Development Objectives

Students will:
0150.2.1 Participate in meetings using parliamentary law.
0150.2.2 Use interpersonal skills in team problem solving.
0150.2.3 Prepare and deliver a brief presentation on an agronomic topic.

Standard 3: Provide Work-Based Experiential Learning Opportunities (0150.S.3)

Students will participate in a work-base experience program.

Work-Based Objectives

Students will:
0150.3.1 Explore opportunities for work-based experience through supervised experience programs.
0150.3.2 Define record keeping terms for supervised experience programs.
0150.3.3 Develop budgets for potential supervised experience programs.

Standard 4: Soil Origin and Development (0150.S.4)

Students will identify how soil is formed and surveyed.

Soil Origin and Development Objectives

Students will:
0150.4.1 Determine how soil is formed.
0150.4.1 Interpret information from soil surveys.

Standard 5: Physical Properties of Soil (0150.S.5)

Students will identify the various physical properties of soil samples.

Soil Objectives

Students will:
0150.5.1 Define and determine soil depth.
0150.5.2 Define and determine soil texture.

0150.5.3 Define and determine soil structure.
0150.5.4 Define and determine soil permeability.
0150.5.5 Define and determine drainage.
0150.5.6 Define and determine slope.

Standard 6: Classification of Soils Into Soil Series and Land Capability Classes (0150.S.6)

Students will identify the various classification of soil.

Classification of Soils Objectives

Students will:
0150.6.1 Classify soils by common physical properties.
0150.6.2 Describe soil series of the region.
0150.6.3 Determine land capability classes and recommend appropriate land management practices.

Standard 7: Plant Nutrition and Soil Fertility (0150.S.7)

Students will identify the various functions of plant nutrition and soil fertility.

Plant Nutrition and Soil Fertility Objectives

Students will:
0150.7.1 List and describe the functions of macro and micronutrients.
0150.7.2 Describe and identify plant nutrient deficiencies.
0150.7.3 Explain the function and management of soil pH.
0150.7.4 Describe and engage in the process of soil testing.
0150.7.5 Interpret and apply data generated by soil testing.
0150.7.6 List and compare sources of plant nutrients.
0150.7.7 Identify nutrient deficiencies and plant diseases.
0150.7.8 Conduct plant growth experiments.
0150.7.9 Use soil-testing equipment.

Standard 8: Plant Structures and their Functions (0150.S.8)

Students will identify the various plant structures and their functions.

Plant Structures Objectives

Students will:
0150.8.1 Explain basic plant production requirements.
0150.8.2 Identify the major parts of a plant.
0150.8.3 Describe the function of the major parts of a plant.
0150.8.4 Demonstrate knowledge of plant growth processes photosynthesis, respiration and transpiration.

Standard 9: Row Crop Management (0150.S.9)

Students will identify the various methods to row crop management.

Row Crop Management Objectives

Students will:
0150.9.1 Identify row crops common to the area.
0150.9.2 Describe cultural requirements and production practices of row crops.
0150.9.3 List and describe harvesting methods.

Standard 10: Forage Management (0150.S.10)

Students will identify the various methods to row crop management.

Forest Management Objectives

Students will:
0150.10.1 Identify forage crops common to the area.
0150.10.2 Describe cultural requirements and production practices of forage crops.
0150.10.3 List and describe harvesting methods.

Standard 11: Soil and Water Conservation (0150.S.11)

Students will identify the various methods of soil and water conservation.

Soil and Water Conservation Objectives

Students will:
0150.11.1 Define and provide examples of erosion.
0150.11.2 Explain agricultural practices to conserve soil and reduce pollution (stewardship).
0150.11.3 Predict impacts of erosion.
0150.11.4 Identify and describe best management practices to prevent soil erosion.
0150.11.5 Utilize the World Wide Web to explore specialty areas in soil and plant science.

Standard 12: Laboratory Investigation (0150.S.12)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0150.12.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0150.12.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0150.12.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0150.12.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 13: Technology Applications (0150.S.13)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0150.13.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in soil and plant science.
- Locate, evaluate, and collect information from a variety of sources related to soil and plant science.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0150.13.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0150.13.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to soil and plant science.
0150.13.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of soil and plant science.

Standard 14: Process/Workplace Skills (0150.S.14)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0150.14.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0150.14.2 Explore careers available in soil and plant science.
0150.14.3 Use a variety of sources to investigate the educational requirements of various careers in soil and plant science.
0150.14.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0150.14.5 Demonstrate correct language usage in all oral and written work.
0150.14.6 Perform effectively in both leadership and non-leadership roles.
0150.14.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0150.14.8 Participate as a team member to complete a variety of assignments.

Forestry I — WVEIS Code 0182

This area of study is designed to provide students with basic knowledge and skills in forestry and related occupations. Major instructional concepts included in this area of study are: safety principles in forestry, tree identification, forest protection, basic forest measurement and silvicultural practices.

Standard 1: Leadership Develop (0182.S.1)

Students will demonstrate leadership skills by developing an awareness of the FFA.

Leadership Develop Objectives

Students will:
0182.1.1 Identify the year FFA was formed.
0182.1.2 Name the author of the creed.
0182.1.3 Identify the location of the state and national convention.
0182.1.4 Name the state and national FFA advisor.
0182.1.5 Name the degree levels in FFA.
0182.1.6 Identify parts of the emblem.

Standard 2: Safety Principles in Forestry (0182.S.2)

Students will identify and utilize appropriate safety equipment and regulations.

Safety Principles in Forestry Objectives

Students will:
0182.2.1 Wear appropriate safety gear.
0182.2.2 Maintain a safe working environment.
0182.2.3 Identify safety hazards of fire line construction and mop-up.

Standard 3: Identify Economic Trees in West Virginia (0182.S.3)

Students will demonstrate the skill of tree identification with various methods.

Economic Trees in West Virginia Objectives

Students will:
0182.2.1 Identify the following trees: Red Oak, White Ash, White Oak, Basswood, Chestnut Oak, Walnut, Black Oak, Hickory, Scarlet Oak, White Pine, Red Maple, Spruce, Sugar Maple, Hemlock, Black Cherry, Black Locust, Black Birch, Cucumber, Yellow Poplar, Virginia Pine
0182.2.2 Identify by leaves.
0182.2.3 Identify by bark.
0182.2.4 Identify by taste and smell.
0182.2.5 Identify by twigs.
0182.2.6 Identify by fruit.
0182.2.7 Understand tree morphology.

Standard 4: Forest Fire Fighting Procedures (0182.S.4)

Students will demonstrate correct methods and use of proper equipment to control forest fires.

Forest Fire Objectives

Students will:
0182.4.1 Construct fire line using hand tools.
0182.4.2 Describe the proper use of fire rake, shovel, drip torch, Pulaski and backpack pump.
0182.4.3 Extinguish remaining fire spots after main fire is contained (mop-up).
0182.4.4 Determine direction for fire line construction.

0182.4.5 Repair and service equipment after fire is extinguished.
0182.4.6 Use backpack pump to fight fire directly.

Standard 5: Forest Measurement Techniques (0182.S.5)

Students will identify and demonstrate forest measurement techniques.

Forest Measurement Techniques Objectives

Students will:
0182.5.1 Set up instrument for surveying.
0182.5.2 Use compass to maintain direction.
0182.5.3 Make linear measurements using surveyor's chain with compass.
0182.5.4 Make linear measurements by pacing with compass.
0182.5.5 Calculate the number of acres in a timber tract.
0182.5.6 Use hand/staff compass to determine bearing or Azimuth.
0182.5.7 Identify units of measurement (mile, rod, chain and acre).

Standard 6: Silviculture Treatment for Timber Stand Improvement (0182.S.6)

Students will identify silvicultural procedures.

Silviculture Treatment Objectives

Students will:
0182.6.1 Determine major forest type and primary uses.
0182.6.2 Determine proper spacing using D+6 rule.
0182.6.3 Use increment borer to determine age and growth rate.
0182.6.4 Select and utilize pruning and thinning methods for a timber stand.
0182.6.5 Fell and limb trees.

Standard 7: Laboratory Investigations/Hands-On Learning (0182.S.7)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:
0182.7.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0182.7.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0182.7.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0182.7.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations and research.

Forestry II WVEIS Code 0183

Major instructional concepts included in this area of study are: leadership development, chainsaw operation and safety, timber cruising skills and integration of wildlife habitat management in forestry.

Standard 1: Chainsaw Safety (0183.S.1)

Students will demonstrate proper safety techniques for chainsaw usage.

Chainsaw Safety Objectives

Students will:
0183.1.1 Identify and use safety clothing and equipment.
0183.1.2 Use proper starting techniques.
0183.1.3 Identify proper safety rules with 100% accuracy.
0183.1.4 Identify and correct hazardous operational conditions.

Standard 2: Chainsaw Maintenance (0183.S.2)

Students will demonstrate proper chainsaw maintenance.

Chainsaw Maintenance Objectives

Students will:
0183.2.1 Properly sharpen chain.
0183.2.2 Determine and adjust chain for proper tension.
0183.2.3 Demonstrate proper cleaning and storage of chainsaw.
0183.2.4 Replace sprocket on chainsaw.
0183.2.5 Replace bar on chainsaw.
0183.2.6 Replace broken chain link.
0183.2.7 Clean and service carburetor and air cleaner.
0183.2.8 Replace chain clutch as needed.
0183.2.9 Adjust carburetor for maximum efficiency.
0183.2.10 Mix fuel and oil in proper proportions.

Standard 3: Determine Volume of Standing Timber (0183.S.3)

Students will correctly calculate the volume of standing timber using various tools and scales.

Volume of Standing Timber Objectives

Students will:
0183.3.1 Define and calculate board foot and cord wood volumes.
0183.3.2 Measure standing trees at diameter breast height using tree stick and diameter tape.
0183.3.3 Determine number of logs per tree using tree stick or clinometers.
0183.3.4 Record volume number of individual trees using tally sheet method.
0183.3.5 Calculate volume of saw logs using Doyle, Scribner and International 1/4" rule.
0183.3.6 Calculate volume of pulpwood by cords.

Standard 4: Wildlife Habitat Management (0183.S.4)

Students will demonstrate proper techniques to develop wild life habitat through forestry practices.

Wildlife Habitat Management Objectives

Students will:
0183.4.1 Monitor and improve water quality.
0183.4.2 Improve habitat for bird, fish and game.
0183.4.3 Understand the importance of the forest, field and edge.

0183.4.4 Identify potential den and mast trees.

Standard 5: Laboratory Investigations – Hands-On Learning (0183.S.5)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:

0183.5.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

0183.5.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

0183.5.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0183.5.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 6: Technology Applications in Forestry (0183.S.6)

Students will apply technology to investigate real-world problems.

Technology Applications in Forestry Objectives

Students will:

0183.6.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in forestry.
- Locate, evaluate, and collect information from a variety of sources related to forestry.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0183.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0183.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.

0183.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry III WVEIS Code 0184

This area of study provides instructional concepts in the following areas: personal leadership development, advanced dendrology, safety training, operation and maintenance of forestry equipment and silvicultural applications.

Standard 1: Personal Leadership Skills Development (0184.S.1)

Students will conduct research in the forest industry and make presentations.

Personal Leadership Skills Development Objectives

Student will:
0184.1.1 Describe the parts of a good speech.
0184.1.2 Explain how to present a desirable speech.
0184.1.3 Correctly conduct research in topics concerning forestry.
0184.1.4 Deliver a speech on a forestry topic.

Standard 2: Advanced Dendrology Skills (0184.S.2)

Students will demonstrate advanced skills in tree identification.

Advanced Dendrology Skills Objectives

Students will:
0184.2.1 Identify by flowers.
0184.2.2 Identify by growth characteristics.
0184.2.3 Identify by site conditions.
0184.2.4 Identify by distribution.

Standard 3: Safety Training in Forestry (0184.S.3)

Students will demonstrate safety practices with equipment used in forestry.

Safety Training Objectives

Students will:
0184.3.1 Demonstrate safety with hand tools.
0184.3.2 Demonstrate safety with chainsaws.
0184.3.3 Demonstrate safety with tractors.
0184.3.4 Demonstrate safety on the fire line.

Standard 4: Operation and Maintenance of Forestry Equipment (0184.S.4)

Students will demonstrate operation and maintenance of equipment used in forestry.

Forestry Equipment Objectives

Students will:
0184.4.1 Demonstrate the proper use and maintenance of hand tools.
0184.4.2 Demonstrate the proper use and maintenance of chainsaws.
0184.4.3 Demonstrate the proper use and maintenance of tractors.
0184.4.4 Lubricate all grease fittings using proper grease at periodic intervals with appropriate equipment.

Standard 5: Silvicultural Applications for Timber Stands (0184.S.5)

Students will apply silviculture practices in timber stands.

Timber Stands Objectives

Students will:

0184.5.1 Demonstrate forest reproduction techniques.
0184.5.2 Demonstrate the technique of girdling in the process of removing undesirable trees.
0184.5.3 Define clear-cut.

Standard 6: Laboratory Investigations/Hands-on Learning (0184.S.6)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:

0184.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0184.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0184.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0184.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Technology Applications in Forestry (0184.S.7)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0184.7.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in forestry.
- Locate, evaluate, and collect information from a variety of sources related to forestry.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0184.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0184.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.
0184.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry IV WVEIS Code 0185

Forestry IV provides instructional concepts in the following areas: parliamentary procedure, advanced leadership skills, safety in fire fighting, forest surveying and wood product utilization.

Standard 1: Parliamentary Procedure (0185.S.1)

Students will demonstrate parliamentary procedure.

Parliamentary Procedure Objectives

Students will:
0185.1.1 Identify proper procedures for conducting a meeting.
0185.1.2 Write and present a committee report.
0185.1.3 Identify components of a program of activities.

Standard 2: Safety Procedures in Fire Line Construction (0185.S.2)

Students will demonstrate procedures to safely construct a fire line.

Fire Line Construction Objectives

Students will:
0185.2.1 Explain fire line safety.
0185.2.2 Explain fire line construction.
0185.2.3 Explain forest fire mop-up.
0185.2.4 Explain the use of topographic maps in locating access roads and trails.
0185.2.5 Explain the use of topographic maps in fire location.
0185.2.6 Repair, service and store equipment.

Standard 3: Use of Forest Surveying Equipment (0185.S.3)

Students will utilize equipment necessary to survey a forest.

Forest Surveying Equipment Objectives

Students will:
0185.3.1 Interpret surface features using aerial photography and topographic maps.
0185.3.2 Conduct a boundary survey using a hand compass and pacing.
0185.3.3 Visit a courthouse and conduct a title search.
0185.3.4 Plot bearings from deeds.
0185.3.5 Calculate percent slope using a clinometer.
0185.3.6 Orientate topographic map using hand compass.
0185.3.7 Utilize a GPS receiver to locate and mark points of reference.

Standard 4: Utilization of Best Management Practices (0185.S.4)

Students will describe the best management practices in forest road construction.

Best Management Practices Objectives

Students will:
0185.4.1 Lay out roads in compliance with West Virginia forest standards.
0185.4.2 Describe maintenance procedures for drainage systems (culverts, ditches, etc.) in controlling soil erosion.
0185.4.3 Describe the process of installing culverts, water breaks and Awoods@ bridges.
0185.4.4 Design skid roads.
0185.4.5 Monitor water quality.
0185.4.6 Reseed skid trails and log landings.

Standard 5: Wood Products Utilization (0185.S.5)

Students will process, measure and market forest products.

Wood Products Utilization Objectives

Students will:

0185.5.1 Demonstrate competency in felling, bucking and skidding selected trees.
0185.5.2 Scale logs and lumber.
0185.5.3 Explore and explain various marketing opportunities for forest products.

Standard 6: Laboratory Investigations – Hands-On Learning (0185.S.6)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:

0185.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0185.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0185.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0185.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Technology Applications in Forestry (0185.S.7)

Students will apply technology to investigate real-world problems.

Forestry Objectives

Students will:

0185.7.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in forestry.
- Locate, evaluate, and collect information from a variety of sources related to forestry.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0185.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0185.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.
0185.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry V — WVEIS Code 0186

This course provides instruction in the following areas: forestry equipment use, timber cruising systems and application of best management practices to forestry.

Standard 1: Forestry Equipment: Identification and Use (0186.S.1)

Students will demonstrate safe use of forestry equipment.

Forestry Equipment Objectives

Students will:

0186.1.1 Identify and use the following: Tree Scale Stick, Increment Bore, Drip Torch, Fire Rake, Clinometers, Hand Compass, Soil Tube, Jacobs Staff, Staff Compass, Chaps, Hard Hat/Face, Shield, Pulaski, Tree Marking Gun, Wedge Prism, Stereoscope, Log Rule, Data Recorder, Plastic Flagging, Chainsaw, Ear Protection, Dot Grid, Dibble or Tree Planter

Standard 2: Conduct a Timber Cruise (0186.S.2)

Students will demonstrate skills needed to conduct a timber cruise using various equipment.

Timber Cruise Objectives

Students will:

0186.2.1 Mark boundaries and corners of tract.
0186.2.2 Use compass to direct cruising operation.
0186.2.3 Measure distance between plot center (by pacing).
0186.2.4 Record trees using tally sheet method.
0186.2.5 Use wedge prism (BAF 10 or BAF 20).
0186.2.6 Calculate board foot volumes using double log scale.

Standard 3: Application of Best Management Practices (0186.S.3)

Students will apply best management practices in a forestry setting.

Application of Best Management Practices Objectives

Students will:

0186.3.1 Lay out roads in compliance with West Virginia forest standards.
0186.3.2 Describe maintenance procedures for drainage systems (culverts, ditches, etc.) in controlling soil erosion.
0186.3.3 Understand the importance of installing culverts, water breaks and "woods" bridges.
0186.3.4 Design skid roads.
0186.3.5 Demonstrate competency in felling, bucking and skidding selected trees.
0186.3.6 Scale logs and lumber.
0186.3.7 Monitor water quality.
0186.3.8 Reseed skid trails and log landings.

Standard 4: Laboratory Investigations – Hands-On Learning (0186.S.4)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:

0186.4.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0186.4.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0186.4.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

0186.4.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 5: Technology Applications in Forestry (0186.S.5)

Students will apply technology to investigate real-world problems.

Technology Applications in Forestry Objectives

Students will:

0186.5.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in forestry.
- Locate, evaluate, and collect information from a variety of sources related to forestry.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0186.5.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0186.5.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.

0186.5.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Standard 6: Process/Workplace Skills in Forestry (0186.S.6)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0186.6.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0186.6.2 Explore careers available in forestry.

0186.6.3 Use a variety of sources to investigate the educational requirements of various careers in forestry.

0186.6.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0186.6.5 Demonstrate correct language usage in all oral and written work.

0186.6.6 Perform effectively in both leadership and non-leadership roles.

0186.6.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0186.6.8 Participate as a team member to complete a variety of assignments.

Forestry Science And Ecology WVEIS Code 0187

This area of study is designed to provide both college bound students and work bound students with the basic skills and knowledge needed in the forestry industry. Major instructional concepts include the scientific aspects of dendrology, silviculture, integrated wildlife management and ecology. Additionally, the student will study safety, surveying and measuring timber.

Standard 1: Leadership Development (0187.S.1)

Students will demonstrate leadership skills by developing an awareness of the FFA.

Leadership Development Objectives

Students will:
0187.1.1 Identify the year FFA was formed.
0187.1.2 Name the author of the creed.
0187.1.3 Identify the location of the state and national convention.
0187.1.4 Name the state and national FFA advisor.
0187.1.5 Name the degree levels in FFA.
0187.1.6 Identify parts of the emblem.

Standard 2: Safety (0187.S.2)

Students will identify and utilize appropriate safety procedures associated with forestry.

Safety Objectives

Students will:
0187.2.1 Wear appropriate safety gear.
0187.2.2 Maintain a safe working environment.
0187.2.3 Identify and use safety clothing and equipment.
0187.2.4 Identify proper safety rules with 100% accuracy.
0187.2.5 Identify and correct hazardous operational conditions.

Standard 3: Fire Line Safety (0187.S.3)

Students will demonstrate appropriate safety practices involved in creating a fire line.

Fire Line Safety Objectives

Student will:
0187.3.1 Identify fire fighting tools.
0187.3.2 Explain fire line safety.
0187.3.3 Explain fire line construction.
0187.3.4 Explain forest fire mop-up.
0187.3.5 Explain the use of topographic maps in location access roads and trails.
0187.3.6 Explain the use of topographic maps in fire location.

Standard 4: Forestry Equipment (0187.S.4)

Students will identify equipment associated with forestry and explain their use.

Forestry Equipment Objectives

Students will:
0187.4.1 Identify by sight: Tree Scale Stick, Increment Bore, Drip Torch, Fire Rake, Clinometers, Hand Compass, Soil Tube, Jacobs Staff, Staff Compass, Chaps, Hard Hat/Face, Shield, Pulaski, Tree Marking Gun, Wedge Prism, Stereoscope, Log Rule, Data Recorder, Plastic Flagging, Chainsaw, Ear Protection, Dot Grid, Dibble or Tree Planter
0187.4.2 Explain the use of each tool.

Standard 5: Dendrology (0187.S.5)

Students will demonstrate appropriate tree identification techniques.

Dendrology Objectives

Students will:
0187.5.1 Identify by leaves.
0187.5.2 Identify by bark.
0187.5.3 Identify by twigs.
0187.5.4 Identify by fruit.

Standard 6: Measurements (0187.S.6)

Students will demonstrate various methods of measurements involving forestland and product measurements.

Measurements Objectives

Students will:
0187.6.1 Organize and set up instruments for surveying.
0187.6.2 Use compass to maintain direction.
0187.6.3 Make linear measurements using surveyor's chain with compass.
0187.6.4 Make linear measurements by pacing with compass.
0187.6.5 Calculate the number of acres in a timber tract.
0187.6.6 Use hand/staff compass to determine bearing or Azimuth.
0187.6.7 Identify units of measurement (mile, rod, chain and acre.)
0187.6.8 Define and calculate board foot and cord wood volumes.
0187.6.9 Measure standing trees at diameter breast height using tree stick and diameter tape.
0187.6.10 Determine number of logs per tree using tree stick or clinometer.
0187.6.11 Record volume number of individual trees using tally sheet method.
0187.6.12 Calculate volume of saw logs using Doyle, Scribner and International 1/4" rule.
0187.6.13 Calculate volume of pulpwood by cords.
0187.6.14 Interpret surface features using aerial photography and topographic maps.
0187.6.15 Conduct a boundary survey using hand compass and pacing.
0187.6.16 Calculate percent slope using a clinometer.
0187.6.17 Orientate topographic map using hand compass.
0187.6.18 Mark boundaries and corners of tract.
0187.6.19 Use compass to direct cruising operation.
0187.6.20 Measure distance between plot center (by pacing).
0187.6.21 Record trees using tally sheet method.
0187.6.22 Use wedge prism (BAF 10 or BAF 20).
0187.6.23 Calculate board foot volumes using double log scale.

Standard 7: Silviculture (0187.S.7)

Students will utilize various silviculture practices.

Silviculture Objectives

Students will:
0187.7.1 Determine major forest type and primary uses.
0187.7.2 Determine proper spacing using D+6 rule.
0187.7.3 Use increment borer to determine age and growth rate.
0187.7.4 Recognize insect and disease damage and mark damaged area for salvage.
0187.7.5 Identify forest reproduction techniques.
0187.7.6 Demonstrate the technique of girdling in the process of removing undesirable trees.
0187.7.7 Define clear-cutting.

Standard 8: Wildlife (0187.S.8)

Students will demonstrate correct wildlife management skills.

Wildlife Objectives

Students will:
0187.8.1 Monitor and improve water quality.
0187.8.2 Improve habitat for bird, fish and game.
0187.8.3 Understand the importance of the forest, field and edge.
0187.8.4 Identify potential den and mast trees.

Standard 9: Best Management Practices (0187.S.9)

Students will demonstrate an awareness of best management practices used in forestry.

Best Management Practices Objectives

Students will:
0187.9.1 Describe maintenance procedures for drainage systems (culverts, ditches, etc.) in controlling soil erosion.
0187.9.2 Understand the importance of installing culverts, water breaks and "woods" bridges.
0187.9.3 Design skid roads.
0187.9.4 Monitor water quality.

Natural Resource Management I — WVEIS Code 0188

This agricultural science course is designed to provide students with science concepts and skills in natural resource management that will be useful in various occupations in the field. Major emphasis will be on the scientific concepts involving air, water, aquatic life, wildlife management and recreation. Interaction of ecosystems and their relationship to human populations will be studied. This field of study will prepare students for entry-level occupations in the natural resources area.

Standard 1: Natural Resource and the Environment (0188.S.1)

Students will describe the relationship between natural resources and the environment.

Natural Resource and the Environment Objectives

Students will:
0188.1.1 Identify exhaustible and inexhaustible resources.
0188.1.2 Explain the importance of natural resources.
0188.1.3 Describe the interaction of people with the environment.

Standard 2: Air and Quality (0188.S.2)

Students will explain the importance of air and maintaining its quality.

Air and Quality Objectives

Students will:
0188.2.1 Identify air pollutants and their sources.
0188.2.2 Describe the effect of air pollution on humans, other living things and materials.
0188.2.3 Sample, monitor and analyze air quality for physical and chemical properties.
0188.2.4 Examine wind (air) as an alternative energy source.

Standard 3: Water Quality (0188.S.3)

Students will explain the importance of water and maintaining its quality.

Water Quality Objectives

Students will:
0188.3.1 Identify sources of water and water pollutants.
0188.3.2 Explain the effect of water pollution on the ecosystem.
0188.3.3 Describe the hydroponical cycle.
0188.3.4 Identify point and non-point source pollution.
0188.3.5 Describe wetlands, their use, importance and preservation.
0188.3.6 Identify uses of water in agriculture.
0188.3.7 Explain methods of managing wastewater.
0188.3.8 Determine composition of wastewater using water-testing equipment.
0188.3.9 Explain methods of protecting water sources.

Standard 4: Aquatic Life (0188.S.4)

Students will demonstrate aquatic life and natural resource management skills.

Aquatic Life Objectives

Students will:
0188.4.1 Identify game fish species and other aquatic wildlife.
0188.4.2 Explain water quality requirements for aquatic wildlife.
0188.4.3 Explain fishing laws and regulations.
0188.4.4 Describe fish hatchery techniques.

0188.4.5 Check for pond oxygen deficiency and prescribe remedial programs.
0188.4.6 Explain stratification and fish adaptability.
0188.4.7 Identify a management plan for a designated stream, lake or pond.

Standard 5: Wildlife (0188.S.5)

Students will demonstrate of wildlife management skills.

Wildlife Objectives

Students will:
0188.5.1 Identify and classify species of birds and wildlife animals.
0188.5.2 List governmental agencies concerned with wildlife conservation.
0188.5.3 Outline a plan for stimulating native and introduced game populations.
0188.5.4 Outline a plan for hatching game bird eggs.
0188.5.5 Identify common diseases of game birds and animals.
0188.5.6 Identify practices that can be used to protect wildlife.
0188.5.7 Evaluate wildlife food and cover crops.
0188.5.8 Estimate animal populations on given areas of land.

Standard 6: Outdoor Recreation (0188.S.6)

Students will demonstrate competencies in outdoor recreation management.

Outdoor Recreation Objectives

Students will:
0188.6.1 List demands by the public for different types of outdoor recreation experiences.
0188.6.2 Recognize types of natural resources recreational areas and the service and facilities required.
0188.6.3 Recognize the income potential from various types of recreational enterprises.
0188.6.4 Identify business procedures required of a recreational enterprise.
0188.6.5 Describe local, state and federal laws pertaining to given enterprises.
0188.6.6 Design advertising media to promote a recreation area effectively.

Standard 7: Leadership (0188.S.7)

Students will demonstrate leadership skills in natural resource management.

Leadership Objectives

Students will:
0188.7.1 Participate in FFA meetings and activities.
0188.7.2 Utilize record keeping skills in work-based experience programs (SAE).

Standard 8: Laboratory Investigations (0188.S.8)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:
0188.8.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0188.8.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0188.8.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0188.8.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 9: Technology Applications (0188.S.9)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0188.9.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in natural resource management.
- Locate, evaluate, and collect information from a variety of sources related to natural resource management.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0188.9.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0188.9.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to natural resource management.

0188.9.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of natural resource management.

Standard 10: Process/Workplace Skills (0188.S.10)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0188.10.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0188.10.2 Explore careers available in natural resource management.

0188.10.3 Use a variety of sources to investigate the educational requirements of various careers in natural resource management.

0188.10.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0188.10.5 Demonstrate correct language usage in all oral and written work.

0188.10.6 Perform effectively in both leadership and non-leadership roles.

0188.10.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0188.10.8 Participate as a team member to complete a variety of assignments.

Natural Resource Management II WVEIS Code 0189

This agricultural science course is designed to provide students with advanced science concepts and skills in natural resource management. Major emphasis will be on soil, forestry, and land use planning including solid waste and hazardous waste disposal and soil fertility. This field of study prepares students for entry-level occupations in the area of natural resources management.

Standard 1: Occupations in Natural Resources (0189.S.1)

Students will describe the occupations related to natural resources.

Occupations in Natural Resources Objectives

Students will:
0189.1.1 Identify occupations in natural resource management.
0189.1.2 Determine requirements for occupational entry in natural resource management fields.
0189.1.3 Identify typical activities performed by natural resource workers.

Standard 2: Soils (0189.S.2)

Students will explain soils and their role in natural resource management.

Soils Objectives

Students will:
0189.2.1 Identify factors that affect soil formation and describe the significance of each.
0189.2.2 Make "feel" tests of wet and dry soil samples and classify each as sandy, loamy or clayey.
0189.2.3 Determine percentage of sand, loam and clay in soil samples and classify according to texture.
0189.2.4 Classify samples of topsoil in one of the three color groups.
0189.2.5 Determine pH values of soil.
0189.2.6 Classify soils with respect to permeability.
0189.2.7 Determine moisture content of soil.
0189.2.8 Recognize causes of soil erosion.
0189.2.9 Categorize soils into their land use capability classes.
0189.2.10 Identify appropriate erosion control measures for soils.
0189.2.11 Read soil maps and interpret terms and symbols.
0189.2.12 Develop a conservation land use plan for a farm.

Standard 3: Soil Fertility (0189.S.3)

Students will perform competencies related to maintaining soil fertility.

Soil Fertility Objectives

Students will:
0189.3.1 Collect soil samples, complete data forms and submit to a laboratory for analysis.
0189.3.2 Test soil for acidity or alkalinity and prescribe remedial measures.
0189.3.3 Make plant tissue analyses.
0189.3.4 Explain analysis data on a fertilizer tag.
0189.3.5 Identify macronutrients and their deficiency symptoms.

Standard 4: Forestry (0189.S.4)

Students will explain the role of forestry principles in natural resource management.

Forestry Objectives

Students will:
0189.4.1 Relate benefits of forest resources to land, human and economic requirements.

0189.4.2 Recognize and name forest products.
0189.4.3 Identify tree parts and their functions.
0189.4.4 Identify common tree species.
0189.4.5 Plant tree seedlings using approved practices.
0189.4.6 Identify common tree pests and diseases.
0189.4.7 Prescribe control measures for pests and diseases.
0189.4.8 Describe the effect of forest fires on the forest floor.
0189.4.9 Identify fire suppression tools and equipment and state their functions.

Standard 5: Land Use Planning (0189.S.5)

Students will describe the principles of land use planning.

Land Use Planning Objectives

Students will:
0189.5.1 Outline steps in the land use planning process.
0189.5.2 Assemble information pertinent to developing a comprehensive plan.
0189.5.3 Describe functions of comprehensive plans and zoning ordinances.
0189.5.4 Obtain distances by pacing and using steel tapes.
0189.5.5 Use appropriate equipment to conduct a basic survey.
0189.5.6 Give legal descriptions of selected plots of land.
0189.5.7 Run a traverse with the surveyor's staff compass.

Standard 6: Minerals (0189.S.6)

Students will explain the role of minerals in natural resource management.

Minerals Objectives

Students will:
0189.6.1 Identify and classify samples of rocks and minerals common to the state.
0189.6.2 Describe formation of coal in the earth's crust.
0189.6.3 List functions of common minerals.
0189.6.4 Describe procedures in locating, extracting and processing minerals.
0189.6.5 Describe the impact of mining on the environment.
0189.6.6 Identify methods of mineral conservation.
0189.6.7 Identify a plan for restoration of an area that has been disturbed by mineral extraction.

Standard 7: Solid Waste (0189.S.7)

Students will describe the concepts of solid waste management.

Solid Waste Objectives

Students will:
0189.7.1 Describe kinds and sources of solid waste.
0189.7.2 Explain hazards in solid waste materials and disposal.
0189.7.3 Describe methods of solid waste disposal.
0189.7.4 Explain recycling.
0189.7.5 Describe composting.
0189.7.6 Explore methods and benefits of composting.

Standard 8: Hazardous Waste (0189.S.8)

Students will describe the concepts of hazardous waste management.

Hazardous Waste Objectives

Students will:

0189.8.1 Explain hazardous waste.
0189.8.2 Describe ecotoxicology.
0189.8.3 Explain disposing of hazardous waste.
0189.8.4 Explain safety procedures and clean-up of spills.

Standard 9: Leadership (0189.S.9)

Students will demonstrate leadership skills in natural resource management.

Leadership Objectives

Students will:
0189.9.1 Participate in FFA meetings and activities.

Standard 10: Supervised Agricultural Experience Program (SAE) (0189.S.10)

Students will conduct a supervised agricultural experience program.

SAE Objectives

Students will:
0189.10.1 Conduct an experience program in the natural resource management area.
0189.10.2 Maintain appropriate records on the experience program.

Standard 11: Laboratory Investigations (0189.S.11)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigations Objectives

Students will:
0189.11.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0189.11.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0189.11.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0189.11.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 12: Technology Applications (0189.S.12)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0189.12.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in natural resource management.
- Locate, evaluate, and collect information from a variety of sources related to natural resource management.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0189.12.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0189.12.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to natural resource management.
0189.12.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of natural resource management.

Standard 13: Process/Workplace Skills (0189.S.13)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0189.13.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0189.13.2 Explore careers available in natural resource management.
0189.13.3 Use a variety of sources to investigate the educational requirements of various careers in biotechnology and related sciences.
0189.13.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0189.13.5 Demonstrate correct language usage in all oral and written work.
0189.13.6 Perform effectively in both leadership and non-leadership roles.
0189.13.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0189.13.8 Participate as a team member to complete a variety of assignments.

Wildlife Management WVEIS Code 0190

This course provides instruction and training in leadership, history of fish and wildlife, wildlife management concepts, water and water quality, habitat management, life history and wildlife values as a natural resource.

Standard 1: Leadership and Communication Development (0190.S.1)

Students will demonstrate leadership skills through personal, organizational and workplace experiences.

Leadership and Communication Development Objectives

Students will:
0190.1.1 Identify FFA history.
0190.1.2 Demonstrate proper use of parliamentary procedure.
0190.1.3 Participate in FFA activities.
0190.1.4 Prepare and deliver a brief presentation on a wildlife or natural resource topic.

Standard 2: History of Wildlife Management (0190.S.2)

Students will describe the importance of wildlife management and its impact on conservation.

History of Wildlife Management Objectives

Students will:
0190.2.1 Define and describe wildlife trends and their impact on management.
0190.2.2 Identify wildlife legalities and ethics.
0190.2.3 Define natural resources conservation.

Standard 3: Concepts of Wildlife Management (0190.S.3)

Students will describe the relationships between wildlife, humans and the ecosystem.

Concepts of Wildlife Management Objectives

0190.3.1 Define succession stages related to wildlife management.
0190.3.2 Describe carrying capacity as related to wildlife.
0190.3.3 Define horizontal and vertical structuring.
0190.3.4 Explain ecological principles and their application to wildlife management.

Standard 4: Habitat Management Practices (0190.S.4)

Students will determine the relationship between wildlife and the environment with approved practices in managing wildlife habitat.

Habitat Management Practices Objectives

Students will:
0190.4.1 Explain ecological principles applied to fish and wildlife.
0190.4.2 Design a wildlife management plan.
0190.4.3 Identify forest management practices for improving habitat.
0190.4.4 Identify agricultural management practices for improvement of habitat.
0190.4.5 Define and describe wetlands and their use.
0190.4.6 Identify government assistance available for habitat improvement.
0190.4.7 Construct and erect wildlife feeders/nest boxes.

Standard 5: Animal Life Histories (0190.S.5)

Students will use technology to identify the characteristics of wildlife and the relationship between species.

Animal Life Histories Objectives

Students will:
0190.5.1 Identify life cycles of wildlife species.
0190.5.2 Describe interrelationship of wildlife species.
0190.5.3 Identify common relationships between humans and wildlife.
0190.5.4 Search the Internet to secure wildlife information.

Standard 6: Water and Water Quality (0190.S.6)

Students will determine the relationships between water and the environment and the recommended practices for conserving these resources.

Water Objectives

Students will:
0190.6.1 Identify sources of water and water pollutants.
0190.6.2 Explain the effects to water pollution on the ecosystem.
0190.6.3 Identify point and non-point source pollution and describe possible controls.
0190.6.4 Describe wetlands, their use, importance and preservation.
0190.6.5 Explain methods of protecting water sources.

Standard 7: Wildlife Values as a Resource (0190.S.7)

Students will describe the benefit of wildlife as a resource to society.

Wildlife Values Objectives

Students will:
0190.7.1 Identify commercial value of fish and wildlife resources and economic benefit to people.
0190.7.2 Define recreational values of fish and wildlife.
0190.7.3 Describe social values of fish and wildlife.
0190.7.4 Identify esthetic values of fish and wildlife resources.
0190.7.5 Describe scientific and educational values of fish and wildlife.
0190.7.6 Evaluate negative impact of wild animals on humans.

Standard 8: Develop a Work-Based Experiential Program (SAE) in Wildlife Management (0190.S.8)

Students will explore careers and learn the rational for and plan a SAE.

SAE Objectives

Students will:
0190.8.1 Define and explain supervised experience programs in agricultural and natural resources.
0190.8.2 Explore opportunities for work-based learning in natural resources.
0190.8.3 Define record keeping terms for supervised experience programs.
0190.8.4 Establish a supervised experience program in agriculture or natural resources.

Grounds Maintenance WVEIS Code 0201

This course is designed to provide students with basic knowledge, skills and attitudes necessary for successful entry into a grounds maintenance occupation.

Standard 1: Leadership and Communication Development (0201.S.1)

Students will demonstrate leadership skills through personal, organizational and workplace activities.

Leadership and Communication Development Objectives

Students will:
0201.1.1 Participate in FFA activities and programs.
0201.1.2 Prepare and deliver short speeches.
0201.1.3 Identify interview and employment readiness skills.
0201.1.4 Prepare a resume.

Standard 2: Grounds Maintenance Tools and Equipment (0201.S.2)

Students will practice and demonstrate safety with ground maintenance tools, equipment and activities.

Grounds Maintenance Tools and Equipment Objectives

Students will:
0201.2.1 Identify tools and equipment used in grounds maintenance.
0201.2.2 Perform maintenance and service operations on tools and equipment.
0201.2.3 Use tools and equipment safely under job site conditions.
0201.2.4 Identify and safely use potentially hazardous fuels.

Standard 3: Control Pests in Lawns, Flowers and Shrubs (0201.S.3)

Students will explain the practices of safe pesticide use and the concept of integrated pest management.

Control Pests in Lawns, Flowers and Shrubs Objectives

Students will:
0201.3.1 Identify, calibrate and safely use equipment.
0201.3.2 Identify and use personal safety clothing and equipment.
0201.3.3 Identify common pests, diseases and appropriate control techniques including integrated pest management (IPM).
0201.3.4 Read and demonstrate understanding of pesticide labels.

Standard 4: Plant and Maintain Lawns, Flower Beds, and Shrubs (0201.S.4)

Students will demonstrate practices pertaining to the establishment and maintenance of lawns, flower beds and shrubs.

Plant and Maintain Lawns, Flower Beds, and Shrubs Objectives

Students will:
0201.4.1 Identify safe and appropriate mowing techniques.
0201.4.2 Use an edger following safety procedures.
0201.4.3 Aerate and dethatch turf.
0201.4.4 Irrigate lawn, flowers and shrubs.
0201.4.5 Take soil samples using correct procedures.
0201.4.6 Analyze soil test results and determine fertilizer needs.
0201.4.7 Apply fertilizer and lime to various areas.
0201.4.8 Prune shrubs according to recommended practices.
0201.4.9 Mulch landscape plants.
0201.4.10 Provide appropriate winter protection for plants.

Standard 5: Construct and Maintain Grounds Structures (0201.S.5)

Students will build and maintain permanent structures within a landscaped design.

Grounds Structures Objectives

Students will:
0201.5.1 Mix and pour concrete.
0201.5.2 Build and maintain wood structures.
0201.5.3 Seal asphalt walks and driveways.

Standard 6: Developing Work-Based Experiential Program (SAE) (0201.S.6)

Students will explore careers and plan a SAE.

SAE Objectives

Students will:
0201.6.1 Explore opportunities for supervised agricultural experience programs.
0201.6.2 Establish a supervised agricultural experience program in grounds maintenance.
0201.6.3 Maintain records of experience program activities, expenses and earnings.

Horticulture WVEIS Code 0212

Horticulture includes art, science and technology. This field of study explains concepts of plant growth and how plants are used in our environment for aesthetics, ecosystems and as plant products for human consumption. Students will gain skills for entry-level employment or entrance into an advanced training/degree program.

Standard 1: Leadership Development (0212.S.1)

Students will participate in various FFA activities.

Leadership Development Objectives

Students will:
0212.1.1 Demonstrate an awareness of FFA and its components.
0212.1.2 Utilize record-keeping skills in work-based experience programs.
0212.1.3 Develop and exhibit communication skills.
0212.1.4 Draft and complete a resume, complete a job application, and demonstrate job seek/keep skills.
0212.1.5 Demonstrate personal and social skills.
0212.1.6 Research career opportunities in the greenhouse management industry.

Standard 2: Plant Classification and Identification (0212.S.2)

Students will identify the different plant classification.

Plant Classification and Identification Objectives

Students will:
0212.2.1 Develop an understanding of the natural classification system for the plant kingdom.
0212.2.2 Identify plant species and explore their benefit to people.
0212.2.3 Identify and research plants that are important to the greenhouse industry.
0212.2.4 Describe the plant processes involved with plant growth and development.
0212.2.5 List plant growth regulators and document their effects on plants.
0212.2.6 Explain how essential elements become available for plant use.
0212.2.7 Identify and document the effects of environmental factors on plant growth.
0212.2.8 Compare and contrast types of plant-growing media.
0212.2.9 Determine appropriate amendments for optimum plant growth.
0212.2.10 Explain and utilize soil and water conservation practices.

Standard 3: Plant Processes and Propagation (0212.S.3)

Students will identify the levels of plants processes and propagation.

Plant Processes and Propagation Objectives

Students will:
0212.3.1 Perform methods of propagating plants.
0212.3.2 Manipulate total environment from juvenile to mature plant.
0212.3.3 Demonstrate knowledge of plant growth and propagation processes including photosynthesis, respiration, transpiration and pollination.

Standard 4: Pest Management (0212.S.4)

Students will identify proper pesticide use and pest management.

Pest Management Objectives

Students will:
0212.4.1 Explain and apply the concepts of integrated pest management.

0212.4.2 Identify safety guidelines for tools, equipment and pesticide use.
0212.4.3 Identify pests and evaluate control methods according to label interpretation.
0212.4.4 Recognize, calibrate and operate pesticide application equipment.
0212.4.5 Research and discuss the environmental and health concerns relating to pesticide usage.
0212.4.6 Demonstrate knowledge of and interpret federal and state pesticide laws.

Standard 5: Selected Specialty Areas in Horticulture (0212.S.5)

Students will identify the various specialty areas in horticulture.

Specialty Areas in Horticulture Objectives

Students will:
0212.5.1 Explore professions in floriculture and understand the scope of job opportunities.
0212.5.2 Demonstrate various techniques and procedures commonly used in the floriculture industry.
0212.5.3 Explore professions in greenhouse management and understand the scope of job opportunities.
0212.5.4 Demonstrate various techniques and procedures commonly used in the greenhouse management industry.
0212.5.5 Explore professions in nursery production and understand job requirements.
0212.5.6 Demonstrate techniques and procedures used in the nursery production industry.
0212.5.7 Research careers in the landscape and turf industry.
0212.5.8 Perform basic landscape design, plantings and maintenance techniques.
0212.5.9 Utilize Internet World Wide Web to explore specialty areas in horticulture.

Standard 6: Laboratory Investigation (0212.S.6)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0212.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0212.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0212.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0212.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Technology Applications (0212.S.7)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:
0212.7.1 Use computers and the World Wide Web (WWW) to:
- Solve problems related to work-based experience programs in horticulture.
- Locate, evaluate, and collect information from a variety of sources related to horticulture.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0212.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
0212.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to horticulture.
0212.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of horticulture.

Standard 8: Process/Workplace Skills (0212.S.8)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0212.8.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
0212.8.2 Explore careers available in horticulture.
0212.8.3 Use a variety of sources to investigate the educational requirements of various careers in horticulture.
0212.8.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
0212.8.5 Demonstrate correct language usage in all oral and written work.
0212.8.6 Perform effectively in both leadership and non-leadership roles.
0212.8.7 Evaluate information for reliability, completeness, and applicability to various assignments.
0212.8.8 Participate as a team member to complete a variety of assignments.

Floriculture WVEIS Code 0213

Floriculture introduces students to careers in the floral industry and provides basic instruction in the techniques of floral design and merchandising.

Standard 1: Leadership and Communication Development (0213.S.1)

Students will demonstrate leadership skills through personal, organizational and workplace experiences.

Leadership and Communication Development Objectives

Students will:
0213.1.1 Describe FFA and its components.
0213.1.2 Utilize record-keeping skills in work-based experience programs (SAE).
0213.1.3 Identify appropriate career opportunities in the floriculture industry.
0213.1.4 Draft and prepare a resume, fill out a job application, demonstrate employability skills.
0213.1.5 Develop personal relation and communication skills.
0213.1.6 Demonstrate an awareness of employment and floriculture industry ethics.

Standard 2: Principles of Design (0213.S.2)

Students will utilize principles of design to critique floral designs.

Principles of Design Objectives

Students will:
0213.2.1 Utilize floriculture principles, elements and theory of design.
0213.2.2 Identify basic designs and arrangements associated with floriculture principles of design.
0213.2.3 Understand the concepts and use of color.

Standard 3: Cut Flowers and Greens (0213.S.3)

Students will identify and maintain commonly used cut flowers and foliage.

Cut Flowers and Greens Objectives

Students will:
0213.3.1 Identify and classify flowers and foliage.
0213.3.2 Understand the techniques to maintain optimum flower and foliage quality.

Standard 4: Floral Materials and Supplies (0213.S.4)

Students will identify and manipulate materials and supplies used in floral design.

Floral Materials and Supplies Objectives

Students will:
0213.4.1 Identify the basic mechanics and supplies used in floral design.
0213.4.2 Identify materials to wire flowers for corsages, arrangements and wreaths.
0213.4.3 Demonstrate construction of bows.

Standard 5: Selected Specialty Areas (0213.S.5)

Students will design the appropriate product according to the occasion.

Selected Specialty Areas Objectives

Students will:
0213.5.1 Design boutonnieres and corsages.
0213.5.2 Understand concepts in floral design of holiday arrangements.
0213.5.3 Identify designs for weddings and receptions.

0213.5.4 Recognize practice in sympathy floral designs.
0213.5.5 Dry and preserve flowers and foliage to make a dried flower presentation.
0213.5.6 Explain appropriate indoor planting schemes, construction and maintenance.

Standard 6: Floral Operations and Management (0213.S.6)

Students will develop strategies and understand the components used in floral operations and management.

Floral Operations and Management Objectives

Students will:
0213.6.1 Develop skills in retail sales using various selling techniques.
0213.6.2 Develop a visual merchandising plan to project the right image.
0213.6.3 Identify the components and the importance of a floral delivery system.
0213.6.4 Identify professional trade organizations organized to assist the retail florist.

Greenhouse Technology WVEIS Code 0214

This area of study is designed to provide both college bound students and work bound students with the basic skills and knowledge needed in the greenhouse management industry. Major instructional concepts provide students with individual goals and objectives including: plant environments, classification, plant processes, growing media, plant nutrients, propagation, growth, pests and management procedures, nursery and landscape techniques, structures operation and maintenance and advanced greenhouse practice and technologies.

Standard 1: Leadership Development (0214.S.1)

Students will participate in various FFA activities.

Leadership Development Objectives

Students will:
0214.1.1 Demonstrate an awareness of FFA and its components.
0214.1.2 Utilize record-keeping skills in work-based experience programs.
0214.1.3 Develop and exhibit communication skills.
0214.1.4 Draft and complete a resume, complete a job application, and demonstrate job seek/keep skills.
0214.1.5 Demonstrate personal and social skills.
0214.1.6 Research career opportunities in the greenhouse management industry.

Standard 2: Greenhouse Structure, Operation and Maintenance (0214.S.2)

Students will identify different greenhouse structures, operations and maintenance.

Greenhouse Structure, Operation and Maintenance Objectives

Students will:
0214.2.1 Identify different greenhouse parts and compare types of structures and coverings.
0214.2.2 Demonstrate safety and proper manipulation of greenhouse equipment.
0214.2.3 Diagram operational systems in the greenhouse operation.
0214.2.4 Analyze suitable greenhouse locations and recommend interior layout.

Standard 3: Plant Classification and Identification (0214.S.3)

Students will identify the different plant classification.

Plant Classification and Identification Objectives

Students will:
0214.3.1 Demonstrate an understanding of the natural classification system for the plant kingdom.
0214.3.2 Identify and research plants that are important to the greenhouse industry.

Standard 4: Environmental Control and Plant Growth (0214.S.4)

Students will identify the different environmental elements and plant growth.

Environmental Control and Plant Growth Objectives

Students will:
0214.4.1 Describe the plant processes involved with plant growth and development.
0214.4.2 List plant growth regulators and document their effects on plants.
0214.4.3 Explain how essential elements become available for plant use.
0214.4.4 Identify and document the effects of environmental factors on plant growth.

Standard 5: Greenhouse Media and Containers (0214.S.5)

Students will identify the greenhouse media effects and the different types of containers.

Greenhouse Media and Containers Objectives

Students will:
0214.5.1 Research the components of media and amendments.
0214.5.2 Demonstrate the effect of various greenhouse media and proper media preparation on plant growth.
0214.5.3 Compare and contrast basic types and sizes of containers used in greenhouse management.

Standard 6: Plant Processes and Propagation (0214.S.6)

Students will identify the levels of plants processes and propagation.

Plant Processes and Propagation Objectives

Students will:
0214.6.1 Perform methods of propagating plants.
0214.6.2 Manipulate total environment from juvenile to mature plant.
0214.6.3 Demonstrate knowledge of plant growth and propagation processes including photosynthesis, respiration, transpiration and pollination.

Standard 7: Identifying and Controlling Disease, Insects, and Weeds (0214.S.7)

Students will identify and control disease, insects and weeds with proper pesticide usage.

Disease, Insects, and Weeds Objectives

Students will:
0214.7.1 Identify and exhibit guidelines for pesticide use.
0214.7.2 Practice integrated pest management procedures.
0214.7.3 Describe and evaluate control methods, chemical formulations and equipment used to control pests in the greenhouse.

Standard 8: Greenhouse Business Management (0214.S.8)

Students will identify the various types of managing a greenhouse business.

Greenhouse Business Management Objectives

Students will:
0214.8.1 Explore and discuss the various types of records kept in a greenhouse business.
0214.8.2 Use computers to solve problems related to greenhouse management.
0214.8.3 Describe the methods and determine the values and limitations of effective advertising.
0214.8.4 Develop a plan for profitable sales techniques.
0214.8.5 Record receipts and expenditures.

Standard 9: Laboratory Investigation (0214.S.9)

Students will safely conduct laboratory investigations and exploratory learning.

Laboratory Investigation Objectives

Students will:
0214.9.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
0214.9.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
0214.9.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
0214.9.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser

discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 10: Technology Applications (0214.S.10)

Students will apply technology to investigate real-world problems.

Technology Applications Objectives

Students will:

0214.10.1 Use computers and the World Wide Web (WWW) to:

- Solve problems related to work-based experience programs in greenhouse technology.
- Locate, evaluate, and collect information from a variety of sources related to greenhouse technology.
- Develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

0214.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

0214.10.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to greenhouse technology.

0214.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of greenhouse technology.

Standard 11: Process/Workplace Skills (0214.S.11)

Students will demonstrate personal and group workplace skills.

Process/Workplace Skills Objectives

Students will:

0214.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

0214.11.2 Explore careers available in greenhouse technology.

0214.11.3 Use a variety of sources to investigate the educational requirements of various careers in greenhouse technology.

0214.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

0214.11.5 Demonstrate correct language usage in all oral and written work.

0214.11.6 Perform effectively in both leadership and non-leadership roles.

0214.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.

0214.11.8 Participate as a team member to complete a variety of assignments.

Landscape Design And Installation WVEIS Code 0215

This course will prepare students to design appropriate landscapes for home, business and other facilities. After the design plan is formulated, the students will implement the plan.

Standard 1: Leadership and Interpersonal Skill Development (0215.S.1)

Students will demonstrate leadership skills through personal, organizational and workplace experiences.

Leadership and Interpersonal Skill Development Objectives

Students will:
0215.1.1 Participate in FFA activities.
0215.1.2 Write, deliver and evaluate a speech and/or presentation.
0215.1.3 Explore careers in the landscape industry.
0215.1.4 Determine appropriate job seeking and keeping skills.
0215.1.5 Describe ethical conduct.
0215.1.6 Utilize record-keeping skills in work-based experience programs (SAE).

Standard 2: Basic Landscape Design (0215.S.2)

Students will recognize and demonstrate basic principles of planning and implementing the landscape design.

Basic Landscape Design Objectives

Students will:
0215.2.1 Determine environmental requirements for landscape plant materials.
0215.2.2 Recognize the appropriate plants for landscape use.
0215.2.3 Interpret landscape symbols for a landscape plan.
0215.2.4 Operate computer assisted design programs.
0215.2.5 Demonstrate knowledge of drafting skills needed in a landscape plan.

Standard 3: Safe Use and Operation of Horticulture Tools and Equipment. (0215.S.3)

Students will practice and demonstrate safety with landscape tools, equipment and activities.

Horticulture Tools and Equipment Objectives

Students will:
0215.3.1 Identify and properly use horticulture tools and equipment.
0215.3.2 Follow appropriate safety procedures and policies.
0215.3.3 Interpret and follow safety information from equipment manuals.
0215.3.4 Maintain and adjust safety devices.
0215.3.5 Service tools and equipment as to manufactures specifications.
0215.3.6 Operate equipment under job site conditions.

Standard 4: Implementation of the Landscape Design (0215.S.4)

Students will apply principles of landscape design.

Landscape Design Objectives

Students will:
0215.4.1 Prepare an area to be landscaped.
0215.4.2 Construct walkways and landscape structures.
0215.4.3 Install balled and burlapped, containerized and bare root plantings.
0215.4.4 Install herbaceous landscape plants.
0215.4.5 Place edging materials.

0215.4.6 Mulch a landscape site.
0215.4.7 Install turf areas.
0215.4.8 Place planting to provide appropriate lighting.

Landscape Maintenance WVEIS Code 0216

Landscape maintenance is designed to expose students to proper techniques for maintaining a well-designed landscape. The students will understand the importance of landscape maintenance from the added aesthetic and financial value of the property.

Standard 1: Leadership and Interpersonal Skill Development (0216.S.1)

Students will demonstrate leadership skills through personal, organizational, and workplace experiences.

Leadership and Interpersonal Skill Development Objectives

Students will:
0216.1.1 Participate in FFA activities and programs.
0216.1.2 Identify communication skills.
0216.1.3 Identify interview and employment readiness skills.
0216.1.4 Draft a resume.

Standard 2: Demonstrate Safe Use and Operation of Horticulture Tools and Equipment (0216.S.2)

Students will practice and demonstrate safety with landscape tools, equipment and activities.

Horticulture Tools and Equipment Objectives

Students will:
0216.2.1 Identify and properly use horticulture tools and equipment.
0216.2.2 Follow appropriate safety procedures and policies.
0216.2.3 Interpret and follow safety information from equipment manuals.
0216.2.4 Maintain and adjust safety devices.
0216.2.5 Service tools and equipment as to manufacturer's specifications (including winterizing).
0216.2.6 Operate equipment under job site conditions.
0216.2.7 Identify and demonstrate the safe use of potentially hazardous materials (fuels, lubricants, etc.)

Standard 3: Using Pest Management Techniques (0216.S.3)

Students will describe safe pesticide use and the concept of integrated pest management.

Pest Management Techniques Objectives

Students will:
0216.3.1 Identify, calibrate, and properly use equipment.
0216.3.2 Identify and use personal safety equipment and protective clothing.
0216.3.3 Identify pests and the appropriate control techniques.
0216.3.4 Introduce Integrated Pest Management (IPM) techniques.
0216.3.5 Interpret pesticide labels and proper use as instructed.
0216.3.6 Identify and maintain an insect, disease, and weed control program.

Standard 4: Demonstrate Proper Landscape Maintenance Techniques (0216.S.4)

Students will maintain the landscape.

Landscape Maintenance Objectives

Students will:
0216.4.1 Determine and follow appropriate lawn care practices.
0216.4.2 Aerate and dethatch turf areas.
0216.4.3 Determine and implement irrigation needs for turf and landscaped areas.
0216.4.4 Identify appropriate soil testing procedures.

0216.4.5 Over-seed, lime, and fertilize as deemed necessary.
0216.4.6 Determine and implement proper pruning timelines and practices.
0216.4.7 Maintain landscape edging materials.
0216.4.8 Mulch landscape planting.
0216.4.9 Maintain landscape structures.
0216.4.10 Describe appropriate winter protection.
0216.4.11 Utilize record-keeping skills in work-based experience programs (SAE).

Turf Management WVEIS Code 0217

This area of study is designed to provide students with scientific concepts and skills necessary to properly analyze problems in the turf management industry. Major concepts include pest management, cultural practices and scientific methods of evaluating turf problems.

Standard 1: Leadership and Communication Development (0217.S.1)

Students will demonstrate leadership skills through personal, organizational and workplace activities.

Leadership and Communication Development Objectives

Students will:
0217.1.1 Describe FFA.
0217.1.2 Identify appropriate career opportunities in the turfgrass industry.
0217.1.3 Prepare a resume', complete a job application, and demonstrate job seek/keep skills.
0217.1.4 Develop personal relations communication skills.
0217.1.5 Identify career opportunities in turf management.
0217.1.6 Identify income potential in turf management.

Standard 2: Growth and Physiology (0217.S.2)

Students will describe the process of plant growth.

Growth and Physiology Objectives

Students will:
0217.2.1 Identify major plant parts.
0217.2.2 Identify adaptation zones.
0217.2.3 Identify warm and cool season species of turfgrass.
0217.2.4 Identify turf growth patterns.

Standard 3: Cultural Practices (0217.S.3)

Students will demonstrate practices pertaining to the establishment and maintenance of turfgrass.

Cultural Practices Objectives

Students will:
0217.3.1 Identify appropriate mowing techniques for given areas.
0217.3.2 Describe the 1/3 rule.
0217.3.3 Explain soil-sampling procedures.
0217.3.4 Identify soil testing techniques and procedures.
0217.3.5 Calculate fertilizer application rates.
0217.3.6 Explain fertilizer application techniques.
0217.3.7 Explain the two major irrigation techniques.
0217.3.8 Calculate irrigation rates.
0217.3.9 Identify verticutting, rolling, top dressing and aeration.
0217.3.10 Explain turf establishment procedures.

Standard 4: Pest Management (0217.S.4)

Students will demonstrate safe pesticide use and describe the concept of integrated pest management.

Pest Management Objectives

Students will:
0217.4.1 Identify common turf insects.
0217.4.2 Identify common turf weeds.
0217.4.3 Identify common turf diseases.

0217.4.4 Identify control practices for pests.
0217.4.5 Describe the use of biological controls in integrated pest management.
0217.4.6 Calculate pesticide application rates.
0217.4.7 Describe safe chemical handling and safety equipment.
0217.4.8 Identify controls for large pests.

Standard 5: Equipment and Safety (0217.S.5)

Students will practice and demonstrate safety with turf tools, equipment, and activities.

Equipment and Safety Objectives

Students will:
0217.5.1 Identify principles of equipment and personal safety.
0217.5.2 Demonstrate ability to operate turf equipment.
0217.5.3 Explain basic equipment maintenance.
0217.5.4 Identify correct mower sharpening procedures.

Standard 6: Developing Work-Based Experiential Program (SAE) (0217.S.6)

Students will explore careers and plan a SAE.

SAE Objectives

Students will:
0217.6.1 Explore opportunities for Supervised Agricultural Experience Programs.
0217.6.2 Establish a Supervised Agricultural Experience Program in grounds maintenance.
0217.6.3 Maintain records of experience program activities, expenses and earnings.

Accounting Principles I — WVEIS Code 1401

This course prepares students with the basic principles of the accounting cycle. Students study the basic principles, concepts and practices of the accounting cycle which includes financial statements, banking, payroll, business ownerships and an accounting career orientation.

Standard 1: Accounting Careers (1401.S.1)

Investigate accounting as a career.

Career Objectives

Students will:
1401.1.1 Define the purpose of accounting and the role it plays in our economy.
1401.1.2 Use appropriate accounting terminology.
1401.1.3 Discuss entry-level accounting positions and their education requirements.
1401.1.4 Identify confidentiality concepts and policies.
1401.1.5 Identify characteristics of professional and ethical conduct.

Standard 2: Accounting Cycle (1401.S.2)

Analyze accounting procedures, as applied to the accounting cycle.

Procedures Objectives

Students will:
1401.2.1 Demonstrate the effects of transactions on the accounting equation.
1401.2.2 Identify and use source documents.
1401.2.3 Prepare a chart of accounts using proper numerical sequencing.
1401.2.4 Demonstrate the purpose of a general journal and how it relates to a ledger.
1401.2.5 Post general journal entries to the general ledger and update the account balances.
1401.2.6 Prepare a trial balance.
1401.2.7 Prepare/create financial statements.
1401.2.8 Calculate and record end-of-period adjustments.
1401.2.9 Prepare post-closing trial balance.
1401.2.10 Use specialized accounting software, or spreadsheets, to maintain accounting records.
1401.2.11 Identify the differences between computerized and manual accounting procedures.

Standard 3: The Accounting Cycle for Specialized Procedures (1401.S.3)

Students will implement specialized accounting procedures as applied to the accounting cycle.
The Accounting Cycle Objectives
Students will:
1401.3.1 Differentiate between the different types of business ownerships.
1401.3.2 Differentiate between a service and a merchandising business.
1401.3.3. Analyze transactions relating to the purchase of merchandise and record in special journals.
1401.3.4 Analyze transactions relating to sale of merchandise and record in special journals.
1401.3.5 Analyze financial statements.

Standard 4: Payroll and Banking Procedures (1401.S.4)

Analyze payroll and banking procedures.

Payroll and Banking Procedures Objectives

Students will:
1401.4.1 Define methods used to determine gross earnings.
1401.4.2 Explain the purpose of deductions and withholdings.

1401.4.3 Compute gross earnings, deductions and net pay for an employee.
1401.4.4 Record and post transactions associated with payroll activities.
1401.4.5 Create and maintain employee earnings records.
1401.4.6 Demonstrate generation of payroll checks.
1401.4.7 Demonstrate the ability to write business checks and complete check stubs and check registers.
1401.4.8 Demonstrate the ability to prepare bank deposits slips.
1401.4.9 Identify and demonstrate the three types of check endorsements.
1401.4.10 Reconcile a bank statement, prepare journal entries, and post.
1401.4.11 Demonstrate an understanding for replenishing of and preparing journal entries for the petty cash fund.

Accounting Principles II — WVEIS Code 1403

This course provides students the opportunity to develop advanced knowledge of accounting procedures and techniques utilized in problem solving and in making financial decisions and analysis. Students study the advanced principles, concepts and practices of the accounting cycle that includes financial statements, banking, payroll, partnerships, corporation, cost accounting, inventory, and tax accounting.

Standard 1: Accounting Procedures (1403.S.1)

Demonstrate accounting procedures.

Accounting Procedures Objectives

Students will:

1403.1.1 Use accounting terminology.
1403.1.2 Understand and maintain ethical standards in the preparation of financial statements.
1403.1.3 Interpret characteristics of professional conduct.
1403.1.4 Use specialized accounting software, or spreadsheets, to maintain accounting procedures.
1403.1.5 Demonstrate competence in the structure and sequence of the accounting cycle utilizing manual and automated systems.
1403.1.6 Analyze computer generated reports.

Standard 2: Accounting Procedures for Assets, Liabilities, and Equity (1403.S.2)

Implement accounting procedures for assets, liabilities, and equity.

Assets, Liabilities, and Equity Procedures Objectives

Students will:

1403.2.1 Analyze cash and accounts receivable transactions and record in appropriate journals.
1403.2.2 Analyze investment transactions and record in appropriate journals.
1403.2.3 Calculate inventories using various methods and record in appropriate journals.
1403.2.4 Analyze plant and intangible asset transactions and record in appropriate journals.
1403.2.4 Analyze current liabilities transactions and record in appropriate journals.
1403.2.5 Analyze long-term liabilities transactions and record in appropriate journals.
1403.2.6 Analyze equity transactions for various forms of business ownership and record in appropriate journals.
1403.2.7 Generate financial and end-of-period statements.
1403.2.8 Analyze and interpret financial statements.
1403.2.9 Update accounts through adjusting and closing entries.
1403.2.10 Explain and record adjusting and reversing entries for accrued revenue and expenses.
1403.2.11 Complete account procedures for prepaid expenses and unearned revenue.
1403.2.12 Analyze, compute and record transactions related to uncollectible accounts.
1403.2.13 Manage the computations and recordings of transactions related to notes receivable and notes payable.
1403.2.14 Identify concepts and practices related to accounting for plant assets.
1403.2.15 Calculate and record depreciation of plant assets.
1403.2.16 Analyze the concept of cash flow management.

Standard 3: Specialized Accounting Procedures (1403.S.3)

Utilize specialized accounting procedures and applications.

Specialized Accounting Procedures Objectives

Students will:

1403.3.1 Implement procedures for departmental or branch accounting systems.
1403.3.2 Analyze and implement various methods for budgetary planning and control.
1403.3.3 Analyze and implement cost accounting procedures for manufacturing accounting.
1403.3.4 Analyze financial statements for a manufacturing concern to make cost decisions.
1403.3.5 Examine accounting issues faced by different types of industries such as services, manufacturing, and distribution.
1403.3.6 Analyze income statements and balance sheets for a business.
1403.3.7 Differentiate between the three basic types of businesses (services, merchandising and manufacturing).
1403.3.8 Interpret the differences between sole proprietorships, partnerships, and corporations
1403.3.9 Understand the accounting principles for not-for-profit and government entities.
1403.3.10 Demonstrate an understanding between personal and business taxation at various levels.

Banking and Finance WVEIS Code 1405

This course will help maximize a student's earning potential, develop strategies for managing financial resources, and gain insight into different methods of investing.

Standard 1: Careers in Banking and Finance (1405.S.1)

Explain banking and finance traits.

Banking and Finance Career Objectives

Students will:
1405.1.1 Use appropriate terminology
1405.1.2 Maintain ethical character traits, such as honesty, integrity, compassion, respect, responsibility citizenship and justice.

Standard 2: Budgets (1405.S.2)

Identify the need for and develop a budget.

Budgeting Objectives

Students will:
1405.2.1 Compare and contrast lifestyles and effects on a budget
1405.2.2 Identify steps in planning a budget
1405.2.3 Develop a budget based on goals, income, expenses, and savings
1405.2.4 Enumerate problems incurred without a budget

Standard 3: Saving and Investing (1405.S.3)

Differentiate between saving and investing.

Saving and Investing Objectives

Students will:
1405.3.1 Enumerate reasons for saving
1405.3.2 Describe differences between saving and investing
1405.3.4 List guidelines for investing
1405.3.5 Identify common choices for investing
1405.3.6 Explain uses of technology in the investment industry
1405.3.7 Determine opportune times for investing
1405.3.8 Interpret stock quotations
1405.3.9 Complete mock stock purchases
1405.3.10 Compute net gain/loss

Standard 4: Banking (1405.S.4)

Explain functions of banks and regulations of the banking industry.

Banking Objectives

Students will:
1405.4.1 Describe functions and characteristics of money
1405.4.2 Identify the source of value to the US Dollar and its area of storage
1405.4.3 Explain main functions of banks
1405.4.4 Identify government regulations of the banking industry

1405.4.5 Compute simple & compound interest
1405.4.6 Explain importance of maintaining confidentiality
1405.4.7 Write checks, maintain a checkbook balance, and compute a bank reconciliation statement

Standard 5: Federal Reserve System (1405.S.5)

Analyze the Federal Reserve System and monetary policy.

Federal Reserve System Objectives

Students will:
1405.5.1 Define Federal Reserve System
1405.5.2 Describe the responsibilities of the Federal Reserve System
1405.5.3 Define monetary policy
1405.5.4 Locate the Federal Reserve banks and branches on a US map
1405.5.5 Differentiate between the U.S. Mint and the U.S. Bureau of Engraving
1405.5.6 Explain banks use of magnetic ink character recognition and electronic funds transfer

Basic Keyboarding — WVEIS Code 1407

This area of study is designed as a one-semester course to provide learners with keyboarding skills required for success in academic and occupational areas. Concepts in this area include keyboard operation, formatting skills, computer skills, appropriate work habits, and career awareness.

Standard 1: Work Habits (1407.S.1)

Exhibit good work habits.

Work Habits Objectives

Students will:

1407.1.1 Follow oral and written instructions in the completion of assigned tasks and work efficiently to meet deadlines.
1407.1.2 Exhibit the attitudes and work habits necessary for good interpersonal and employee/employer relations in the workforce.
1407.1.3 Keep the area in and around the workstation organized by properly assembling supplies and information necessary to complete assigned tasks.
1407.1.4 Illustrate desirable work ethics.

Standard 2: Keyboarding Operational Skills (1407.S.2)

Demonstrate proper keyboard operation skills.

Proper Keyboarding Skills Objectives

Students will:

1407.2.2 Apply information processing concepts.
1407.2.3 Correctly manipulate document formatting tools.
1407.2.4 Master operation of the alphabet, punctuation, number, and symbol keys by touch.
1407.2.5 Exhibit proofreading skills by visually checking for errors utilizing the manual method or computer proofreading tools (i.e., spell check, grammar check, thesaurus.)
1407.2.6 Increase keyboarding speed and accuracy.

Standard 3: Basic Production Skills (1407.S.3)

Apply basic production skills.

Basic Production Skill Objectives

Students will:

1407.3.1 Develop language arts skills through composition at the keyboard utilizing capitalization, punctuation, and word division rules, number usage and spelling.
1407.3.2 Using correct grammar, key simple business/personal communications in error free form.
1407.3.3 Demonstrate basic production and editing skills in keyboarding and formatting copy for short reports, simple tables, memorandums, personal/business communications from arranged, rough-draft, handwritten, incomplete or unedited copy.
1407.3.4 Illustrate basic formatting skills on enumeration and outlines.
1407.3.5 Identify and correctly use proofreader's marks.
1407.3.6 Apply horizontal and vertical centering to text.
1407.3.7 Maintain a minimum speed of 40 words per minute with no more than three errors on a three-minute timed writing.
1407.3.8 Prepare envelopes using USPS style and insert correctly folded letters.
1407.3.9 Practice problem solving and decision-making skills.

Standard 4: Basic Computer Skills (1407.S.4)

Demonstrate basic computer skills.

Basic Computer Skill Objectives

Students will:
1407.4.1 Identify hardware components.
1407.4.2 Demonstrate the proper care and use of hardware and software.
1407.4.3 Demonstrate proficiency in using operating system commands.
1407.4.4 Demonstrate the functions and common features of word processing software.
1407.4.5 Use document processing terminology.

Standard 5: Investigate careers. (1407.S.5)

Investigate careers utilizing keyboarding skills.

Investigate Careers Objective

Students will:
1407.5.1 Integrate the relevance of keyboarding skills to all occupational areas.

Business Communication WVEIS Code 1409

This area of study will focus on the application of communication skills through a variety of informal and formal experiences. The performance-based course will emphasize effective interpersonal and team building skills. Technology will be used to create and deliver presentations, to enhance problem-solving situations, and to practice critical thinking and decision-making. Job interview, research paper, or a senior project will culminate this course. Strongly Recommended: At least a AC@ average in English courses previously completed.

Standard 1: Oral Communications (1409.S.1)

Communicate orally in a clear, courteous, concise, and responsible manner on personal and professional levels.

Oral Communication Objectives

Students will:

1409.1.1 Use standard oral English usage.
1409.1.2 Organize thoughts to reflect logical, positive, and tactful thinking before speaking.
1409.1.3 Participate in group discussion and role playing for problem solving.
1409.1.4 Ask/Answer impromptu questions with confidence to elicit information in the exchange of ideas in a formal/informal setting (e.g., interview or formal classroom discussion).
1409.1.5 Discuss and demonstrate steps in creating and using proper techniques in making a formal oral presentation.
1409.1.6 Use proper telephone techniques and etiquette to gather and record information.
1409.1.7 Demonstrate an awareness and acceptance of international, regional, and multicultural speech.

Standard 2: Composing Correspondence (1409.S.2)

Compose correspondence that uses Standard English usage, acceptable format, and proper mechanics.

Composing Correspondence Objectives

Students will:

1409.2.1 Compose a variety of business letters, memorandums, reports, and electronic messages using correct style, format, and content that promotes a positive response utilizing the "You" approach to business writing.
1409.2.2 Use acceptable steps in the writing process.
1409.2.3 Identify factors affecting the readability for specific audiences.
1409.2.4 Proofread business documents to ensure that they are clear, correct, concise, complete, consistent, and courteous.
1409.2.5 Avoid use of language bias (e.g., gender, religion, physically challenged, or race, etc.).
1409.2.6 Use a variety of references, resources, and graphics (both electronic and printed) for the purpose of writing business documents.
1409.2.7 Analyze and respond in writing to routine business problems both individually and collaboratively.

Standard 3: Listening and Observation Skills (1409.S.3)

Use active listening and observation skills to understand the positions of others, and use verbal and nonverbal cues from others to communicate effectively in return.

Active Listening and Observations Using Verbal/Nonverbal Objectives

Students will:

1409.3.1 Listen objectively, assess, and respond/record major points of a speaker's message including nonverbal messages.
1409.3.2 Identify and overcome major barriers to listening.
1409.3.3 Discuss the value of silence in communication as a nonverbal cue.
1409.3.4 Direct courteous attention to and synthesize information from multiple speakers within a group to obtain key facts and respond in an effective manner.
1409.3.5 Give examples of how nonverbal messages have different meanings in various cultures.
1409.3.6 Demonstrate a command of interactive listening techniques.
1409.3.7 Receive, interpret, and respond to verbal messages and other cues, such as body language, in ways that are appropriate.
1409.3.8 Demonstrate the ability to follow through on oral instructions in completing jobs.

Standard 4: Reading Strategies (1409.S.4)

Demonstrate use of reading strategies.

Reading Strategies Objectives

Students will:

1409.4.1 Distinguish between fact and opinion in written materials and electronic media (e.g., Internet).
1409.4.2 Analyze the integrity of printed or oral information.
1409.4.3 Explain career-specific terminology.
1409.4.4 Interpret business correspondence, professional articles, and supporting graphic material.
1409.4.5 Interpret information from manuals, computer printouts, and other electronic sources.
1409.4.6 Select an appropriate reading method for a particular situation (e.g., skimming, scanning, speed reading, and in-depth reading).
1409.4.7 Identify and discuss the intent of printed propaganda and its impact on decision-making.

Standard 5: Basic Social Communication Skills (1409.S.5)

Apply basic social communication skills in personal and professional situations that prepare a student to be adaptable in a global business environment.

Basic Social Communication Objectives

Students will:

1409.5.1 Analyze personal self-concept and design a program for improvement.
1409.5.2 Explain the role that self-concept plays in one's personal and professional life.
1409.5.3 Select appropriate business attire and demonstrate good grooming and personal hygiene.
1409.5.4 Display a positive attitude in personal and professional settings.
1409.5.5 Understand and develop an appropriate work ethic.
1409.5.6 Apply team skills in a business environment.
1409.5.7 Apply the principles of group dynamics in structured activities.
1409.5.8 Demonstrate appropriate responses to passive, assertive, and aggressive behavior.
1409.5.9 Select appropriate communication techniques to avoid, minimize, or prevent conflicts.
1409.5.10 Respect the customer-client confidentiality.

Standard 6: Communications in a Career (1409.S.6)

Integrate all forms of communication in the successful pursuit of a career.

Career Communication Objectives

Students will:

1409.6.1 Complete systematic career and job analysis.

1409.6.2 Compose formal letters of application, create an appropriate resume, complete application forms, and compose follow-up letters for job opportunities.
1409.6.3 Participate in and analyze mock interviews in various situations.
1409.6.4 Discuss and demonstrate the importance of appropriate dress in an interview situation.
1409.6.5 Discuss the significance of nonverbal communications in the interviewing process.
1409.6.6 List and discuss qualities that employers expect in potential employees.
1409.6.7 Use correct strategies for accepting or rejecting an employment offer.
1409.6.8 Discuss alternative sources for job searches.
1409.6.9 Discuss appropriate oral and written steps in leaving a job (resignation, downsizing, exit interview).
1409.6.10 Discuss potential problems with signing employment contract and effective salary negotiation strategies.

Business Computer Applications I WVEIS Code 1411

This area of study is designed to provide the learner with the opportunity to understand and apply integrated software to business applications. The students will achieve basic proficiency in word processing, spreadsheet, desktop publishing, computerized presentations, Internet and/or database applications.

Standard 1: System Careers and Ethical Issues (1411.S.1)

Identify information system careers and ethical issues.

Careers and Ethical Issues of Information Systems Careers Objectives

Students will:
1411.1.1 Research educational requirements and skill experience for careers in information systems.
1411.1.2 Research how changing technology affects working environments and life styles.
1411.1.3 Demonstrate ethical procedures in the management of information systems.

Standard 2: Computer Hardware/Software Identification (1411.S.2)

Identify computer hardware and software.

Computer Hardware/Software Identification Objectives

Students will:
1411.2.1 Describe hardware components of a computer system.
1411.2.2 Demonstrate proper handling and care of software and hardware.
1411.2.3 Differentiate between system software and application software.
1411.2.4 Identify the difference between hardware and software.
1411.2.5 Develop an understanding of the concept of integrated software.
1411.2.6 Specify the difference between stand-alone computers and networked systems.

Standard 3: Utilizing Integrated Software Applications (1411.S.3)

Develop skills needed to apply integrated software applications to business procedures.

Applying Integrated Software Applications to Business Procedures Objectives

Students will:
1411.3.1 Demonstrate proper keyboarding techniques.
1411.3.2 Develop proper usage of word processing, database, and/or spreadsheet software terminology.
1411.3.3 Apply integrated software to perform input, processing, output and revision of various business documents.
1411.3.4 Employ the word processing function of an integrated package to complete a document requiring the use of commands to create, format, edit, save and print.
1411.3.5 Utilize the spreadsheet function of an integrated package to perform mathematical and logical operations and/or use the database function of an integrated package for file and database management (sort, combine and merge, etc.).
1411.3.6 Demonstrate proper use of multimedia software.
1411.3.7 Investigate Internet usage and electronic mail.
1411.3.8 Prioritize and complete assigned tasks using integrated software.
1411.3.9 Proofread and revise assigned projects to produce correct final output.
1411.3.10 Develop office scheduling and organizing skills (calendars, appointments and addresses).

Business Computer Applications II WVEIS Code 1413

This area of study is designed to develop entry-level skills appropriate to an area of specialization in information systems. Students will achieve proficiency in the use of software packages in the areas of database, word processing, spreadsheets and presentation/desktop publishing.

Standard 1: Computer Applications Concepts and Resources (1413.S.1)

Review computer application concepts and resources common to the work environment.

Common Applications Objectives

Students will:

1413.1.1 Demonstrate proper keyboarding techniques.
1413.1.2 Identify and demonstrate components and the proper care of hardware and software.
1413.1.3 Select appropriate application software.
1413.1.4 Explain the various types of operating systems.
1413.1.5 Be familiar with a variety of reference materials (such as manuals, on-line help, vendor bulletin boards, etc.) for finding solutions and learning software programs.
1413.1.6 Be familiar with periodicals dealing with emerging state-of-the-art computer hardware and software.
1413.1.7 Demonstrate ability in using a computer operating system.

Standard 2: Proficiency in Computer Applications (1413.S.2)

Achieve proficiency utilizing computer applications.

Application Objectives

Students will:

1413.2.1 Transfer text, images and data between software programs.
1413.2.2 Develop advanced computer skills with specific software applications.
1413.2.3 Identify communications software for specific tasks/hardware.
1413.2.4 Identify and demonstrate accessing, navigating and using on-line services.
1413.2.5 Send and receive electronic mail (e-mail and faxes).
1413.2.6 Compose, manipulate, proofread, edit and print word processing documents.
1413.2.7 Plan, create, store, query, retrieve, sort, update, add and delete records using database software.
1413.2.8 Plan, create, store, manipulate, retrieve, sort, update, and, search, sort, delete, chart and print data using spreadsheet software.
1413.2.9 Create, format, import data, scanned images and graphics to produce presentations of desktop publishing products.
1413.2.10 Prepare multimedia presentations by creating, designing, importing (data, graphics, scanned images, sound and video), formatting and editing.

Business Computer Literacy WVEIS Code 1415

This area of study is designed as a one semester course to reinforce proper keyboarding techniques, develop basic computer concepts and terminology skills, develop an understanding of ethical computer practices, explore the diverse educational uses of the Internet and introduce the use of (document) word processing, database, and/or spreadsheet computer applications.

Standard 1: Proper Keyboarding Techniques (1415.S.1)

Demonstrate proper keyboarding techniques on the computer.

Proper Keyboarding Technique Objectives

Students will:
1415.1.1 Demonstrate proper keyboarding techniques using the touch system.
1415.1.2 Develop skill on the keyboard using quick key commands found in application software.

Standard 2: Computer Careers, Uses, and Ethics (1415.S.2)

Identify computer careers, computer uses, and computer ethics.

Computer Careers, Uses, and Ethics Objectives

Students will:
1415.2.1 Identify careers found in the computer industry.
1415.2.2 Distinguish among the uses of computers for industry, business, and personal use including the benefits found in navigating the Internet.
1415.2.3 Demonstrate ethical procedures for the operation and management of a computer.
1415.2.4 Explain the impact of computers on society.
1415.2.5 Explain the computer's capabilities and limitations.

Standard 3: Basic Terminology and Concepts (1415.S.3)

Communicate basic computer terminology and concepts.

Basic Terminology and Concepts Objectives

Students will:
1415.3.1 Describe and identify computer hardware components by name.
1415.3.2 Define differences in word processing, database, and spreadsheet applications.
1415.3.3 Name commonly used programming languages and identify user groups of each.
1415.3.4 Explain the types of computers and examples for each.
1415.3.5 Communicate with others using computer vocabulary.

Standard 4: Hardware/Software Proficiency for Copy Production (1415.S.4)

Achieve basic proficiency in operating the computer in order to produce final copy and demonstrate correct usage of the hardware and software.

Basic Proficiency Operation Objectives (Hardware, Software, and Final Copy Production)

Students will:
1415.4.1 Define steps for the information processing cycle; input, processing output, storage.
1415.4.2 Explain procedures for handling different forms of media for saving and retrieving information.
1415.4.3 Demonstrate turning on and shutting down the computer properly and uses of the warm boot and cold boot commands.
1415.4.4 Distinguish between major operating systems currently on the market.
1415.4.5 Use the computer as a tool to perform simple information processing applications appropriate

to the student's level and background.

Standard 5: Proficiency Utilizing Software (1415.S.5)

Achieve basic computer proficiency utilizing computer applications software.

Proficiency Utilizing Application Software Objectives

Students will:

1415.5.1 Demonstrate the basic functions and common features of word processing software and create word processing documents.

1415.5.2 Demonstrate the basic functions and common features of database software and create a database.

1415.5.3 Demonstrate the basic functions and common features of spreadsheet software and create a spreadsheet.

1415.5.4 Review other forms of software used for entertainment, research, communications, and educational interests.

1415.5.5 Manipulate, proofread, and edit all documents produced according to approved standards.

Business Law WVEIS Code 1417

This course focuses on the impact of law as it relates to business and individuals. Students will examine criminal and civil law with a concentration on consumer, contract, property, and employment laws while assessing ethics as they relate to each.

Standard 1: Ethics (1417.S.1)

Examine ethics related to business law.

Relationship of Ethics to Business Law Objectives

Students will:

1417.1.1 Identify ethical character traits, such as honesty, integrity, compassion, respect, responsibility, citizenship, and justice.
1417.1.2 Distinguish the various ways in which ethical decisions can be made.
1417.1.3 Describe why laws are needed.
1417.1.4 Explain the relationship between law and ethics and why they sometimes conflict.
1417.1.5 Compare and contrast the five major sources of today's law. (Federal and state constitutions, English common law, statutes, court decisions, and administrative law).

Standard 2: Criminal, Civil and Business Law (1417.S.2)

Identify the elements of criminal, civil and business law including trial procedures.

Elements of Criminal and Civic Law Objectives

Students will:

1417.2.1 Describe and define different types of crimes.
1417.2.2 Determine defenses to criminal acts.
1417.2.3 Distinguish between a tort and a crime.
1417.2.4 Differentiate between and give examples of negligence and intentional torts.
1417.2.5 Explain the concepts of the reasonable person test and proximate cause.
1417.2.6 Explain the concept of strict/absolute liability.
1417.2.7 Enumerate the steps in a civil and a criminal trial.
1417.2.8 Describe crimes affecting business.
1417.2.9 Explain civil rights when being accused of a crime.
1417.2.10 Distinguish between different types of courts.
1417.2.11 Explain duties of jurors and witnesses.

Standard 3: Contracts (1417.S.3)

Analyze contracts.

Contract Objectives

Students will:

1417.3.1 Identify the elements of a contract (offer, acceptance, genuine agreement, consideration, capacity, and legality).
1417.3.2 Discuss the requirements of an offer and acceptance and how the offer can be terminated/discharged.
1417.3.3 Explain a minor's right to avoid a contract and identify people who lack contractual capacity.
1417.3.4 List the essential information that should be included in writing under the statute of frauds.
1417.3.5 Explain the parole evidence rule.
1417.3.6 Describe breach of contract and the remedies available when a contract is breached.

Standard 4: Consumer Law (1417.S.4)

Analyze consumer law.

Consumer Law Objectives

Students will:

1417.4.1 Identify legislation that regulates consumer credit, such as Fair Credit Reporting Act, Fair Credit Billing Act, Equal Credit Opportunity Act, Fair Credit Collection Practices Act, Consumer Credit Protection Act and E-Commerce.

1417.4.2 Discuss consumer protection legislation, such as the Federal Trade Commission Act, the Consumer Product Safety Act, and the Consumer Leasing Act.

1417.4.3 Explain the importance of the Uniform Commercial Code (UCC) as it relates to the consumer.

1417.4.4 Identify various types of warranties and describe how each of the warranties may be excluded or modified.

1417.4.5 Describe and discuss the various aspects of bankruptcy, such as Liquidation, Reorganization, and Reorganization of Debts.

Standard 5: Real and Personal Property (1417.S.5)

Explain legal rules that apply to real and personal property.

Real and Personal Property Objectives

Students will:

1417.5.1 Distinguish among liens, licenses, and easements and explain the differences.

1417.5.2 List the major estates in land and describe the major features of each.

1417.5.3 List and describe the forms of co-ownership of real property.

1417.5.4 Illustrate the methods of transferring title (deeding) to real and personal property.

1417.5.5 Describe the kinds of rental relationships that landlords and tenants may create.

1417.5.6 Recognize the advantages and disadvantages of financing/leasing a car.

1417.5.7 Describe the principal kinds of automobile insurance.

1417.5.8 Name and describe the principal types of bailments.

1417.5.9 Contrast the rights and duties in bailments.

1417.5.10 Compare the law of patents, copyrights, and trademarks.

Standard 6: Employment Law (1417.S.6)

Analyze employment law.

Employment Law Objectives

Students will:

1417.6.1 Describe the employer-employee relationship and the rights and duties of each.

1417.6.2 Explain the doctrine of employment-at-will and describe the wrongful discharge exceptions to employment-at-will.

1417.6.3 Describe the collective bargaining process and other union activities.

1417.6.4 List and explain major legislation affecting the employer-employee relationship.

1417.6.5 Explain the relationship of Title VII of the Civil Rights Act to employment.

Standard 7: Personal Law (1417.S.7)

Analyze legal rules that apply to domestic situations.

Personal Law Objectives

Students will:

1417.7.1 Understand the rights and responsibilities of minors.

1417.7.2 Explain the relationship between school and minors.

1417.7.3 Explain marriage contracts.
1417.7.4 Distinguish between legal rights and obligations of marriage
1417.7.5 Describe the legal aspects of parenthood.
1417.7.6 Discuss considerations for termination of a marriage.
1417.7.7 Understand the legal ramifications of death.

Business Math WVEIS Code 1419

Business math prepares students for using mathematical skills as related to business.

Standard 1: Computation Skills (1419.S.1)

Develop computational skills needed to solve business and consumer problems.

Computation Skills Objectives (Business Problems and Consumer Problems)

Students will:
1419.1.1 Solve problems that involve whole numbers, decimals, and fractions.
1419.1.2 Solve problems that involve percents, ratios, and proportions.
1419.1.3 Interpret tables, charts, and graphs.

Standard 2: Analyze and Solve Business Problems (1419.S.2)

Analyze and solve business problems for such areas as payroll records, taxation, personal cash management, credit management, depreciation, inventory records, purchases, sales, and financial statements.

Analyze and Solve a variety of Business Problems Objectives

Students will:
1419.2.1 Calculate earnings using different wage plans.
1419.2.2 Determine payroll deductions and compute net pay.
1419.2.3 Complete a signature card, deposit slip, maintain checkbook and prepare reconciliation statement.
1419.2.4 Identify the types of savings and checking accounts currently available.
1419.2.5 Identify and state how certified checks and cashier's checks are used.
1419.2.6 List the types of endorsements and state when to use them.
1419.2.7 Prepare a budget for personal money management.
1419.2.8 Compute individual income taxes.
1419.2.9 Identify an installment contract and a promissory note and calculate interest and maturity value.
1419.2.10 Determine the balance due for installment purchases.
1419.2.11 Determine finance/additional charges, periodic payment, total cost, and the Annual Percentage Rate (APR) on an installment contract.
1419.2.12 Identify purchase cost, salvage value, useful life, depreciation base, and book value.
1419.2.13 Compute depreciation by the following methods: straight-line, sum-of-the-years-digits, declining balance, and unit-of-production.
1419.2.14 Compute a physical inventory value by using FIFO, LIFO, specific identification and average cost methods.
1419.2.15 Compute the net profit or loss.
1419.2.16 Determine the dollar amount of cost, markup, or sales price when one of the three variables is unknown.
1419.2.17 Determine the dollar amount of markdowns, regular selling price, or reduced price when one of the three variables is unknown.
1419.2.18 Complete a sales invoice with sales information and sales tax.
1419.2.19 Identify each element of the fundamental accounting equation. (Assets = Liabilities + Owner's Equity)
1419.2.20 State and describe the debit and credit theory.
1419.2.21 Interpret a balance sheet and income statement.
1419.2.22 Distribute partnership income (revenue) or loss by different methods.
1419.2.23 Calculate commissions.

1419.2.24 Calculate insurance premiums.
1419.2.25 Examine differences between term and whole life insurance policies.

Business Recordkeeping WVEIS Code 1421

This course prepares the student with entry level skills which enable them to process business forms and financial records.

Standard 1: Careers in Personal Recordkeeping (1421.S.1)

Analyze personal recordkeeping as a career.

Personal Recordkeeping Career Objectives

Students will:
1421.1.1 Define the purpose of personal record keeping and the role it plays in our economy.
1421.1.2 Use appropriate personal record keeping terminology.
1421.1.3 Research entry-level personal record keeping positions and their educational requirements.
1421.1.4 Identify ethical character traits, such as honesty, integrity, compassion, respect, responsibility, citizenship and justice.

Standard 2: Personal Recordkeeping Practices (1421.S.2)

Demonstrate personal recordkeeping practices.

Personal Recordkeeping Practices Objectives

Students will:
1421.2.1 Enter and correct data on business forms.
1421.2.2 Verify data processing computer output.
1421.2.3 Demonstrate a numeric filing system.
1421.2.4 Demonstrate an alphabetic filing system.
1421.2.5 Identify the differences between computerized and manual data processing procedures.
1421.2.6 Compare and demonstrate the differences between personal, family, and business budgets.
1421.2.7 Identify the purposes and procedures in handling credit/loan functions.

Standard 3: Monetary Funds (1421.S.3)

Demonstrate the handling of monetary funds.

Handling Monetary Funds Objectives

Students will:
1421.3.1 Prepare a proof of cash.
1421.3.2 Demonstrate how to give correct change.
1421.3.3 Demonstrate the ability to properly record cash receipt transactions.

Standard 4: Banking Procedures (1421.S.4)

Develop banking procedures.

Banking Procedures Objectives

Students will:
1421.4.1 Demonstrate the ability to write business checks and complete check stubs and check registers.
1421.4.2 Demonstrate the ability to prepare bank deposits slips.
1421.4.3 Identify and demonstrate the three types of check endorsements.

1421.4.4 Prepare a bank reconciliation statement.

Standard 5: Petty Cash Records (1421.S.5)

Prepare petty cash records.

Petty Cash Objectives

Students will:
1421.5.1 Prepare a petty cash voucher and attach receipts.
1421.5.2 Record in the petty cash book business expenses, cash shortages and overages, and replenishment of the petty cash fund.

Standard 6: Payroll Procedures (1421.S.6)

Demonstrate payroll procedures.

Payroll Procedures Objectives

Students will:
1421.6.1 Demonstrate procedures used to determine gross earnings.
1421.6.2 Compute gross earnings, deductions, and net pay for an employee and record them on the payroll register.
1421.6.3 Record payroll information into individual earning records.
1421.6.4 Prepare tax and payroll deduction forms.

Standard 7: Daily Business Forms (1421.S.7)

Prepare and use daily business forms.

Daily Business Forms Objectives

Students will:
1421.7.1 Prepare sales slips.
1421.7.2 Prepare statements of account.
1421.7.3 Prepare purchase requisitions.
1421.7.4 Prepare purchase orders.
1421.7.5 Prepare invoices.

Standard 8: Accounting Forms (1421.S.8)

Prepare and use accounting forms.

Basic Accounting Forms Objectives

Students will:
1421.8.1 Prepare a purchase journal.
1421.8.2 Prepare accounts payable and accounts receivable ledgers.
1421.8.3 Prepare a cash payments journal.
1421.8.4 Prepare a cash receipts journal.
1421.8.5 Prepare a general journal.

Computerized Presentations WVEIS Code 1423

This area of study is designed to develop intermediate/advanced-level skills utilizing presentation software. Students will achieve proficiency and expert level skills and will have the opportunity to receive specialized certification by taking an examination. This is a one-semester course.

Standard 1: Presentation Development (1423.S.1)

Create a presentation.

Presentation Development Objectives

Students will:
1423.1.1 Create from a template.
1423.1.2 Create from an existing presentation.
1423.1.3 Delete slides.

Standard 2: Textual (1423.S.2)

Add textual information to presentations.

Textual Objectives

Students will:
1423.2.1 Enter text in a slide and outline view.
1423.2.2 Enter bulleted information.
1423.2.3 Change the text alignment.

Standard 3: Visual Elements (1423.S.3)

Add visual elements to presentations.

Visual Element Objectives

Students will:
1423.3.1 Add formatting.
1423.3.2 Build a graph.
1423.3.3 Draw an object.
1423.3.4 Rotate and fill an object.
1423.3.5 Scale and size an object.
1423.3.6 Add a table.
1423.3.7 Add shapes.
1423.3.8 Animate objects.
1423.3.9 Add transitions.
1423.3.10 Add an organization chart.
1423.3.11 Set custom options.
1423.3.12 Check styles.

Standard 4: Customizing Presentations (1423.S.4)

Customize presentations by bringing in data from other resources.

Customize Presentation Objectives

Students will:
1423.4.1 Add clip art.
1423.4.2 Insert an Excel chart.

1423.4.3 Import text from Word.
1423.4.4 Add scanned images.
1423.4.5 Add sound and movie.
1423.4.6 Export an outline to Word.

Standard 5: Modifying Presentations (1423.S.5)

Modify a presentation.

Modifying Presentation Objectives

Students will:
1423.5.1 Change the sequence of a slide.
1423.5.2 Find and replace text.
1423.5.3 Modify the slide master.
1423.5.4 Modify sequence in outline mode.
1423.5.5 Change tabs.
1423.5.6 Change fonts.
1423.5.7 Change the alignment of text.

Standard 6: Distribution (1423.S.6)

Prepare for distribution.

Distribution Objectives

Students will:
1423.6.1 Use spelling and grammar check.
1423.6.2 Add speaker notes.
1423.6.3 Set automatic slide timing.

Standard 7: Enhancing Presentations (1423.S.7)

Customize a presentation.

Enhancing Presentation Objectives

Students will:
1423.7.1 Create a custom background.
1423.7.2 Customize a color scheme.
1423.7.3 Customize clip art and other objects.
1423.7.4 Recolor and edit objects.
1423.7.5 Apply a template from another presentation.
1423.7.6 Add links to other slides within the presentation.
1423.7.8 Hide slides.

Standard 8: Presentation Delivery (1423.S.8)

Deliver presentations.

Presentation Delivery Objectives

Students will:
1423.8.1 Start a slide show on any slide.
1423.8.2 Use on screen navigation tools.
1423.8.3 Generate meeting notes
1423.8.4 Electronically incorporate meeting features.
1423.8.5 Print slides in a variety of formats.
1423.8.6 Print color presentations.
1423.8.7 Export to overhead.

1423.8.8 Export to 35mm slides.
1423.8.9 Present with presentation conferencing.
1423.8.10 Save presentation for use on another computer.
1423.8.11 Save for Internet use.

Cooperative Office Education WVEIS Code 1425

Cooperative Office Education is an on-the-job training for students that contributes to the over-all instructional program. The instruction, through written agreement between school and employers, is a combination of study in school with employment in the appropriate field. The related classroom instruction and on-the-job experiences are planned and supervised by employers and teacher coordinators to complete the student's education as to his/her career objective.

Standard 1: Human Relations Skills (1425.S.1)

Demonstrate human relations skills required for success in the workplace.

Human Relations Skills Objectives

Students will:
1425.1.1 Demonstrate honesty and integrity.
1425.1.2 Use proper business ethics in all business activities.
1425.1.3 Demonstrate respect for customers, co-workers, and management.
1425.1.4 Demonstrate initiative in completing job duties.
1425.1.5 Maintain a positive attitude and positive relationship with customers, co-workers, and management.
1425.1.6 Adapt to changes in job responsibilities.
1425.1.7 Appreciate diversity in the workplace.
1425.1.8 Exhibit self-control when working with customers, co-workers and management.
1425.1.9 Use appropriate assertiveness.
1425.1.10 Exhibit empathy for customers, co-workers and management.
1425.1.11 Use feedback from others for personal growth.
1425.1.12 Practice proper business etiquette.
1425.1.13 Identify procedures to respond to sexual harassment.

Standard 2: Business Communications (1425.S.2)

Demonstrate appropriate business communication skills.

Communications Objectives

Students will:
1425.2.1 Use correct grammar and vocabulary in written and oral communications.
1425.2.2 Listen to and follow directions.
1425.2.3 Explain policies and procedures to customers and clients.
1425.2.4 Perform proper telephone techniques appropriately.
1425.2.5 Demonstrate the proper procedure for job termination.

Standard 3: Basic Work Skills (1425.S.3)

Demonstrate mastery of basic work skills for a chosen occupation.

Basic Work Skills Objectives

Students will:
1425.3.1 Maintain punctuality, appropriate attendance, and dependability.
1425.3.2 Work independently without direct supervision.
1425.3.3 Stay with an assigned task until successful completion.
1425.3.4 Utilize time management principles when completing assignments.
1425.3.5 Apply organizational skills in daily activities.
1425.3.6 Participate as a team member when completing a work project.
1425.3.7 Produce quality work.

1425.3.8 Accept accountability for one's performance.
1425.3.9 Perform basic mathematical functions.
1425.3.10 Operate the most common electronic equipment with speed and accuracy.
1425.3.11 Maintain appropriate records for use on the job and in class.
1425.3.12 Demonstrate leadership skills when completing a project or task.
1425.3.13 Exhibit decision-making skills.
1425.3.14 Solve problems individually and as a team member.
1425.3.15 Participate in company meetings and activities.

Standard 4: Basic Safety Techniques (1425.S.4)

Apply and demonstrate basic safety techniques.

Basic Safety Techniques Objectives

Students will:
1425.4.1 Practice basic safety rules.
1425.4.2 Handle company equipment properly and safely.
1425.4.3 Demonstrate safety procedures for handling and lifting heavy materials.
1425.4.4 Follow procedures in the case of an accident, including reporting procedures.
1425.4.5 Follow security procedures.
1425.4.6 Practice proper safety procedures for handling and storing hazardous materials.
1425.4.7 Recognize and report hazardous conditions.
1425.4.8 Read and interpret operating instructions before using equipment.
1425.4.9 Explain and practice procedures for safe evacuation.
1425.4.10 Identify A, B, and C fires and how to extinguish them.
1425.4.11 Identify proper agencies for safety procedures (fire department, police department, OSHA, hospital).

Database Management WVEIS Code 1427

This area of study is designed to develop skills in database application software. Students will achieve proficiency and expert level skills and will have the opportunity to receive a specialized certification. (One semester class)

Standard 1: Create Databases (1427.S.1)

Create databases.

Create Database Objectives

Students will:
1427.1.1 Plan a database.
1427.1.2 Create a table.
1427.1.3 Enter data into a table.
1427.1.4 Modify data in a table.
1427.1.5 Enter data into a form.
1427.1.6 Navigate through a table.
1427.1.7 Delete data from a table.

Standard 2: Forms (1427.S.2)

Create and utilize forms.

Create Form Objectives

Students will:
1427.2.1 Create a simple form.
1427.2.2 Modify a form.
1427.2.3 Create controls on a form.
1427.2.4 Modify controls.
1427.2.5 Add a record using a form.
1427.2.6 Show related records on a form.

Standard 3: Modify databases (1427.S.3)

Modify pre-created databases.

Database Modification Objectives

Students will:
1427.3.1 Open a database.
1427.3.2 Modify field properties.
1427.3.3 Modify field layout.
1427.3.4 Modify the presentation of a database.

Standard 4: View Information (1427.S.4)

Utilize view techniques.

View Information Objectives

Students will:
1427.4.1 Present information in chart.
1427.4.2 View information in a form.
1427.4.3 View multiple records.
1427.4.2 Switch between views.

Standard 5: Organize Information (1427.S.5)

Organize data information in single and multiple fields

Organize Data Fields Objectives

Students will:
1427.5.1 Sort data on single fields.
1427.5.2 Sort data on multiple fields.

Standard 6: Locate Information (1427.S.6)

Locate records and work with queries.

Record and Query Objectives

Students will:
1427.6.1 Find a specific record.
1427.6.2 Create a simple query.
1427.6.3 Create a query with multiple criteria.
1427.6.4 Add filters (selection and form).
1427.6.5 Remove filters.

Standard 7: Refine Results of a Query (1427.S.7)

Refine query results by adding, removing, sorting, joining and removing tables.

Refine Query Objectives

Students will:
1427.7.1 Add fields to a query.
1427.7.2 Remove fields from a query.
1427.7.3 Sort a query.
1427.7.4 Join tables in a query.
1427.7.5 Remove joins in a query.
1427.7.6 Save a query.

Standard 8: Analyze Data (1427.S.8)

Analyze data.

Analyze Data Objectives

Students will:
1427.8.1 Build summary queries.
1427.8.2 Calculate fields.
1427.8.3 Set crosstab queries.

Standard 9: Create Sub Forms (1427.S.9)

Create sub forms by adding records and merging tables.

Create Sub Form Objectives

Students will:
1427.9.1 Identify appropriate use for sub forms.
1427.9.2 Add a record with a main form.
1427.9.3 Add records with sub forms.
1427.9.4 Merge two tables into a form.

Standard 10: Building a Relational Database (1427.S.10)

Build relational databases.

Relational Database Objectives

Students will:
1427.10.1 Identify relationships.
1427.10.2 Relate tables.

Standard 11: Integrate Applications (1427.S.11)

Integrate information from other applications.

Application Integration Objectives

Students will:
1427.11.1 Import data.
1427.11.2 Link data.
1427.11.3 Add pictures to records.

Standard 12: Utilize Web Capability (1427.S.12)

Utilize the web for hyperlinks and building forms.

Web Capability Objectives

Students will:
1427.12.1 Create hyperlinks.
1427.12.2 Build order forms for Internet use.

Standard 13: Maintain Data Integrity (1427.S.13)

Maintain data integrity.

Data Integrity Objectives

Students will:
1427.13.1 Identify criteria for data integrity.
1427.13.2 Validate text.
1427.13.3 Set required properties.
1427.13.4 Set validation rules.
1427.13.5 Set look up fields.
1427.13.6 Use expressions in calculated controls.

Standard 14: Build Forms for Other Users (1427.S.14)

Create and modify forms.

Building Form Objectives

Students will:
1427.14.1 Title a form.
1427.14.2 Modify form design.
1427.14.3 Improve accuracy in a form.
1427.14.4 Enhance design of a form.

Standard 15: Produce Reports (1427.S.15)

Create, label, modify, and manipulate data in reports.

Producing Reports Objectives

Students will:
1427.15.1 Create a report.
1427.15.2 Modify a report.
1427.15.3 Label a report.
1427.15.4 Customize headers and footers.
1427.15.5 Make a calculation on a report.
1427.15.6 Group data in a report.
1427.15.7 Sort data in a report.
1427.15.8 Add custom pages.

Standard 16: Print. (1427.S.16)

Print forms, queries and reports.

Print Objectives

Students will:
1427.16.1 Print a report.
1427.16.2 Print a form.
1427.16.3 Print the result of a query.

Desktop Publishing WVEIS Code 1429

This course will introduce students to a variety of ways that people use tools and resources to communicate. Students will explore various applications in desktop publishing through hands-on activities and experiences which may include brochures, pamphlets, newsletters, letterheads, tables (graphs, charts, etc.), memo forms, advertisements, banners, business cards, web pages, etc.

Standard 1: Basic Desktop Publishing Concepts (1429.S.1)

Identify desktop publishing concepts.

Basic Desktop Publishing Concepts Objectives

Students will:

1429.1.1 Define and use desktop publishing terminology.
1429.1.2 Identify desktop publishing concepts, i.e. audience appeal, design, layout, and marketing.
1429.1.3 Review and practice basic word processing skills, i.e. mouse, opening, editing, formatting, saving, printing.
1429.1.4 Identify and analyze desktop publishing career opportunities.

Standard 2: Desktop Software (1429.S.2)

Demonstrate skills utilizing desktop software.

Utilizing Desktop Software Objectives

Students will:

1429.2.1 Define publication software, start the program, view the publication software window, open and save a publication, enter text in a frame, view and print a publication and exit the program.
1429.2.2 Plan and design a publication, create a publication with the Wizard, replace frame text, import a graphic and text, import an object from a drawing program (Paintbrush), add a sidebar, add a pull quote, use the Wizard tools, and group/ ungroup objects.
1429.2.3 Use layout guides, use ruler guides, work with a frame, add bullets and numbering, check spelling, use graphics (clip art folder), paint formats, and add a table.
1429.2.4 Insert and resize clip art, copy and move an object, crop an image, align and group images, layer objects, rotate art, use drawing tools, and fill drawn shapes.
1429.2.5 Define styles, modify and apply a style, change a format into a style, create columns, adjust text overflows, add >Continued on/from= notices, add drop caps, and create reversed text.
1429.2.6 Add a page, delete a page, work with a background, create a header and footer, add page numbers, work with stories, use tabs, and create a booklet.
1429.2.7 Add border art, create an object shadow, design word art, create a bleed, create a watermark, wrap text around a frame, rotate a text frame, create a Web page.
1429.2.8 Use a digital camera and a scanner to import visuals into publications.

Standard 3: Legal and Ethical (1429.S.3)

Determine legal and ethical aspects of desktop publishing.

Legal and Ethical Objectives

Students will:

1429.3.1 Identify copyright and patent laws pertaining to scanned images and documents, electronic clip art, scanned photography, trademarks, and information (graphics and text) downloaded from the Internet.
1429.3.2 Identify licensing agreements associated with desktop publishing software.

Digital Imaging/Multimedia WVEIS Code 1431

This course will introduce students to the basics of producing digital images for multimedia purposes. Students will explore various methods of producing images through hands-on activities and experiences which will include: operating a digital camera and a scanner, using imaging software to improve photos or to create special effects, creating simple animations, manipulating video images, and producing multimedia images.

Standard 1: Basic Computer Concepts (1431.S.1)

Identify basic computer concepts

Basic Computer Concepts Objectives

Students will:
1431.1.1 Define and use digital imaging terminology
1431.1.2 Explore careers requiring digital imaging skills
1431.1.3 Explore basic concept of Web navigation

Standard 2: Digital Cameras

Operate digital cameras

Digital Cameras Operation Objectives

Students will:
1431.2.1 Identify features of different types of digital cameras
1431.2.2 Take pictures and transfer images to the computer using different types of digital cameras
1431.2.3 Manipulate and organize images transferred from digital cameras

Standard 3: Operate Scanner

Operate scanners.

Scanner Operations Objectives

Students will:
1431.3.1 Identify different types of scanners and scanning software programs
1431.3.2 Scan images using different types of scanners and software programs
1431.3.3 Transfer images to computer software.

Standard 4: Utilizing Imaging Software

Utilize imaging software.

Imaging Software Objectives

Students will:
1431.4.1 Identify different types of imaging software
1431.4.2 Identify different types of file formats
1431.4.3 Produce digital photographs
1431.4.4 Understand layers and create photos using layers
1431.4.5 Incorporate color techniques and enhance images
1431.4.6 Add type to an image
1431.4.7 Create special effects with filters
1431.4.8 Create multimedia photos

Standard 5: Create Animations (1431.S.5)

Create animations.

Create Animations Objectives

Students will:
1431.5.1 Identify animation software
1431.5.2 Place images to create animations
1431.5.3 Create frames from images to animate
1431.5.4 Enhance animations
1431.5.5 Create multimedia animations

Standard 6: Digital Video Images (1431.6)

Create and manipulate digital video images.

Digital Video Images Objectives

Students will:
1431.6.1 Identify features and operate video digital camera
1431.6.2 Use digital video software to cut, edit, apply effects and transitions to video clips
1431.6.3 Create multimedia video clips

Standard 7: Computer Generated Drawings (1431.S.7)

Create computer generated drawings.

Computer Created Generated Drawings Objectives

Students will:
1431.7.1 Identify different types of computer drawing software
1431.7.2 Identify and use major components of a drawing program
1431.7.3 Create graphics for multimedia uses; such as buttons and banners for Web pages, letterheads, business cards, flyers

Standard 8: Legal and Ethical Imaging (1431.S.8)

Analyze legal and ethical aspects of creating digital images.

Legal and Ethical Aspects of Creating Digital Images Objectives

Students will:
1431.8.1 Identify and understand the concepts of plagiarism and copyright violations
1431.8.2 Discuss ethical and unethical behavior when producing digital images
1431.8.3 Discuss laws related to production and distribution of digital images
1431.8.4 Identify the legal issues related to the production and distribution of digital images

Document (Word) Processing WVEIS Code 1433

This course will provide students the opportunity to obtain life long document processing skills through hands on learning situations utilizing a variety of software functions. Classroom experiences also provide for skill development in visual and oral communication.

Standard 1: Basic Concepts and Office Operations (1433.S.1)

Acquire basic concepts and office operations procedures.

Basic Concepts and Office Procedural Operations Objectives

Students will:

1433.1.1 Load, access and exit operating system and software.
1433.1.2 Use file and disk management procedures such as deleting, copying, backing up files, and formatting disks.
1433.1.3 Develop work habits for maintenance of storage media and computer hardware.
1433.1.4 Define and use document (word) processing terminology.
1433.1.5 Demonstrate the utilization of different word processing software packages.
1433.1.6 Perform skills for each phase of the word processing cycle.
1433.1.7 Identify document processing supply needs.
1433.1.8 Use a software manual as a reference for finding solutions and learning software packages.
1433.1.9 Develop work habits and attitudes that will enhance future career endeavors.

Standard 2: Document Production (1433.S.2)

Produce error free documents utilizing a variety of hardware and software.

Error free Documents Utilizing a Variety of Hardware and Software Objective

Students will:

1433.2.1 Create documents representing a variety of formats such as letters, reports, tables and memos.
1433.2.2 Proofread (manually and electronically) complex business documents.
1433.2.3 Insert, delete, move, and copy text and data.
1433.2.4 Customize word processing software defaults.
1433.2.5 Troubleshoot a word processing problem by obtaining assistance from help screens and printed manuals.
1433.2.6 Create and execute macros.
1433.2.7 Sort data in ascending and descending order.
1433.2.8 Create and merge a primary file with a secondary file.
1433.2.9 Utilize on screen forms and templates.
1433.2.10 Integrate spreadsheet, database, and word processing applications in documents.
1433.2.11 Use transfer skills to understand and compare different word processing software.
1433.2.12 Use rough draft handwritten sources to input material.
1433.2.13 Practice decision making skills for document processing procedures and priorities.
1433.2.14 Compose and produce error free documents.
1433.2.15 Recognize and use proofreader's marks.

Standard 3: Electronic Communications (1433.S.3)

Develop the skills necessary to communicate electronically.

Electronic Communications Objectives

Students will:

1433.3.1 Access data from news groups, home pages, and other online resources
1433.3.2 Upload and download electronic data.

1433.3.3 Identify emerging trends in document processing.

Standard 4: Career Employment Skills (1433.S.4)

Develop skills relating to career employment.

Career Employment Skills Objectives

Students will:
1433.4.1 Explore career options.
1433.4.2 Compose a letter of application.
1433.4.3 Create or update a resume.
1433.4.4 Compose an interview follow up letter.

Economics of Business WVEIS Code 1435

This course focuses on the impact of economics as it relates to businesses and individuals. Because businesses are part of the overall economy, the success of any individual business is strongly affected by events in the economy as a whole. In addition, the economy as a whole is affected by the actions of the individual members within it.

Standard 1: Economic Principles (1435.S.1)

Describe the importance of economic principles in today's society.

Economic Principles in Today's Society Objectives

Students will:
1435.1.1 Identify opportunity costs and trade-offs involved in making choices about how to use scarce economic resources.
1435.1.2 Give examples of economic wants and needs.
1435.1.3 Identify the resources (factors of production) that are used to satisfy wants and needs.
1435.1.4 Define economic goods and services.
1435.1.5 Explain how the concept of scarcity affects the availability of economic goods and services.

Standard 2: Productivity, Specialization and Division of Labor Change (1435.S.2)

Explain the importance of productivity and discuss how specialization and division of labor change productivity.

Productivity, Specialization and Division of Labor Change Objectives

Students will:
1435.2.1 Analyze the methods of increasing productivity.
1435.2.2 Demonstrate specialization and division of labor.
1435.2.3 Explain how the relationship of input to output affects the level of productivity.

Standard 3: Basic Economic Systems Differences (1435.S.3)

Explain why societies develop economic systems and identify the basic features of different economic systems.

Basic Economic Systems Differences Objectives

Students will:
1435.3.1 Explain why a society needs an economic system.
1435.3.2 Discuss advantages and disadvantages of different types of economic systems.
1435.3.3 Discuss how an economic system addresses the questions what is to be produced, how it is to be produced, and for whom.

Standard 4: Role of Core U.S. Economic Institutions and Incentives (1435.S.4)

Explain the role of core economic institutions and incentives in the U.S. economy.

Core U.S. Economic Institutions and Incentives Objectives

Students will:
1435.4.1 Describe the concept of profit in the free enterprise system.
1435.4.2 Provide examples of economic institutions and incentives.
1435.4.3 Analyze reasons why a society's allocation of resources will be affected by its laws, public policy, and taxation.

Standard 5: Role of Exchange and Money (1435.S.5)

Explain the role of exchange and money in an economic system and describe the effect of interdependence on economic activity.

Role of Exchange and Money Objectives

Students will:
1435.5.1 Demonstrate the concept of barter.
1435.5.2 Explain why and illustrate how money can contribute to an increased number of exchanges, greater specialization and interdependence, and a higher standard of living in an economy.

Standard 6: Role of Supply and Demand as related to Markets and Prices in the U.S (1435.S.6)

Describe the role of law of supply and demand in the U.S. economy.

Role of Markets and Prices in the U.S. Economy Objectives

Students will:
1435.6.1 Define the concept of supply and demand.
1435.6.2 Analyze prices as determined by supply and demand.
1435.6.3 Identify determinants of supply and demand for goods and services.
1435.6.4 Describe how relative prices affect buying and selling decisions of producers and consumers.
1435.6.5 Graph the concept of price on a supply and demand curve.

Standard 7: Types of Competitive Structures and Markets (1435.S.7)

Describe different types of competitive structures and illustrate the role of competitive markets in the U.S. and other economies.

Types of Competitive Structures and Markets Objectives

Students will:
1435.7.1 Explain how competition among sellers affects prices and profits.
1435.7.2 Determine the role of government in preventing private monopolies and regulating public monopolies.
1435.7.3 Research U.S. laws and government regulations that are designed to maintain competition.
1435.7.4 Compare and contrast price and non-price competition.

Standard 8: Personal Financial Resources and Consumer Decisions (1435.S.8)

Manage limited personal financial resources and recognize that more of the wants and needs of members of a society can be satisfied if wise consumer decisions are made.

Personal Financial Resources and Consumer Decisions Objectives

Students will:
1435.8.1 Analyze the consumer decision making process for products and explain why there is variance in price for a given item bought from different suppliers.
1435.8.2 Use published consumer resources to collect information for making buying decisions.
1435.8.3 Identify sources and types of credit.
1435.8.4 Calculate the cost of credit.
1435.8.5 Develop a plan to allocate financial resources to meet an individual's financial goals.
1435.8.6 Describe the advantages and disadvantages of different saving and investing plans.
1435.8.7 Identify services that financial institutions provide to customers.
1435.8.8 Perform the steps involved in opening and using a checking account.
1435.8.9 Reconcile a bank statement.

Standard 9: U.S. Economy Functions and Measures (1435.S.9)

Explain how the U.S. economy functions as a whole and describe economic measures of economic activity such as gross domestic product, unemployment and inflation.

U.S. Economy Functions and Measures of Activities Objectives

Students will:
1435.9.1 Explain the Consumer Price Index.
1435.9.2 Analyze the factors that affect Gross Domestic Product.

Standard 10: Role of Government in an Economic System (1435.S.10)

Discuss the role of government in an economic system, especially the necessary and desirable role of government in the U.S. economy.

Role of Government in an Economic System Objectives

Students will:
1435.10.1 Explain how government taxation affects consumers and producers.
1435.10.2 Define and give examples of progressive, regressive, and proportional taxes.
1435.10.3 Analyze the effect of national debt on the level of economic activity.

Standard 11: U.S. Economy Citizens Rights and Responsibilities (1435.S.11)

Describe rights and responsibilities of citizens in the U.S. economy.

U.S. Economy Citizens Rights and Responsibilities Objectives

Students will:
1435.11.1 Identify consumer rights.
1435.11.2 Describe how legislation defines and protects consumer rights.
1435.11.3 Examine how society's needs are balanced against the individual's rights and responsibilities.
1435.11.4 Explain how consumer legislation affects product.
1435.11.5 Distinguish between fraudulent, misleading, and legitimate product claims.

Standard 12: Economic Relationships Among Nations (1435.S.12)

Examine the importance of economic relationships among nations and discuss the role of international trade and investment and international monetary relations in the global economy.

Economic Relationships Among Nations Objectives

Students will:
1435.12.1 Explain the importance of imports and exports in a global economy.
1435.12.2 Identify examples of goods and services that imported and exported.
1435.12.3 Explain foreign exchange rates and why the value of currency changes.
1435.12.4 Explain the advantages and disadvantages of free trade agreements between and among nations.

International Business and Marketing WVEIS Code 1437

This course is for students with a career interest in the field of international trade or for students who intend to pursue a business/marketing degree. This course provides students with an understanding of the various careers in international trade, finance and marketing. Fundamental concepts, principles, and theories of marketing in an international setting are considered.

Standard 1: Role of International Business (1437.S.1)

Explain the Role of International Business.

Role of International Business Objectives

Students will:

1437.1.1 Identify examples of international trade in the local and state community.
1437.1.2 Describe the impact of international business activities on the local, regional and national levels.
1437.1.3 Analyze the impact of a domestic company involving itself in international trade opportunities.
1437.1.4 Describe the resources (e.g., ports, trade routes, transportation centers, foreign trade zones and natural, financial, and human resources) of major cities around the world.
1437.1.5 Identify business opportunities in countries in various levels of economic development.

Standard 2: Communication Strategies (1437.S.2)

Apply Communication Strategies in International Business Relations.

Communication Strategies Objectives

Students will:

1437.2.1 Compose effective business communications.
1437.2.2 Analyze international business blunders resulting from ineffective or incorrect communication patterns.
1437.2.3 Identify international cultural differences in food, dress, social behaviors and language.
1437.2.4 Compare business protocol of various countries.
1437.2.5 State examples of non-verbal communication affecting international businesses.

Standard 3: Social, Cultural, Political, Legal, and Economic Factors (1437.S.3)

Describe Factors That Shape and Impact the International Business Environment.

Social, Cultural, Political, Legal and Economic Factors that Impact the International Business Environment Objectives

Students will:

1437.3.1 Identify distinctive social and cultural factors affecting business activities (e.g. time, workday, workweek, schedules, holidays).
1437.3.2 Describe how trade barriers, tariffs, quotas and taxation policies affect choice of location for companies operating internationally.
1437.3.3 Recognize legal differences that exist between and among countries in areas such as consumer protection, product guidelines, labor laws, contract formulation, liability and taxation.
1437.3.4 Define terms such as GDP (GNP), balance of trade, foreign debt and cost of living.
1437.3.5 Analyze the availability of resources and economic potential in various countries.
1437.3.6 Identify the economic systems used to decide what to produce, how it is produced, and for whom it is produced in a country.
1437.3.7 Evaluate the competitive strengths and weaknesses faced by a company involved in international business.

Standard 4: International Finance and Risk Management (1437.S.4)

Explain the Role, Importance, and Concepts of International Finance and Risk Management.

International Finance and Risk Management Objectives

Students will:
1437.4.1 Explain how currency exchange rates affect companies.
1437.4.2 Identify risks associated with international trade.

Standard 5: Operations and Management of Human Resources (1437.S.5)

Address the Operations and Management of Human Resources.

Operations and Management of Human Resources Objectives

Students will:
1437.5.1 Describe the production processes used to create goods and services in different countries.
1437.5.2 Discuss factors that influence the type of merchandise/inventory control systems used by companies operating internationally.
1437.5.3 Identify the factors that influence the application of managerial styles in different countries.
1437.5.4 Describe how compensation and employee benefits differ in various cultures.
1437.5.5 Identify how differences in occupational health and safety standards impact the conduct of business internationally.

Standard 6: Marketing Concepts (1437.S.6)

Apply Marketing Concepts to International Business.

Marketing Concepts Objectives

Students will:
1437.6.1 Describe how a company markets a product/service in other countries.
1437.6.2 Illustrate how social, cultural, technological and geographic factors influence consumer buying behavior in different countries.
1437.6.3 Evaluate market potential for a good or service in a foreign market.
1437.6.4 Describe how the marketing mix elements need to be adapted for international marketing efforts.
1437.6.5 Analyze buying patterns of consumers in a foreign market.
1437.6.6 Explain how the marketing research process, including data collection, differs in an international application.
1437.6.7 Give examples of countries that have absolute and comparative advantage.
1437.6.8 Explain how brands and packages are affected by culture.
1437.6.9 Explain how the business environment affects prices charged in foreign markets.
1437.6.10 Select distribution channels for a company involved in international business.
1437.6.11 Discuss media used in different foreign markets.
1437.6.12 Analyze the influence of social and cultural factors affecting promotions used in foreign markets.

Standard 7: Trade Concepts in the Import/Export Process (1437.S.7)

Relate Balance of Trade Concepts to the Import/Export Process.

Trade Concepts Objectives

Students will:
1437.7.1 Identify goods and services imported to or exported from a country.
1437.7.2 Analyze the import or export potential for a good or service.
1437.7.3 Describe the role that U.S. Customs and the customs agencies of other countries play in

international trade activities.

1437.7.4 Define why trade barriers are imposed by governments (such as quotas, tariffs, licensing requirements, exchange rate controls).

1437.7.5 Describe international trade agreements (e.g., GATT, NAFTA).

Standard 8: Business Ownership and Entrepreneurial Opportunities (1437.S.8)

Identify Forms of Business Ownership and Entrepreneurial Opportunities.

Forms of Business Ownership and Entrepreneurial Opportunities Objectives

Students will:

1437.8.1 Analyze various forms of business ownership (e.g., sole proprietorship, corporation, partnership) for different international business situations.

1437.8.2 Determine social and cultural influences on the form of business ownership used or required in different countries.

1437.8.3 Identify potential new international business ventures for locally based companies.

1437.8.4 Distinguish between licensing and franchising for international business activities.

Standard 9: Technology in International Business. (1437.S.9)

Identify Technology Utilized in International Business.

Technology in International Business Objectives

Students will:

1437.9.1 Describe how the use of technology impacts the global market.

1437.9.2 Identify global e-commerce legal issues.

Introduction to Business and Marketing WVEIS Code 1439

This course is an introduction course that explores careers in business and marketing, the role of marketing in today's business world and a broad overview of economics.

Standard 1: Careers in Business and Marketing (1439.S.1)

Explore Careers in Business and Marketing.

Careers Objectives

Students will:
1439.1.1 Research and present information regarding careers in business and marketing.
1439.1.2 Explain how economic trends affect employment in business and marketing careers.
1439.1.3 Complete an interest survey to determine potential career options.

Standard 2: Private Enterprise System (1439.S.2)

Define and Explain How the Market Works in a Private Enterprise System.

Private Enterprise Objectives

Students will:
1439.2.1 Explore the benefits businesses provide to the economy.
1439.2.2 Compare and contrast the private enterprise system with other economic systems.
1439.2.3 Distinguish between consumer needs and wants and how they are satisfied.
1439.2.4 Explain how consumers affect the supply and demand for goods and services.
1439.2.5 Explain how prices affect consumers and producers.
1439.2.6 Describe the economic resources used in the production of goods and services.
1439.2.7 Identify and discuss economic measurements.
1439.2.8 Describe the four phases of the business cycle.

Standard 3: Social and Ethical Environment of Business (1439.S.3)

Explore Polices of a Diverse Workforce in Business and Marketing.

Social and Ethical Environment Objectives

Students will:
1439.3.1 Describe reasons for layoffs and downsizing.
1439.3.2 Write a job description.
1439.3.3 Discuss on-the-job policies dealing with diversity, drug use on the job, theft in the workplace and sexual harassment.
1439.3.4 Identify the functions, levels and responsibilities of managers.
1439.3.5 Discuss the pros, cons and implications of unionization.
1439.3.6 Explain what is meant by the social responsibilities of business.

Standard 4: Financial Management (1439.S.4)

Demonstrate the Handling of Business Finances.

Financial Management Objectives

Students will:
1439.4.1 Explain the types and purposes of financial statements.
1439.4.2 Describe the responsibilities of the Federal Reserve System.
1439.4.3 Calculate interest and finance charges.
1439.4.4 Identify the purpose, process and implications of obtaining credit.
1439.4.5 Identify laws that protect the consumer when applying for credit.

1439.4.6 Prepare a personal budget.
1439.4.7 Reconcile a bank statement.
1439.4.8 Obtain information regarding services provided by a financial institution.
1439.4.9 Identify the purpose and types of insurance.

Standard 5: Role of Marketing (1439.S.5)

Define the Role of Marketing in Today's World.

Role of Marketing Objectives

Students will:
1439.5.1 Apply the four elements of the marketing mix to products and services.
1439.5.2 Identify the stages of the product life cycle.
1439.5.3 Determine the appropriate channel of distribution for products.
1439.5.4 Identify the steps of pricing.
1439.5.5 Identify the functions of marketing.

Standard 6: Business Structure

Explore Development and Maintenance of a Business.

Business Structure Objectives

Students will:
1439.6.1 Identify unique characteristics of an entrepreneur.
1439.6.2 Compare and contrast the advantages and disadvantages of the types of business ownerships.
1439.6.3 Discuss the opportunities available to an entrepreneur.
1439.6.4 Identify the parts of a business plan and the components.

Standard 7: Government and Business Relationships (1439.S.7)

Explore the Relationship Between Government and Business.

Relationship Between Government and Business Objectives

Students will:
1439.7.1 Examine regulations that are encountered when starting a small business.
1439.7.2 Distinguish between progressive, proportional and regressive taxes.

Standard 8: International Business (1439.S.8)

Define the Importance of International Business in the Market Place.

International Business Objectives

Students will:
1439.8.1 Discuss the pros and cons of free trade.
1439.8.2 List examples of United States imports and exports.
1439.8.3 Identify specific products that currently are subject to government trade policies.
1439.8.4 Compare and contrast the economic systems.
1439.8.5 Identify benefits and challenges to competition in the international marketplace.

Standard 9: Role of a Consumer (1439.S.9)

Identify the Role of a Consumer in Business and Marketing.

Role of a Consumer Objectives

Students will:

1439.9.1 Describe choices consumers make when buying goods and services.
1439.9.2 Discuss the basic rights and responsibilities of a consumer.
1439.9.3 Research why regulations are implemented and the effects the regulations have on consumer safety.

Keyboarding and Information Processing WVEIS Code 1441

A one-year course designed to provide learners with keyboarding skills required for success in academic and occupational areas. Concepts in this area include keyboard operation, formatting skills, computer skills, appropriate work habits, and career awareness.

Standard 1: Exhibit Good Work Habits. (1441.S.1)

Exhibit good work habits.

Work Habits Objectives

Students will:

1441.1.1 Follow oral and written instructions in the completion of assigned tasks and plan work efficiently to meet deadlines.
1441.1.2 Exhibit the attitudes and work habits necessary for good interpersonal and employee/employer relations in the workforce.
1441.1.3 Keep the area in and around the workstation organized by properly assembling supplies and information necessary to complete assigned tasks.
1441.1.4 Illustrate desirable work ethics.

Standard 2: Proper Keyboard Operations (1441.S.2)

Demonstrate proper keyboard operation skills.

Keyboard Operations Objectives

Students will:

1441.2.1 Master operation of the alphabet, punctuation, number, and symbol keys by touch.
1441.2.2 Exhibit proofreading skills by visually checking for errors utilizing computer proofreading tools.
1441.2.3 Increase keyboarding speed and accuracy.

Standard 3: Basic Production Skills (1441.S.3)

Apply basic production skills.

Basic Production Skill Objectives

Students will:

1441.3.1 Apply information processing concepts.
1441.3.2 Correctly manipulate document formatting tools.
1441.3.3 Develop language arts skills through composition at the keyboard utilizing capitalization, punctuation, number expression and word usage.
1441.3.4 Using correct grammar, key simple business/personal communications in mailable form.
1441.3.5 Demonstrate basic production and editing skills in keyboarding and formatting copy for short reports, memorandums, personal/business communications from arranged, rough-draft, handwritten, incomplete or unedited copy.
1441.3.6 Illustrate basic formatting skills on enumeration and outlines.
1441.3.7 Identify and correctly use proofreaders' marks.
1441.3.8 Apply horizontal and vertical centering to text.
1441.3.9 Maintain a minimum speed of 40 words per minute with five or fewer errors on a five-minute timed writing.
1441.3.10 Prepare envelopes using USPS style and insert correctly folded letters.
1441.3.11 Key bound and unbound reports with and without special features i.e., endnotes, internal citations, title page, table of contents, and reference page.
1441.3.12 Key various office documents such as minutes of meetings, agendas, cards, labels, forms,

form letters, speeches, tables, and statistical material.
1441.3.13 Practice problem solving and decision-making skills.

Standard 4: Basic Computer Skills (1441.S.4)

Demonstrate basic computer skills.

Basic Computer Skill Objectives

Students will:
1441.4.1 Identify hardware components.
1441.4.2 Demonstrate the proper care and use of hardware and software.
1441.4.3 Be proficient in using operating system commands.
1441.4.4 Demonstrate the functions and common features of word processing software.
1441.4.5 Exhibit an understanding and proper use of document processing terminology.

Standard 5: Careers (1441.S.5)

Investigate careers.

Career Objectives

Students will:
1441.5.1 Integrate the relevance of keyboarding skills to all occupational areas.
1441.5.2 Identify documents relative to an employment portfolio.

Legal Office Management — WVEIS Code 1443

This course of study is designed to provide the learner with skills to work in a legal office. Major instructional areas include: legal terminology, personal development and employability skills, managing legal records, processing mail, communication duties, applying computing, accounting, and data skills, processing legal correspondence, operating office equipment, using management skills, and completing office support activities.

Standard 1: Client Service Activities (1443.S.1)

Conduct client service activities.

Client Service Activities Objectives

Students will:

1443.1.1 Gather client information and determine referrals based on legal specialty and urgency of request.
1443.1.2 Communicate with officers of the court, administrative agencies, and resource persons.
1443.1.3 Identify procedures for handling client complaints.
1443.1.4 Prepare and manage client records.
1443.1.5 Establish and maintain a forms and template file.
1443.1.6 Initiate a reference manual.
1443.1.7 Add supplements to law library and access Internet resources.
1443.1.8 Maintain a database of officers of the court, administrative agencies, and resource persons.
1443.1.9 Identify procedures for maintaining confidentiality of client information.
1443.1.10 Identify the attitudes and work habits necessary for professional relations with clients and staff in a legal office.
1443.1.11 Identify issues related to electronic transfer of legal documents.

Standard 2: Financial Management (1443.S.2)

Develop financial management skills.

Financial Management Objectives

Students will:

1443.2.1 Collect fees for reporting depositions and court records.
1443.2.2 Maintain firm and client checkbook accounts.
1443.2.3 Key attorney's time sheet.
1443.2.4 Initiate and maintain client account records (including time spent in meetings and phone calls with clients).
1443.2.5 Prepare billing statements.

Standard 3: Legal Correspondence (1443.S.3)

Prepare legal correspondence.

Legal Correspondence Objectives

Students will:

1443.3.1 Use correct legal terms in correspondence.
1443.3.2 Prepare letters in legal format from handwritten copy, from rough-draft copy, and from dictation.
1443.3.4 Edit and revise legal correspondence.

Standard 4: Document Production (1443.S.4)

Display document production techniques.

Document Production Objectives

Students will:

1443.4.1 Transcribe dictated material to prepare legal documents and correspondence.
1443.4.2 Compose correspondence and appropriate forms to request or communicate information.
1443.4.3 Keyboard information using appropriate forms and equipment to format and prepare letters, labels, documents, forms, and statistical reports.
1443.4.4 Proofread documents using visual and written communication skills to verify accuracy and completeness and make any necessary corrections.
1443.4.5 Prepare litigation documents and forms to communicate information.
1443.4.6 Prepare non-litigation documents and forms to communicate information.

Standard 5: Employability Skills (1443.S.5)

Enhance employability skills.

Employability Skill Objectives

Students will:

1443.5.1 Discuss and identify the advantages of a professional affiliation and investigate certification options for legal office personnel.
1443.5.2 Identify personal interests, aptitudes, and attitudes related to the qualities found in successful legal office personal.
1443.5.3 Apply the principles of ergonomics to the legal office work area.
1443.5.4 Develop human relations skills appropriate to dealing with people under stress.
1443.5.5 Promote and exemplify high standards of loyalty, cooperation, and courtesy.
1443.5.6 Develop a career ladder of occupational opportunities in the legal office and related fields.
1443.5.7 Participate in a mock interview for a legal office position.
1443.5.8 Compose a letter of application and an interview follow-up letter.
1443.5.9 Identify the steps to follow in resigning from a position.
1443.5.10 Identify the purpose and types of continuing education.
1443.5.11 Update portfolio.

Medical Office Management WVEIS Code 1443

This course of study is designed to provide the (student) learner with skills to work as a medical office assistant. Major instructional objectives include: handling telephone calls, scheduling appointments, greeting patients, and preparing effective communications. Students will: also become proficient with medical records, patient billing, health insurance, financial records, travel arrangements, meeting preparations, and medical terminology. This course is strongly recommended for Grade 12-Adult.

Standard 1: Medical Business Legal and Ethical Procedures (1443.S.1)

Analyze medical business ethics and legal responsibilities.

Medical Business Legal and Ethical Procedural Objectives

Students will:

1443.1.1 Identify proper procedures for selecting, preparing, and releasing patient information.
1443.1.2 Summarize safeguards for preventing malpractice litigation as they apply to employees.

Standard 2: Administrative Tasks (1443.S.2)

Conduct and manage administrative responsibilities.

Administrative Responsibilities Objectives

Students will:

1443.2.1 Demonstrate telephone etiquette when screening incoming calls and placing outgoing calls.
1443.2.2 Apply guidelines of scheduling appointments and proper recording of cancellations and no-shows.
1443.2.3 Demonstrate the correct use of alphabetic, geographic, subject, and numeric filing.
1443.2.4 Demonstrate the correct use of alphabetic and numeric color coding for medical records filing.
1443.2.5 Process incoming and outgoing mail via postal service, facsimile, and e-mail.
1443.2.6 Prepare documents from rough-draft copy and from dictation using proper formatting and editing procedures and correct medical terminology.
1443.2.7 Compose written communications for a variety of situations.
1443.2.8 Transcribe dictation and enter reports into a patient's chart using proper medical terminology and abbreviations.
1443.2.9 Analyze coding as related to procedures and diseases.

Standard 3: Insurance Claims (1443.S.3)

Process health insurance claims.

Processing Health Insurance Claim Objectives

Students will:

1443.3.1 Describe and differentiate various types of insurance coverage and insurance plans.
1443.3.2 Prepare (HCFA) Health Care Financing Administration insurance claim forms for various insurance carriers.
1443.3.3 Explain the follow-up process for insurance claims after receiving the EOB (Explanation of Benefits) from the insurance carrier.

Standard 4: Meeting and Travel Preparation (1443.S.4)

Plan medical meetings and arrange travel.

Meeting and Travel Preparation Objectives

Students will:
1443.4.1 Determine guidelines for arranging meetings.
1443.4.2 Key an agenda.
1443.4.3 Key minutes of a meeting.
1443.4.4 Determine guidelines for making travel arrangements.
1443.4.5 Key an itinerary.

Standard 5: Office Management (1443.S.5)

Perform office management skills.

Office Management Objectives

Students will:
1443.5.1 Initiate the development of an office procedures manual.
1443.5.2 Apply the principles of ergonomics to the medical assistant's work area.
1443.5.3 Maintain an inventory of office forms, supplies, and equipment.

Standard 6: Financial Management (1443.S.6)

Develop financial management skills.

Financial Management Objectives

Students will:
1443.6.1 Obtain necessary information from the patient for billing and insurance purposes.
1443.6.2 Compute charges and record appropriate entries for services rendered and charges from the superbill.
1443.6.3 Prepare daily journals.
1443.6.4 Maintain monthly summary records.
1443.6.5 Receive payment for services rendered and issue receipts.
1443.6.6 Reconcile a bank statement.
1443.6.7 Prepare statements/bills on appropriate forms.
1443.6.8 Prepare payroll records.

Standard 7: Employability Skills (1443.S.7)

Enhance employability skills.

Employability Objectives

Students will:
1443.7.1 Discuss and identify advantages of a professional affiliation and investigate certification options for medical office personnel.
1443.7.2 Identify personal interests, aptitudes, and attitudes related to the qualities found in successful medical office personnel.
1443.7.3 Develop human relations skills appropriate to dealing with people under stress.
1443.7.4 Promote and exemplify high standards of loyalty, cooperation and courtesy.
1443.7.5 Develop a career ladder of occupational opportunities in the medical office and related fields.
1443.7.6 Participate in a mock interview for a medical office position.
1443.7.8 Compose a letter of application and an interview follow-up letter.
1443.7.9 Identify the steps to follow in resigning from a position.
1443.7.10 Identify the purpose and types of continuing education.
1443.7.11 Update portfolio.

Management and Entrepreneurship WVEIS Code 1445

This course provides a background for the development and operation of a business starting with the role of the entrepreneur in our economy to the development of a business plan and the application of specific marketing skills and concepts within the business environment. This course also explores the planning, organizing and controlling of a business, including organizational and human aspects, with emphasis on various theories of management, the knowledge and understanding necessary for managing people and functions, and decision making.

Standard 1: Careers in Supervision and Management (1445.S.1)

Explore the career of a supervisor/manager.

Supervision and Management Career Objectives

Students will:

1445.1.1 Identify unique characteristics of an entrepreneur.
1445.1.2 Compare and contrast the scientific management, functional, human relations/behavioral school and quantitative approaches of management.
1445.1.3 Identify the characteristics of a successful supervisor/manager.
1445.1.4 Identify and discuss the major demographic and societal trends that will affect supervisors/ managers in the future.
1445.1.5 Summarize the difficulties supervisors/managers face in fulfilling managerial roles.

Standard 2: Managerial Functions of Supervision (1445.S.2)

Apply the managerial functions to a supervisor or manager's role.

Managerial Function Objectives

Students will:

1445.2.1 Describe and apply the basic steps of the decision-making process.
1445.2.2 Discuss the functions utilized in management.
1445.2.3 Write a mission statement for a business or department.
1445.2.4 Identify examples of strategic plans, tactical plans and operational plans.
1445.2.5 Explain the concept of a chain of command.

Standard 3: Management Communication Skills (1445.S.3)

Explain the importance of effective communication in the manager's role.

Effective Communication Objectives

Students will:

1445.3.1 Define communication and discuss its implication for effective management in the manager's role.
1445.3.2 Diagram the communication process and explain the importance of each component to the process.
1445.3.3 Identify barriers to communication and suggest methods to overcome those barriers.
1445.3.4 Compare and contrast the formal, informal, horizontal and vertical channels of communication.
1445.3.5 Demonstrate effective communication skills.

Standard 4: Employee Motivation (1445.S.4)

Apply employee motivational factors to the manager's role.

Employee Motivation Objectives

Students will:

1445.4.1 Compare various motivation theories and explain their importance for understanding employee behavior.
1445.4.2 Analyze the application of Theory X and Theory Y in motivating employees.
1445.4.3 Classify motivational factors according to Maslow's hierarchy of needs.
1445.4.4 Define job rotation, job enlargement, and job enrichment and their implications in motivating employees.
1445.4.5 Investigate the significance of Total Quality Management (TQM).
1445.4.6 Explain the concept of authority, responsibility and power as a requirement of any managerial position.
1445.4.7 Define delegation, responsibility and accountability and describe their relationship with one another.

Standard 5: Entrepreneurship (1445.S.5)

Explore the role of an entrepreneur.

Entrepreneur Objectives

Students will:

1445.5.1 Compare and contrast the advantages and disadvantages of the types of ownership.
1445.5.2 Identify entrepreneurial opportunities.
1445.5.3 Analyze the parts of a business plan and components included in each part.
1445.5.4 Write and present a business plan for a small business.

Standard 6: Marketing Plan (1445.S.6)

Write a marketing plan for a small business.

Marketing Plan Objectives

Students will:

1445.6.1 Complete a demographic study to determine a market.
1445.6.2 Determine market potential.
1445.6.3 Identify direct and indirect competition.
1445.6.4 Evaluate competitive strengths and weaknesses.
1445.6.5 Explain the importance of choosing a proper location for a business.
1445.6.6 Describe the different types of goods and services.
1445.6.7 State the marketing concept.
1445.6.8 Utilize market segmentation and target marketing.
1445.6.9 Identify and apply the components of the marketing mix.
1445.6.10 Evaluate the importance of price.
1445.6.11 Describe different pricing strategies.
1445.6.12 Calculate price.
1445.6.13 Describe the steps in the selling process.

Standard 7: Financial Plan (1445.S.7)

Write a financial plan for a small business.

Financial Plan Objectives

Students will:

1445.7.1 Analyze the components of a financial plan.
1445.7.2 Compute capital needs.

1445.7.3 Prepare financial statements (income statement, balance sheet, statement of cash flow).
1445.7.4 Analyze financial statements to ascertain financial health of a business.
1445.7.5 Identify parts of an accounting system.
1445.7.6 Write a personal resume.
1445.7.7 Calculate personal net worth.
1445.7.8 Identify personal/financial assets available to collateralize.
1445.7.9 List potential sources of funds for a business.

Standard 8: Management Plan (1445.S.8)

Write a management plan for a small business.

Management Plan Objectives

Students will:
1445.8.1 Compare and contrast types of business ownership.
1445.8.2 Develop an organizational chart.
1445.8.3 Explain how small businesses recruit effectively.
1445.8.4 Prioritize staffing needs.
1445.8.5 Identify motivational techniques for employees.
1445.8.6 Explain employment laws.
1445.8.7 Monitor results of revenue and explain its impact on inventory, personnel, insurance and promotion.
1445.8.8 Analyze inventory procedures.
1445.8.9 Identify resources available for small business assistance.
1445.8.10 Identify government regulations.
1445.8.11 Research business risks and prevention control.
1445.8.12 List and explain components of a legally enforceable contract.
1445.8.13 Discuss business ethics and social responsibility.

Notetaking and Study Skills WVEIS Code 1447

This course is designed to provide students with basic abbreviated writing skills and enables them to take and transcribe notes at speeds appropriate for educational, business, personal use. Students explore reasons for taking notes, ways to listen effectively, and strategies for improving communication and study skills for academic success.

Standard 1: Reading and Writing Abbreviated Writing (1447.S.1)

Read and write the abbreviated writing system.

Reading and Writing Objectives

Students will:
1447.1.1 Read fluently from textbook plates and homework notes.
1447.1.2 Achieve a minimum reading of 80 words per minute.
1447.1.3 Write the abbreviated language for dictated words, abbreviations, and documents.

Standard 2: Transcription and Dictation (1447.S.2)

Demonstrate dictation and transcription skills.

Transcribing and Dictation Objectives

Students will:
1447.2.1 Transcribe the abbreviated language from the textbook plates and homework into longhand using appropriate format.
1447.2.2 Transcribe a variety of business documents (memos, letters, outlines) using appropriate format.
1447.2.3 Take dictation for two to three minutes at a minimum of 50 words per minute with 90% accuracy.
1447.2.4 Use the abbreviated language to take notes from lectures.
1447.2.5 Proofread documents for spelling, punctuation, capitalization, number usage, accuracy of content, and clarity of expression.

Standard 3: Note Making Skills (1447.S.3)

Develop sound note making skills that can be applied to education, career, and personal use.

Applying Note Making Skills Objectives

Students will:
1447.3.1 Practice notetaking skills to process and organize information using the abbreviated writing system.
1447.3.2 Practice notetaking skills from lectures such as the outline format.

Standard 4: Study Skills (1447.S.4)

Develop study skills for academic success.

Success in Academic Studying Skills Objectives

Students will:
1447.4.1 Refine appropriate listening skills.
1447.4.2 Set goals for learning and review progress in meeting these goals.
1447.4.3 Take notes from reading and study for tests using various methods.
1447.4.4 Review and revise notes.
1447.4.5 Develop skills in organizing and managing work stations, setting priorities for tasks, and

making decisions.

1447.4.6 Use notetaking skills to prepare reference cards, note cards, and outlines for research.

1447.4.7 Organize study materials (notes, handouts, tests, etc.).

1447.4.8 Demonstrate skill in test-taking techniques.

1447.4.9 Apply all techniques of effective time management.

Office Management WVEIS Code 1449

Prerequisite: Keyboarding Applications. This area of study is designed to aid students in becoming skillful in the operation of an office. Major instructional areas include: personal development and employability skills, managing records, processing mail, communication duties, keeping financial records, applying computing, accounting, and data skills, processing business correspondence, operating office equipment, using management skills, and completing office support activities.

Standard 1: Office Administrative Careers (1449.S.1)

Explore office administrative careers.

Office Administrative Career Objectives

The student will:

1449.1.1 Research office administrative positions and their educational requirements.
1449.1.2 Identify confidentiality concepts and policies in an office.
1449.1.3 Identify characteristics of professional conduct (integrity, loyalty, courtesy, etc).
1449.1.4 Discuss personal and office ethics
1449.1.5 Describe attitudes that contribute to success.

Standard 2: Communication Skills (1449.S.2)

Communicate effectively in a professional and personal manner.

Effective Communications Objectives

The student will:

1449.2.1 Create and maintain effective and productive work relationships.
1449.2.2 Develop efficient office teams.
1449.2.3 Compose business correspondence.
1449.2.4 Reproduce and distribute documents and information.
1449.2.5 Prepare camera ready copy.
1449.2.6 Simulate placing and receiving telephone calls including conference calls.
1449.2.7 Prepare written telephone messages.
1449.2.8 Process incoming and out-going mail, including electronic mail.
1449.2.9 Identify emerging telecommunications.

Standard 3: Office System Maintenance (1449.S.3)

Demonstrate maintaining an office system.

Office System Maintenance Objectives

The student will:

1449.3.1 Conduct a needs assessment.
1449.3.2 Prepare and maintain an inventory record of software, furniture, hardware, equipment and supplies.
1449.3.3 Prepare a cost analysis.
1449.3.4 Maintain personal computer/network and printer.
1449.3.5 Demonstrate maintenance of office equipment such as copiers and fax machines (add toner, load paper, clear paper path, change cartridge).
1449.3.6 Discuss and maintain work station safety.

Standard 4: Financial Functions (1449.S.4)

Prepare and manage financial functions.

Financial Objectives

The student will:
1449.4.1 Prepare banking transactions (deposit slips, reconcile bank statement, etc.).
1449.4.2 Manage petty cash funds and cash advance accounts.
1449.4.3 Prepare payroll records.
1449.4.4 Prepare and post check records.
1449.4.5 Determine budgetary requirements for office supplies and equipment. AM2
1449.4.6 Develop an office budget.
1449.4.7 Complete purchase requisitions and vouchers for payment.
1449.4.8 Identify various collection procedures.

Standard 5: Information Management (1449.S.5)

Prepare and manage information.

Information Management Objectives

The student will:
1449.5.1 Maintain alphabetical filing system and retrieve information from files.
1449.5.2 Maintain subject filing system and retrieve information from files.
1449.5.3 Maintain numerical filing system and retrieve information from files.
1449.5.4 Maintain chronological filing system and retrieve information from files.
1449.5.5 Maintain tickler file system and retrieve information from files.

Standard 6: Information and Data Processing (1449.S.6)

Accurately prepare and process information and data.

Preparing and Processing Information and Data Objectives

The student will:
1449.6.1 Key documents (agendas, statistical documents, correspondance, etc.).
1449.6.2 Use touch system of entry on calculators and 10-key pads.
1449.6.3 Transcribe dictation from recorded media (correspondence, reports, minutes of meetings, etc.).
1449.6.4 Dictate notes and correspondence.
1449.6.5 Enhance formatting of documents.
1449.6.6 Create and format tables and charts.
1449.6.7 Perform a variety of word processing functions (merge text, sort data, search/replace data, create macros, etc.).
1449.6.8 Convert document from one operating system to another.
1449.6.9 Create, edit and enhance spreadsheets.
1449.6.10 Create and edit a database.
1449.6.11 Create queries.
1449.6.12 Generate reports
1449.6.13 Integrate database, spreadsheet, graphic and word processing files.
1449.6.10 Develop text editing and proofreading skills.

Standard 7: Organizing and Planning (1449.S.7)

Demonstrate organizing and planning functions.

Organizing and Planning Objectives

The student will:
1449.7.1 Demonstrate time management skills.
1449.7.2 Coordinate meetings, events and travel arrangements related to the office.
1449.7.3 Recommend improvements in physical layout of the office.

1449.7.4 Follow written and oral directions.
1449.7.5 Give written and oral directions.
1449.7.6 Discuss and maintain office safety

Standard 8: Human Relationship Skills (1449.S.8)

Demonstrate human relations skills.

Human Relation Objectives

The student will:
1449.8.1 Develop work processes and procedures (organizational and prioritizing skills).
1449.8.2 Develop techniques for introducing and implementing changes.
1449.8.3 Coordinate administrative support staff work schedule and workload distribution.
1449.8.4 Provide feedback to teams and individuals.
1449.8.5 Contribute to development of job descriptions for administrative support staff.
1449.8.6 Discuss and analyze an employee performance evaluation

Standard 9: Employability

Develop employability skills. (1449.S.9)

Employability Objectives

The student will:
1449.9.1 Develop a career plan and professional growth plan.
1449.9.2 Develop and update a resume.
1449.9.3 Complete a job application form and write a letter of application.
1449.9.4 Demonstrate successful interviewing techniques.
1449.9.5 Develop and maintain a portfolio.
1449.9.6 Apply for a promotion.
1449.9.7 Identify the steps to follow in resigning from a position.
1449.9.8 Discuss soliciting letters of recommendation.

Personal Finance WVEIS Code 1451

Personal Finance is a multi-disciplinary approach to personal financial management for high school students.

Standard 1: Interrelated Roles (1451.S.1)

Describe the interrelated roles of job seeker, wage earner and employee.

Interrelated Roles Objectives

The student will:

1451.1.1 Explain job search strategies.
1451.1.2 Describe effective tools for securing employment including resume, application letter, interview, and follow-up.
1451.1.3 List examples of employee and employer responsibilities at the workplace.
1451.1.4 Discuss employee benefits, labor unions and professional organizations.
1451.1.5 Identify ethical character traits, such as honesty, integrity, compassion, respect, responsibility, citizenship and justice.

Standard 2: Analyzing and Interpreting (1451.S.2)

Analyze and interpret decisions that contribute to financial stability and personal satisfaction.

Analyzing and Interpreting Objectives

The student will:

1451.2.1 Prepare financial planning documents and describe types of contracts.
1451.2.2 Prepare documents used with checking accounts, and compare consumer banking services.
1451.2.3 Explain purposes, types and history of taxes.
1451.2.4 Prepare a short form tax return.
1451.2.5 Give examples of savings options, discuss the need for and purpose of savings and compute interest on savings.
1451.2.6 Discuss investment options, the need for and purpose of investments and the criteria for choosing investments.
1451.2.7 Identify principles of risk management.
1451.2.8 Describe benefits of major types of insurance.

Standard 3: Credit Planning (1451.S.3)

Describe credit and plans for using credit in terms of present and future needs and income.

Credit Planning Objectives

The student will:

1451.3.1 List advantages and disadvantages of credit, types of credit and sources of credit.
1451.3.2 Discuss the concept of creditworthiness as it relates to credit records, credit ratings, credit reports, and credit laws.
1451.3.3 Compute the costs of credit.
1451.3.4 Discuss methods of reducing credit costs and responsibilities of consumer credit.
1451.3.5 List major causes of bankruptcy.
1451.3.6 Identify the advantages and disadvantages of bankruptcy.
1451.3.7 Discuss bankruptcy laws and their purpose and understand how to solve credit problems.

Standard 4: Economic and Consumer Responsibility (1451.S.1)

Describe common economic problems and consumer responsibility in the marketplace.

Common Economic Problems/Consumer Responsibility Objectives

The student will:

1451.4.1 Discuss characteristics of the marketplace and the free enterprise system.

1451.4.2 Identify fraudulent and deceptive practices, and prescribe wise consumer behavior.

1451.4.3 List consumer Legislation, sources of consumer protection, and describe how to contact public officials to express opinions.

1451.4.4 Describe the court system available for use in consumer redress and list other ways of finding remedies for consumer problems.

Spreadsheet Management WVEIS Code 1453

This area of study is designed to develop intermediate/advanced-level skills in spreadsheet application software. Students will achieve proficiency and expert level skills and will have the opportunity to receive specialized certification by examination. (One semester class)

Standard 1: Worksheets (1453.S.1)

Format worksheets.

Worksheet Objectives

The student will:
1453.1.1 Apply formats such as accounting, fraction, scientific, etc.
1453.1.2 Create custom formats.
1453.1.3 Use styles and auto formats.

Standard 2: Lists (1453.S.2)

Use lists.

List Objectives

The student will:
1453.2.1 Sort data.
1453.2.2 Query from a list.

Standard 3: Workbooks (1453.S.3)

Print workbooks.

Workbook Printing Objectives

The student will:
1453.3.1 Preview workbooks.
1453.3.2 Print workbooks.

Standard 4: Auditing Worksheets (1453.S.4)

Audit a worksheet.

Worksheet Auditing Objectives

The student will:
1453.4.1 Check and review data.
1453.4.2 Find cells referred to in a specific formula.
1453.4.2 Find formulas that refer to a specific cell.
1453.4.3 Find errors.

Standard 5: Functionality (1453.S.5)

Use advanced functionality.

Functionality Objectives

The student will:
Query databases.
1453.5.1 Extract data.
1453.5.2 Use filters.
1453.5.3 Use data analysis and pivot tables.
1453.5.4 Use data map.
1453.5.5 Use data validation.
1453.5.6 Use conditional formatting.

1453.5.7 Perform multi-level sorts.

Standard 6: Macros (1453.S.6)

Use macros.

Macros Objectives

The student will:
1453.6.1 Create and record macros.
1453.6.2 Edit macros.
1453.6.3 Run macros.

Standard 7: Import and Export Data (1453.S.7)

Import and export data.

Data Importing and Exporting Objectives

The student will:
1453.7.1 Import from other applications.
1453.7.2 Export to other applications.

Standard 8: Templates (1453.S.8)

Use templates.

Template Objectives

The student will:
1453.8.1 Work with existing templates.
1453.8.2 Create templates.
1453.8.3 Edit templates.

Standard 9: Multiple Workbooks (1453.S.9)

Use multiple workbooks.

Multiple Workbook Objectives

The student will:
1453.9.1 Link workbooks.
1453.9.2 Use multiple workbooks.

Standard 10: Workgroup Functions (1453.S.10)

Use workgroup functions.

Workgroup Objectives

The student will:
1453.10.1 Cell tips.
1453.10.2 Share lists.
1453.10.3 Track changes.
1453.10.4 Resolve conflicts.
1453.10.5 Show history of changes.
1453.10.6 Merge workbooks.

Web Page Publishing WVEIS Code 1455

This course will introduce students to the basic Web page design concepts and provide practice in creating Web sites. Students will explore various applications in Web page design through hands-on activities and experiences which may include: using Web page development software, creating page layouts, adding images and frames, creating elements and components, creating tables, managing files, publishing to the Internet, creating hyperlinks, organizing tasks, and using HTML.

Standard 1: Basic Design Concepts (1455.S.1)

Discuss web page design concepts.

Basic Web Design Objectives

The student will:

1455.1.1 Acquire navigational skills for using the World Wide Web effectively.
1455.1.2 Define and use Web page design terminology.
1455.1.3 Identify Web page design concepts: i.e. themes, bullets, importing, hyperlinks, and frames.
1455.1.4 Identify confidentiality concepts and policies.
1455.1.5 Identify characteristics of professional conduct.
1455.1.6 Identify and analyze Web page design career opportunities.

Standard 2: Web Page Design Software (1455.S.2)

Demonstrate skills utilizing Web Page design software.

Web Page Design Software Objectives

The student will:

1455.2.1 Create and edit a Web page using HTML.
1455.2.2 Insert images, change image appearance, create Hotspots, and use frames.
1455.2.3 Plan and design a web page, create a page with a Wizard, add pages to a web, add text and format a page.
1455.2.4 Add multimedia elements and enhancements, i.e. sound and video to a Web page.
1455.2.5 Use a digital camera and a scanner to import visuals in a Web page.
1455.2.6 Create a Web Site using templates, themes, insert bullets, import from different software.
1455.2.7 Create and edit Hyperlinks.
1455.2.8 Create a table, add rows and columns, split and merge cells, and change properties.
1455.2.9 Customize elements and components of a Web page, create a custom theme, create page transitions, add hit counter, and create a search form.
1455.2.10 Practice usability testing for uploading Web pages.
1455.2.11 Publish a Web page.
1455.2.12 Manage a Web site (check spelling and change text, work with files, manage hyperlinks and organize tasks).
1455.2.13 Practice programming using JavaScript.
1455.2.14 Evaluate competing Web sites.

Standard 3: Legal and Ethical (1455.S.3)

Determine legal and ethical aspects of Web page publishing.

Legal and Ethical Objectives

The student will:

1455.3.1 Practice ethical use of World Wide Web
1455.3.2 Identify copyright and patent laws pertaining to Web page publication.
1455.3.3 Identify licensing agreements associated with Web Page Design software.
1455.3.4 Explain the purpose of deductions and withholdings.

Diversified Cooperative Training I (DCT) WVEIS Code 0511

This area of study is designed to provide students with a wide range of basic attitudes, knowledge, and skills essential for job success.

Standard 1: Health and Safety Procedures (0511.S.1)

Demonstrate the correct procedures to promote health and safety, personally and professionally.

Health and Safety Procedures Objectives

Students will:

0511.1.1 List the most basic safety rules.
0511.1.2 Identify the main causes of accidents and describe ways to reduce safety hazards.
0511.1.3 List the agencies that work to prevent accidents and explain each agency's purpose.
0511.1.4 Propose and follow a plan for the proper procedure in handling accidents.
0511.1.5 Develop a list of personal safety rules as they apply personally and professionally.
0511.1.6 Read and interpret operating instructions before using any equipment.
0511.1.7 Describe the procedures for safe evacuation of the work site in the event of an emergency.
0511.1.8 Classify A, B, and C fires and describes methods of extinguishing.
0511.1.9 Demonstrate procedures for proper lifting methods.

Standard 2: Communications, Critical Thinking, Computation and Computer Applications (0511.S.2)

Use basic skills as applied to communications, critical thinking, computation, and computer applications.

Communications, Critical Thinking, Computation and Computer Applications Objectives

Students will:

0511.2.1 Identify ways of giving orders, directions, and instructions in non-stereotypical language.
0511.2.2 Demonstrate the proper way to introduce yourself and others.
0511.2.3 Use proper telephone protocol and correctly handle messages.
0511.2.4 Develop and practice skills of organizing and delivering oral communications.
0511.2.5 Identify barriers to listening and analyze methods for improving listening.
0511.2.6 Take meaningful notes to recall and accurately report information from an oral presentation.
0511.2.7 Solve problems involving addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions.
0511.2.8 Solve problems using different wage plans.
0511.2.9 Compute trade or cash discounts to arrive at net price.

Standard 3: Professionalism (0511.S.3)

Exhibit responsibility, self-esteem, sociability, self-management, integrity and honesty.

Professionalism Objectives

Students will:

0511.3.1 State the values of having self-respect and a good self-concept.
0511.3.2 Develop a plan for self-improvement through evaluation and constructive criticism by varied levels of authority.
0511.3.3 Identify the steps for creating and maintaining a positive attitude.
0511.3.4 Describe and demonstrate the characteristics of professional conduct.
0511.3.5 Explain ways to participate with others as part of a team.
0511.3.6 List the steps to problem solving.
0511.3.7 Expose students to the opportunities of participating and contributing to professional organizations.

Standard 4: Personal and Financial Resources (0511.S.4)

Identify, organize, plan and allocate resources.

Resource Objectives

Students will:
0511.4.1 Prepare a list of short-term and long-term goals.
0511.4.2 Utilize time management techniques.
0511.4.3 Prepare a budget.
0511.4.4 List and explain the range of services offered customers by banks and credit unions.
0511.4.5 List the steps involved in opening and maintaining different financial accounts.
0511.4.6 Identify the different types of credit and loans and the guidelines for obtaining each.
0511.4.7 State the purpose of insurance.
0511.4.8 Describe workers compensation and employment security programs.

Standard 5: Legal Rights and Obligations (0511.S.5)

Identify necessary legal rights and obligations as related to the workplace.

Legal Rights and Obligations Objectives

Students will:
0511.5.1 List the components necessary in obtaining a legal contract.
0511.5.2 Develop an awareness of one's legal rights and obligations as a productive member of society.
0511.5.3 Classify laws relating to working conditions, wages, hours, social security, and taxes.
0511.5.4 Define sexual harassment and its consequences to all parties involved.
0511.5.5 Choose ethical courses of action and exhibit honesty and reliability in words and actions.

Standard 6: Inter-Relationships (0511.S.6)

Describe the inter-relationships of various social, organizational, and technological systems.

Inter-Relationships Objectives

Students will:
0511.6.1 Identify the types of business ownership.
0511.6.2 Identify the characteristics of global economic systems.
0511.6.3 List the role of government in the U.S. economy.
0511.6.4 Discuss the functions of supply and demand and its influence on the economy.
0511.6.5 Identify the benefits of competition and profit.
0511.6.6 Discuss advantages and disadvantages of self-employment.
0511.6.7 Identify common characteristics of labor unions.
0511.6.8 List reasons labor unions began.
0511.6.9 Explain and demonstrate the concept of collective bargaining.
0511.6.10 Use parliamentary procedure to conduct a meeting.
0511.6.11 Define leadership and develop leadership skills.
0511.6.12 Compare the purposes of school and community organizations.
0511.6.13 Develop socialization and team skills through group activities.
0511.6.14 Exhibit mastery of leadership and technical skills through competitive events.

Standard 7: Job-Seeking, Job-Keeping, and Job-Leaving Skills (0511.S.7)

Develop job-seeking, job-keeping, and job-leaving skills.

Job-Seeking, Job-Keeping, and Job-Leaving Skills Objectives

Students will:

0511.7.1 Compose an employment portfolio, in basic business format, including a resume, cover letter, follow-up letter, letters of acceptance/rejection, and letter of resignation.
0511.7.2 Complete a job application.
0511.7.3 Identify sources of employment opportunities and the steps to initiate a job search.
0511.7.4 Respond positively in all aspects of an interview situation.
0511.7.5 Identify, select, and use technological equipment relevant to the occupation.
0511.7.6 Describe the importance of following a chain of command on the job.
0511.7.7 Appraise the importance of punctuality and dependability on the job.
0511.7.8 Analyze the necessity of mastering job skills.
0511.7.9 Demonstrate how to ask for a raise.
0511.7.10 Participate in an exit interview.
0511.7.11 Identify ways to handle loss of employment.
0511.7.12 Write a letter of reference which could be signed by an employer.
0511.7.13 Discuss reasons people work.
0511.7.14 Use the *Occupational Outlook Handbook* to prepare an occupational information search.
0511.7.15 Explain how occupations and industries are grouped in career clusters.

Diversified Cooperative Training II (DCT) WVEIS Code 0512

This area of study is designed to provide students with a wide range of basic attitudes, knowledge, and skills essential for job success.

Standard 1: Health and Safety Procedures (0512.S.1)

Demonstrate the correct procedures to promote health and safety, personally and professionally.

Health and Safety Procedures Objectives

Students will:
0512.1.1 List the most basic safety rules.
0512.1.2 Identify the main causes of accidents and describe ways to reduce safety hazards.
0512.1.3 List the agencies that work to prevent accidents and explain each agency's purpose.
0512.1.4 Propose and follow a plan for the proper procedure in handling accidents.
0512.1.5 Develop a list of personal safety rules as they apply personally and professionally.
0512.1.6 Read and interpret operating instructions before using any equipment.
0512.1.7 Describe the procedures for safe evacuation of the work site in the event of an emergency.
0512.1.8 Classify A, B, and C fires and describes methods of extinguishing.
0512.1.9 Demonstrate procedures for proper lifting methods.

Standard 2: Communications, Critical Thinking, Computation and Computer Applications (0512.S.2)

Use basic skills as applied to communications, critical thinking, computation, and computer applications.

Communications, Critical Thinking, Computation and Computer Applications Objectives

Students will:
0512.2.1 Identify ways of giving orders, directions, and instructions in non-stereotypical language.
0512.2.2 Demonstrate the proper way to introduce yourself and others.
0512.2.3 Use proper telephone protocol and correctly handle messages.
0512.2.4 Develop and practice skills of organizing and delivering oral communications.
0512.2.5 Identify barriers to listening and analyze methods for improving listening.
0512.2.6 Take meaningful notes to recall and accurately report information from an oral presentation.
0512.2.7 Solve problems involving addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions.
0512.2.8 Solve problems using different wage plans.
0512.2.9 Compute trade or cash discounts to arrive at net price.

Standard 3: Professionalism (0512.S.3)

Exhibit responsibility, self-esteem, sociability, self-management, integrity and honesty.

Professionalism Objectives

Students will:
0512.3.1 State the values of having self-respect and a good self-concept.
0512.3.2 Develop a plan for self-improvement through evaluation and constructive criticism by varied levels of authority.
0512.3.3 Identify the steps for creating and maintaining a positive attitude.
0512.3.4 Describe and demonstrate the characteristics of professional conduct.
0512.3.5 Explain ways to participate with others as part of a team.
0512.3.6 List the steps to problem solving.
0512.3.7 Expose students to the opportunities of participating and contributing to professional organizations.

Standard 4: Personal and Financial Resources (0512.S.4)

Identify, organize, plan and allocate resources.

Resource Objectives

Students will:
0512.4.1 Prepare a list of short-term and long-term goals.
0512.4.2 Utilize time management techniques.
0512.4.3 Prepare a budget.
0512.4.4 List and explain the range of services offered customers by banks and credit unions.
0512.4.5 List the steps involved in opening and maintaining different financial accounts.
0512.4.6 Identify the different types of credit and loans and the guidelines for obtaining each.
0512.4.7 State the purpose of insurance.
0512.4.8 Describe workers compensation and employment security programs.

Standard 5: Legal Rights and Obligations (0512.S.5)

Identify necessary legal rights and obligations as related to the workplace.

Legal Rights and Obligations Objectives

Students will:
0512.5.1 List the components necessary in obtaining a legal contract.
0512.5.2 Develop an awareness of one's legal rights and obligations as a productive member of society.
0512.5.3 Classify laws relating to working conditions, wages, hours, social security, and taxes.
0512.5.4 Define sexual harassment and its consequences to all parties involved.
0512.5.5 Choose ethical courses of action and exhibit honesty and reliability in words and actions.

Standard 6: Inter-Relationships (0512.S.6)

Describe the inter-relationships of various social, organizational, and technological systems.

Inter-Relationships Objectives

Students will:
0512.6.1 Identify the types of business ownership.
0512.6.2 Identify the characteristics of global economic systems.
0512.6.3 List the role of government in the U.S. economy.
0512.6.4 Discuss the functions of supply and demand and its influence on the economy.
0512.6.5 Identify the benefits of competition and profit.
0512.6.6 Discuss advantages and disadvantages of self-employment.
0512.6.7 Identify common characteristics of labor unions.
0512.6.8 List reasons labor unions began.
0512.6.9 Explain and demonstrate the concept of collective bargaining.
0512.6.10 Use parliamentary procedure to conduct a meeting.
0512.6.11 Define leadership and develop leadership skills.
0512.6.12 Compare the purposes of school and community organizations.
0512.6.13 Develop socialization and team skills through group activities.
0512.6.14 Exhibit mastery of leadership and technical skills through competitive events.

Standard 7: Job-Seeking, Job-Keeping, and Job-Leaving Skills (0512.S.7)

Develop job-seeking, job-keeping, and job-leaving skills.

Job-Seeking, Job-Keeping, and Job-Leaving Skills Objectives

Students will:
0512.7.1 Compose an employment portfolio, in basic business format, including a resume, cover letter,

follow-up letter, letters of acceptance/rejection, and letter of resignation.

0512.7.2 Complete a job application.
0512.7.3 Identify sources of employment opportunities and the steps to initiate a job search.
0512.7.4 Respond positively in all aspects of an interview situation.
0512.7.5 Identify, select, and use technological equipment relevant to the occupation.
0512.7.6 Describe the importance of following a chain of command on the job.
0512.7.7 Appraise the importance of punctuality and dependability on the job.
0512.7.8 Analyze the necessity of mastering job skills.
0512.7.9 Demonstrate how to ask for a raise.
0512.7.10 Participate in an exit interview.
0512.7.11 Identify ways to handle loss of employment.
0512.7.12 Write a letter of reference which could be signed by an employer.
0512.7.13 Discuss reasons people work.
0512.7.14 Use the *Occupational Outlook Handbook* to prepare an occupational information search.
0512.7.15 Explain how occupations and industries are grouped in career clusters.

Life Connections WVEIS Code 0901

This course will enable students to develop skills for assuming their role in society as productive, successful individuals. Recommended Grade Level: 11-12.

Standard 1: Management (0901.S.1)

The students will develop criteria for managing different phases of one's life span.

Management Objectives

Students will:
0901.1.1 Use decision-making skills to solve problems.
0901.1.2 Analyze components of the management process.
0901.1.3 Examine management needs at various stages of life.
0901.1.4 Develop strategies for managing financial resources.
0901.1.5 Investigate ways to protect environmental resources.
0901.1.6 Practice consumer decisions that meet basic human needs.

Standard 2: Relationships (0901.S.2)

The students will develop an understanding of the different aspects of a healthy, positive relationship.

Relationships Objectives

Students will:
0901.2.1 Evaluate components of respectful health relationships.
0901.2.2 Demonstrate communication skills that contribute to positive relationships.
0901.2.3 Practice conflict resolution techniques.
0901.2.4 Demonstrate leadership skills and community involvement.

Standard 3: Parenting (0901.S.3)

The students will investigate the different phases of parenting and parenting skills.

Parenting Objectives

Students will:
0901.3.1 Analyze parenting roles and responsibilities.
0901.3.2 Explore the impact of diversity on families and society.
0901.3.3 Examine basic parenting skills.
0901.3.4 Investigate laws and services that impact parenting.

Standard 4: Wellness (0901.S.4)

The students will develop an understanding of how food choices can impact one's health and lifestyle.

Wellness Objectives

Students will:
0901.4.1 Evaluate the impact of food choices on wellness.
0901.4.2 Formulate a plan to achieve a health lifestyle.

Standard 5: Careers and Technology (0901.S.5)

The students will demonstrate an understanding of selecting a career and how electronic technologies are used within these career fields.

Careers and Technology Objectives

Students will:

0901.5.1 Develop criteria for making career choices.
0901.5.2 Evaluate strategies for balancing work and personal life.
0901.5.3 Use electronic technologies to complete a variety of assignments.
0901.5.4 Demonstrate appropriate written and oral communications.

Parenting And Child Development WVEIS Code 0902

This course is designed to help students evaluate readiness for parenting while examining appropriate parenting and child development practices. Students will develop an awareness of societal issues affecting families and explore support systems. Other areas of focus will be career management and technology. Recommended Grade Level: 9-12.

Standard 1: Readiness for Parenting (0902.S.1)

The students will demonstrate an understanding of the roles and responsibilities of parenting.

Readiness for Parenting Objectives

Students will:
0902.1.1 Describe roles and responsibilities of parenting.
0902.1.2 Analyze personal readiness for parenting.
0902.1.3 Examine family structures.
0902.1.4 Review biological processes related to conception.
0902.1.5 Evaluate contraceptive methods.

Standard 2: Appropriate Parenting/Child Development Practices (0902.S.2)

The students will demonstrate an understanding of appropriate parenting/child development practices.

Parenting/Child Development Practices Objectives

Students will:
0902.2.1 Analyze factors which contribute to prenatal health.
0902.2.2 Review birth processes.
0902.2.3 Analyze factors which contribute to post-natal health.
0902.2.4 Cite theories related to child development.
0902.2.5 Examine the physical, emotional, social, intellectual and moral development of children.
0902.2.6 Evaluate parenting practices that promote health, safety and wellness.
0902.2.7 Recognize appropriate realistic guidance, discipline, and communication techniques.
0902.2.8 Examine the types, causes and effects of child abuse.
0902.2.9 Analyze parenting practices for children with special needs.

Standard 3: Societal Issues Affecting Families (0902.S.3)

The students will explore and evaluate the societal issues affecting families.

Societal Issues Affecting Families Objectives

Students will:
0902.3.1 Explore the impact of diversity on families and society.
0902.3.2 Formulate a plan to deal with crises in families.
0902.3.3 Investigate the legal and ethical impact of science and technology.

Standard 4: Support Systems For Families (0902.S.4)

The students will explore and develop criteria for a family support system.

Support Systems For Families Objectives

Students will:
0902.4.1 Develop criteria for evaluating child care alternatives.
0902.4.2 Review current laws related to parenting.
0902.4.3 Assess sources of assistance available to families.

Standard 5: Career Management and Technology (0902.S.5)

The students will demonstrate an understanding of careers in the area of parenting/child development and how electronic technologies are used within these career fields.

Career Management and Technology Objectives

Students will:

0902.5.1 Explore career opportunities related to parenting/child development.
0902.5.2 Use electronic technologies to complete a variety of assignments.
0902.5.3 Demonstrate appropriate written and oral communications.

Consumer Economics WVEIS Code 0911

This course will enable students to analyze human economics and environmental resources. Grades 9-12.

Standard 1: Human Economic and Environmental Resources (0911.S.1)

The students will analyze individual, family and community needs.

Human Economic and Environmental Resources Objectives

Students will:

0911.1.1 Demonstrate management of individual and family needs, including food, clothing, shelter, health care, recreation, and transportation.
0911.1.2 Apply management and planning skills and processes to organize tasks and responsibilities.
0911.1.3 Examine how individuals and families make choices to satisfy needs and wants.
0911.1.4 Implement decisions about providing safe and nutritious food for individuals and families.
0911.1.5 Implement decisions about purchasing, creating, and maintaining clothing.
0911.1.6 Implement decisions about housing and furnishings.
0911.1.7 Examine information about procuring and maintaining health care.
0911.1.8 Implement decisions about recreational needs.
0911.1.9 Apply consumer skills to acquire and maintain transportation.

Standard 2: Environment (0911.S.2)

The students will analyze the relationship of the environment to family and consumer resources.

Environment Objectives

Students will:

0911.2.1 Determine individual and family responsibility in relationship to the environmental trends and issues.
0911.2.2 Examine behaviors that conserve, reuse, and recycle resources to maintain the environment.
0911.2.3 Investigate government regulations for conserving natural resources.

Standard 3: Consumer Rights and Responsibilities (0911.S.3)

The students will analyze policies that support consumer rights and responsibilities.

Consumer Rights and Responsibilities Objectives

Students will:

0911.3.1 Examine state and federal policies and laws providing consumer protection.
0911.3.2 Investigate how policies become laws related to consumer rights.
0911.3.3 Examine skills used in seeking information related to the individual consumer.

Standard 4: Technology Impact (0911.S.4)

The students will evaluate the impact of technology on individual and family resources.

Technology Impact Objectives

Students will:

0911.4.1 Review types of technology that impact family and consumer decision-making.
0911.4.2 Examine how media and technological advances impact family and consumers decisions.
0911.4.3 Assess the use of technology and its impact on quality of life.

Standard 5: Economic System vs. Consumer Actions (0911.S.5)

Students will analyze interrelationships between the economic system and consumer actions.

Economic System vs. Consumer Actions Objectives

Students will:

0911.5.1 Examine the use of resources in making choices that satisfy needs and wants of individuals and families.
0911.5.2 Examine individual and family roles in the economic system.
0911.5.3 Examine economic impacts of laws and regulations that pertain to consumers and providers of services.
0911.5.4 Determine practices that allow families to maintain economic self-sufficiency.

Standard 6: Financial Resources Management (0911.S.6)

Students will demonstrate management of financial resources to meet the goals of individuals and families across the life span.

Financial Resources Management Objectives

Students will:

0911.6.1 Examine the need for personal and family financial planning.
0911.6.2 Apply management principles to decisions about individual and family insurance.
0911.6.3 Obtain personal and legal documents related to managing individual and family finances

Standard 7: Consumer Service Industries Career Paths (0911.S.7)

Student will analyze career paths within consumer service industries.

Consumer Service Industries Career Paths Objectives

Students will:

0911.7.1 Determine roles and functions of individuals engaged in consumer service careers.
0911.7.2 Explore opportunities for employment and entrepreneurial endeavors.
0911.7.3 Examine education and training requirements and opportunities for career paths in consumer services.
0911.7.4 Examine the impact of the consumer service industry on local, state, national and global economies.

Standard 8: Consumer Advocacy (0911.S.8)

Students will analyze factors that impact consumer advocacy.

Consumer Advocacy Objectives

Students will:

0911.8.1 Examine the role of advocacy groups at state and national levels.
0911.8.2 Determine the contributions of policy makers to consumer advocacy.
0911.8.3 Explore strategies that enable consumers to become advocates.
0911.8.4 Examine the effects of consumer protection laws on advocacy.
0911.8.5 Determine strategies to reduce the risk of consumer fraud.
0911.8.6 Examine the role of media in consumer advocacy.
0911.8.7 Determine the effects of manufacturers' policies and procedures on advocacy.
0911.8.8 Explore the use of educational and promotional materials in consumer advocacy.

Standard 9: Long-term Financial Management (0911.S.9)

Students will analyze factors in developing a long-term financial management plan.

Long-term Financial Management Objectives

Students will:

0911.9.1 Explain the impact of the economic system on personal income, individual and family security and consumer decisions.

0911.9.2 Examine components of a financial planning process that reflects the distinction between needs and wants, values, goals, and economic resources.
0911.9.3 Determine the impact on consumers' credit in long-term financial planning.
0911.9.4 Examine investment and savings alternatives.
0911.9.5 Determine the effects of risk management strategies on long term financial planning.
0911.9.6 Consider the impact of key life transitions on financial planning.
0911.9.7 Explain the role of estate planning in long-term financial planning.

Standard 10: Conservation and Waste Management (0911.S.10)

Students will analyze resource consumption for conservation and waste management practices.

Conservation and Waste Management Objectives

Students will:
0911.10.1 Investigate sources and types of commercial energy, waste disposal, and pollution issues.
0911.10.2 Investigate consumer programs and services provided by government, public utilities, resource recovery businesses, and environmental organizations.
0911.10.3 Explore strategies and provide practices to conserve energy and distribute or find information.
0911.10.4 Examine waste management issues.
0911.10.5 Examine roles of government and mixed industry in energy consumption.

Standard 11: Product Development, Testing and Presentation (0911.S.11)

Students will demonstrate skills needed for product development, testing, and presentation.

Product Development, Testing and Presentation Objectives

Students will:
0911.11.1 Conduct market research to determine consumer trends and product development needs.
0911.11.2 Design or analyze a consumer product.
0911.11.3 Examine features, prices, product information, styles, and performance of consumer goods for potential trade-offs among the components.
0911.11.4 Perform a test on a product utilizing valid and reliable testing procedures.
0911.11.5 Apply statistical analysis processes to interpret, summarize, and report data from tests.
0911.11.6 Examine the labeling, packaging, and support materials of consumer goods.
0911.11.7 Demonstrate a product or educate an audience.
0911.11.8 Utilize appropriate sales techniques to compare, demonstrate, assist, and advise consumers in the selection of goods and services that meet consumer needs.

Adolescent Parent Program — WVEIS Code 0921

The focus of this course is to assist the pregnant and parenting teen to complete his/her education by balancing the responsibilities of parenthood and schoolwork.

Standard 1: Adolescent Development (0921.S.1)

The student will analyze present and future life stages.

Adolescent Development Objectives

Students will:

0921.1.1 Describe the steps in the decision-making model and be able to apply them to individual situations.
0921.1.2 Determine life skills necessary to live and prosper in the real world.
0921.1.3 Explain how lifestyle factors influence quality of life.
0921.1.4 Develop verbal and written communication skills.
0921.1.5 Assess self-esteem and its effects upon the self and others.
0921.1.6 Analyze the role of individual responsibility for enhancing health.
0921.1.7 Assess the positive and negative effects of stressors on the body, and develop strategies to cope with stress.

Standard 2: Prenatal Care (0921.S.2)

The student will gain knowledge on how to reduce pregnancy risks.

Prenatal Care Objectives

Students will:

0921.2.1 Describe the male and female reproductive organs and how the process of conception occurs.
0921.2.2 Describe maternal changes during pregnancy.
0921.2.3 Identify ways of meeting the mother's changing physical and emotional needs.
0921.2.4 Evaluate nutritional needs of pregnant and lactating teens.
0921.2.5 Identify nutrients required for fetal development.
0921.2.6 Describe a baby's development from conception to birth.
0921.2.7 Describe the dangers to the baby if the mother smokes, takes drugs or drinks alcohol during her pregnancy.
0921.2.8 Identify environmental influences that cause birth defects or problems for the baby.
0921.2.9 Assess factors related to sexually transmitted diseases and these diseases' effects on the mother and the baby.
0921.2.10 Describe the physical and psychological implications of prenatal exercise and fitness.
0921.2.11 Describe warning signs that may indicate problems for the baby before birth.
0921.2.12 Identify the purpose and procedures of obstetric examinations.
0921.2.13 Explain the labor and delivery process.
0921.2.14 Describe the mother's postpartum care needs.
0921.2.15 Describe characteristics and care of the newborn at the hospital.
0921.2.16 Explain newborn care practices.
0921.2.17 Plan for the prevention of future unwanted pregnancies.

Standard 3: Parenting Roles (0921.S.3)

The student will investigate the role of a responsible parent.

Parenting Roles Objectives

Students will:

0921.3.1 Assess parenting roles and responsibilities in child rearing.
0921.3.2 Discuss reasonable actions to solve common parenting concerns.
0921.3.3 Demonstrate appropriate discipline for children.

0921.3.4 Examine alternative child-care choices.
0921.3.5 Compare the effectiveness of meeting the needs of children.

Standard 4: Child Development (0921.S.4)

The student will access methods to aid in child development.

Child Development Objectives

Students will:
0921.4.1 Describe the realities of caring for a newborn.
0921.4.2 Demonstrate techniques for bathing a baby, preventing and treating diaper rash, caring for a colicky baby, and dealing with a crying baby.
0921.4.3 Demonstrate methods of interacting and playing with children.
0921.4.4 Describe the social, emotional, mental, and physical stages of the developing child, identify factors affecting this development and list the importance of realistic expectations.
0921.4.5 Discuss the factors that influence a child's self-concept.
0921.4.6 Create ways to enhance children's self-worth.
0921.4.7 Demonstrate effective skills for interacting with children, (i.e. touching, massage, talking, role-modeling.)
0921.4.8 Examine children's health and safety issues.
0921.4.9 Research how to childproof a home and eliminate hazards.
0921.4.10 Describe how to select books for young children and techniques for reading to children.
0921.4.11 Describe first-aid skills for common childhood injuries.
0921.4.12 Demonstrate basic cardiopulmonary resuscitation.

Standard 5: Child Nutrition (0921.S.5)

The student will develop an understanding of how food choices will impact a child's health and wellness.

Child Nutrition Objectives

Students will:
0921.5.1 Analyze the nutritional needs of infants.
0921.5.2 Evaluate children's nutritional needs for a healthy lifestyle.
0921.5.3 Create interesting, fun, and nutritional snacks for children.

Standard 6: Financial and Community Resources (0921.S.6)

The student will develop a list of financial and community resources available to pregnant and parenting teens.

Financial and Community Resources Objectives

Students will:
0921.6.1 Identify and assess sources of support for pregnant and parenting teens and their families.
0921.6.2 Identify various parenting resources, and analyze current issues, trends, and research in parenting.
0921.6.3 Demonstrate how to access pregnancy/parenting information through the use of multi-media technology.
0921.6.4 Analyze current national, state and local statistics addressing sexual activity and develop future prevention strategies for the community

Standard 7: Career Development (0921.S.7)

The student will demonstrate the use of electronic technologies for planning and researching career goals.

Career Development Objectives

Students will:

0921.7.1 Set short-term and long-term personal, educational, and career goals.
0921.7.2 Develop a plan to achieve personal, educational, and career goals, and develop a plan to achieve those goals.
0921.7.3 Identify career options based on self-assessment and career assessment data.
0921.7.4 Investigate traditional and non-traditional jobs/careers for women.
0921.7.5 Access gender bias, sex-role stereotyping, and vocational sex equity for men and women.
0921.7.6 Analyze workplace sexual harassment, the laws and incidents of harassment.
0921.7.7 Identify job-seeking and job-keeping skills.

(Base) Basic Attitudes, Skills and Experiences WVEIS Code 0922

The student will focus on a variety of life skills and abilities that will assist their development of responsibility and self disciplined behaviors. The student will work through many decision making and problem solving situations in areas of career awareness, life style choices, community involvement, lifetime relationships, consumer skills, enhancing communication, managing one's health, leadership and citizenship.

BASE is designed to meet the unique needs of Family and Consumer Sciences (FACS) middle and junior high programs that have a wide variety of configurations. BASE is a very flexible curriculum that can meet the needs of various age groups and the wide variety of course lengths and school scheduling programs.

Standard 1: Basic Skills (0922.S.1)

The students will reinforce basic skills by completing daily BASE assignments.

Basic Skills Objectives

Students will:

0922.1.1 Enhance reading, writing and math skills through assigned FACS curriculum.
0922.1.2 Improve communication skills, both oral and written, through involvement in oral presentations and written reports relating to FACS curriculum.
0922.1.3 Investigate a variety of Human Services career goals.

Standard 2: Personal Development/Family Relationships (0922.S.2)

The student will work toward a positive self-identity and learn to relate to others.

Personal Development/Family Relationships Objectives

Students will:

0922.2.1 Explain how an individual's roles and personal traits influence the development of their self-concept.
0922.2.2 Identify factors affecting both positive and negative self-concept.
0922.2.3 Describe common development characteristics changes of early adolescents and how these changes influence an individual's self-concept.
0922.2.4 Investigate, "Who am I."
0922.2.5 Use problem-solving and decision making techniques in coping with assigned adolescent problems.
0922.2.6 Distinguish good and poor traits of being a good friend.
0922.2.7 Formulate a plan to make yourself a good friend.
0922.2.8 Define family, generation, affection, and respect for others.
0922.2.9 Demonstrate the different family roles individuals play across their life span.
0922.2.10 Identify the relationship between children and parents.
0922.2.11 Define your individual family role.
0922.2.12 Investigate the importance of caring for children in a responsible way.
0922.2.13 Identify relationships between rights and responsibilities of family members.
0922.2.14 Identify family crisis situations and community sources of help.
0922.2.15 Describe the effect of social problems on the individual, family and society.

Standard 3: Management (0922.S.3)

The student will gain effective management skills.

Management Objectives

Students will:

0922.3.1 Explain the difference between an individual's wants and needs.

0922.3.2 Distinguish between an individual's basic physical and emotional needs.
0922.3.3 Define resources, human resources, nonhuman resources, private resources, public resources and scarce resources.
0922.3.4 Describe different ways in which resources can be used.
0922.3.5 Describe values, goals and priorities.
0922.3.6 Relate the importance of values in making personal decisions.
0922.3.7 Identify goals, rank goals, and determine ways in which resources can help one reach these goals.
0922.3.8 Define management, management process, schedule, implement, evaluate, time management, habit and procrastinate.
0922.3.9 Identify the steps in the management process.
0922.3.10 Demonstrate how individuals can manage their time.
0922.3.11 Identify income, money management, budget, fixed expenses, flexible expenses, consumer, unit price, quality and warranty.
0922.3.12 Demonstrate how to make a budget.
0922.3.13 Research and give examples of how an individual can shop wisely.
0922.3.14 Determine how personal and shared space and property can be used effectively.

Standard 4: Nutrition and Wellness (0922.S.4)

The student will analyze the effects of nutrition on wellness.

Nutrition and Wellness Objectives

Students will:
0922.4.1 Give examples of how food is related to family traditions.
0922.4.2 Identify the many roles of food in the body.
0922.4.3 Identify those factors that influence eating habits.
0922.4.4 Differentiate between good and poor food choices.
0922.4.5 Investigate the relationship between food consumption, weight management, health physical performance and appearance.
0922.4.6 Using the food pyramid, plan daily menus for one week.
0922.4.7 Plan and complete assigned food labs.
0922.4.8 Demonstrate safety, sanitation, self-sufficiency and teamwork in the foods laboratory.
0922.4.9 Identify good vs. bad health habits.
0922.4.10 Demonstrate good posture when standing, walking and sitting.
0922.4.11 Relate the effects of nutrition, rest, and exercise on an individual's health and appearance.

Standard 5: Consumer Education (0922.S.5)

The student will gain knowledge of human economics and environmental resources that will enable them to work toward becoming self-sufficient adults.

Consumer Education Objectives

Students will:
0922.5.1 Realize the importance of work in one's daily life.
0922.5.2 Define consumer decisions, mass media, advertising, and impulse buying.
0922.5.3 Identify factors which influence needs and wants in consumer choices.
0922.5.4 Give examples of how peers, mass media and advertising can affect what an individual buys.
0922.5.5 Demonstrate skills that ensure consumer rights/responsibilities.
0922.5.6 Relate income to spending and recognize factors that influence price, quality and consumer services.
0922.5.7 Demonstrate awareness of the computer and its varied uses in consumer awareness.

Standard 6: Textiles and Apparel (0922.S.6)

The student will develop knowledge in selecting and caring for their wardrobe.

Textiles and Apparel Objectives

Students will:
0922.6.1 Identify factors affecting a positive personal image.
0922.6.2 Explore good personal grooming habits.
0922.6.3 Inventory personal wardrobe and analyze future clothing needs.
0922.6.4 Explain the difference between fads and fashion.
0922.6.5 Identify different fibers and fabrics.
0922.6.6 Demonstrate reading hangtags, labels and inspecting garment construction before buying.
0922.6.7 Develop routine habits for daily, weekly, and seasonal care of clothing.
0922.6.8 Identify and practice simple stain removal.
0922.6.9 Review sewing equipment.
0922.6.10 Review and practice minor clothing repairs.
0922.6.11 Complete a simple sewing project.
0922.6.12 Explore a career in the textile and apparel industry.

Standard 7: Housing, Interior and Furnishings (0922.S.7)

The student will explore personal living space.

Housing, Interior and Furnishings Objectives

Students will:
0922.7.1 Explain how housing meets the needs of family members.
0922.7.2 Evaluate types of housing.
0922.7.3 Analyze issues related to housing.
0922.7.4 Identify opportunities for volunteerism with regard to housing.
0922.7.5 Analyze career paths within the housing, interiors and furnishing industry.
0922.7.6 Plan and develop a one-room apartment design/model.

Standard 8: Career Awareness (0922.S.8)

The student will begin investigating their future career choices.

Career Awareness Objectives

Students will:
0922.8.1 Identify current and future work trends.
0922.8.2 Select and investigate one such work trend.
0922.8.3 Inventory future plans and abilities.
0922.8.4 Set goals for 1 year, 2 years and 5 years toward a future career.
0922.8.5 Research a future career choice and prepare written report.
0922.8.6 Recognize personal qualities and characteristics and how they influence occupational choices.
0922.8.7 Identify and describe personal traits that lead to success.

Standard 9: Community Involvement (0922.S.9)

The student will learn of community needs and how to be a productive member of the community.

Community Involvement Objectives

Students will:
0922.9.1 Survey needs of local community.
0922.9.2 In conjunction with class members, review surveys and select a community project.
0922.9.3 Using the "Planning Process", identify, plan, implement and evaluate the selected project.

Standard 10: FCCLA (0922.S.10)

The student will investigate the opportunities available through a national student organization.

FCCLA Objectives

Students will:
0922.10.1 Actively participate in the local FCCLA chapter.
0922.10.2 Investigate and complete a "Step One" project.
0922.10.3 Actively use the "Planning Process" to plan and implement local chapter projects.

(Base 5) Basic Attitudes, Skills and Experiences WVEIS Code 0923

The student will focus on a variety of life skills and abilities that will assist their development of responsibility and self disciplined behaviors. The student will work through many decision making and problem solving situations in areas of career awareness, life style choices, community involvement, lifetime relationships, consumer skills, enhancing communication, managing one's health, leadership and citizenship.

BASE is designed to meet the unique needs of Family and Consumer Sciences (FACS) middle and junior high programs that have a wide variety of configurations. BASE is a very flexible curriculum that can meet the needs of various age groups and the wide variety of course lengths and school scheduling programs.

Standard 1: Basic Skills (0923.S.1)

The students will reinforce basic skills by completing daily BASE assignments.

Basic Skills Objectives

Students will:

0923.1.1 Enhance reading, writing and math skills through assigned FACS curriculum.
0923.1.2 Improve communication skills, both oral and written, through involvement in oral presentations and written reports relating to FACS curriculum.
0923.1.3 Investigate a variety of Human Services career goals.

Standard 2: Personal Development/Family Relationships (0923.S.2)

The student will work toward a positive self-identity and learn to relate to others.

Personal Development/Family Relationships Objectives

Students will:

0923.2.1 Explain how an individual's roles and personal traits influence the development of their self-concept.
0923.2.2 Identify factors affecting both positive and negative self-concept.
0923.2.3 Describe common development characteristics changes of early adolescents and how these changes influence an individual's self-concept.
0923.2.4 Investigate, "Who am I."
0923.2.5 Use problem-solving and decision making techniques in coping with assigned adolescent problems.
0923.2.6 Distinguish good and poor traits of being a good friend.
0923.2.7 Formulate a plan to make yourself a good friend.
0923.2.8 Define family, generation, affection, and respect for others.
0922.2.9 Demonstrate the different family roles individuals play across their life span.
0923.2.10 Identify the relationship between children and parents.
0923.2.11 Define your individual family role.
0923.2.12 Investigate the importance of caring for children in a responsible way.
0923.2.13 Identify relationships between rights and responsibilities of family members.
0923.2.14 Identify family crisis situations and community sources of help.
0923.2.15 Describe the effect of social problems on the individual, family and society.

Standard 3: Management (0923.S.3)

The student will gain effective management skills.

Management Objectives

Students will:

0923.3.1 Explain the difference between an individual's wants and needs.

0923.3.2 Distinguish between an individual's basic physical and emotional needs.
0923.3.3 Define resources, human resources, nonhuman resources, private resources, public resources and scarce resources.
0923.3.4 Describe different ways in which resources can be used.
0923.3.5 Describe values, goals and priorities.
0923.3.6 Relate the importance of values in making personal decisions.
0923.3.7 Identify goals, rank goals, and determine ways in which resources can help one reach these goals.
0923.3.8 Define management, management process, schedule, implement, evaluate, time management, habit and procrastinate.
0923.3.9 Identify the steps in the management process.
0923.3.10 Demonstrate how individuals can manage their time.
0923.3.11 Identify income, money management, budget, fixed expenses, flexible expenses, consumer, unit price, quality and warranty.
0923.3.12 Demonstrate how to make a budget.
0923.3.13 Research and give examples of how an individual can shop wisely.
0923.3.14 Determine how personal and shared space and property can be used effectively.

Standard 4: Nutrition and Wellness (0923.S.4)

The student will analyze the effects of nutrition on wellness.

Nutrition and Wellness Objectives

Students will:
0923.4.1 Give examples of how food is related to family traditions.
0923.4.2 Identify the many roles of food in the body.
0923.4.3 Identify those factors that influence eating habits.
0923.4.4 Differentiate between good and poor food choices.
0923.4.5 Investigate the relationship between food consumption, weight management, health physical performance and appearance.
0923.4.6 Using the food pyramid, plan daily menus for one week.
0923.4.7 Plan and complete assigned food labs.
0923.4.8 Demonstrate safety, sanitation, self-sufficiency and teamwork in the foods laboratory.
0923.4.9 Identify good vs. bad health habits.
0923.4.10 Demonstrate good posture when standing, walking and sitting.
0923.4.11 Relate the effects of nutrition, rest, and exercise on an individual's health and appearance.

Standard 5: Consumer Education (0923.S.5)

The student will gain knowledge of human economics and environmental resources that will enable them to work toward becoming self-sufficient adults.

Consumer Education Objectives

Students will:
0923.5.1 Realize the importance of work in one's daily life.
0923.5.2 Define consumer decisions, mass media, advertising, and impulse buying.
0923.5.3 Identify factors which influence needs and wants in consumer choices.
0923.5.4 Give examples of how peers, mass media and advertising can affect what an individual buys.
0923.5.5 Demonstrate skills that ensure consumer rights/responsibilities.
0923.5.6 Relate income to spending and recognize factors that influence price, quality and consumer services.
0923.5.7 Demonstrate awareness of the computer and its varied uses in consumer awareness.

Standard 6: Textiles and Apparel (0923.S.6)

The student will develop knowledge in selecting and caring for their wardrobe.

Textiles and Apparel Objectives

Students will:
0923.6.1 Identify factors affecting a positive personal image.
0923.6.2 Explore good personal grooming habits.
0923.6.3 Inventory personal wardrobe and analyze future clothing needs.
0923.6.4 Explain the difference between fads and fashion.
0923.6.5 Identify different fibers and fabrics.
0923.6.6 Demonstrate reading hangtags, labels and inspecting garment construction before buying.
0923.6.7 Develop routine habits for daily, weekly, and seasonal care of clothing.
0923.6.8 Identify and practice simple stain removal.
0923.6.9 Review sewing equipment.
0923.6.10 Review and practice minor clothing repairs.
0923.6.11 Complete a simple sewing project.
0923.6.12 Explore a career in the textile and apparel industry.

Standard 7: Housing, Interior and Furnishings (0923.S.7)

The student will explore personal living space.

Housing, Interior and Furnishings Objectives

Students will:
0923.7.1 Explain how housing meets the needs of family members.
0923.7.2 Evaluate types of housing.
0923.7.3 Analyze issues related to housing.
0923.7.4 Identify opportunities for volunteerism with regard to housing.
0923.7.5 Analyze career paths within the housing, interiors and furnishing industry.
0923.7.6 Plan and develop a one-room apartment design/model.

Standard 8: Career Awareness (0923.S.8)

The student will begin investigating their future career choices.

Career Awareness Objectives

Students will:
0923.8.1 Identify current and future work trends.
0923.8.2 Select and investigate one such work trend.
0923.8.3 Inventory future plans and abilities.
0923.8.4 Set goals for 1 year, 2 years and 5 years toward a future career.
0923.8.5 Research a future career choice and prepare written report.
0923.8.6 Recognize personal qualities and characteristics and how they influence occupational choices.
0923.8.7 Identify and describe personal traits that lead to success.

Standard 9: Community Involvement (0923.S.9)

The student will learn of community needs and how to be a productive member of the community.

Community Involvement Objectives

Students will:
0923.9.1 Survey needs of local community.
0923.9.2 In conjunction with class members, review surveys and select a community project.
0923.9.3 Using the "Planning Process", identify, plan, implement and evaluate the selected project.

Standard 10: FCCLA (0923.S.10)

The student will investigate the opportunities available through a national student organization.

FCCLA Objectives

Students will:
0923.10.1 Actively participate in the local FCCLA chapter.
0923.10.2 Investigate and complete a "Step One" project.
0923.10.3 Actively use the "Planning Process" to plan and implement local chapter projects.

(Base 6) Basic Attitudes, Skills and Experiences WVEIS Code 0924

The student will focus on a variety of life skills and abilities that will assist their development of responsibility and self disciplined behaviors. The student will work through many decision making and problem solving situations in areas of career awareness, life style choices, community involvement, lifetime relationships, consumer skills, enhancing communication, managing one's health, leadership and citizenship.

BASE is designed to meet the unique needs of Family and Consumer Sciences (FACS) middle and junior high programs that have a wide variety of configurations. BASE is a very flexible curriculum that can meet the needs of various age groups and the wide variety of course lengths and school scheduling programs.

Standard 1: Basic Skills (0924.S.1)

The students will reinforce basic skills by completing daily BASE assignments.

Basic Skills Objectives

Students will:

0924.1.1 Enhance reading, writing and math skills through assigned FACS curriculum.
0924.1.2 Improve communication skills, both oral and written, through involvement in oral presentations and written reports relating to FACS curriculum.
0924.1.3 Investigate a variety of Human Services career goals.

Standard 2: Personal Development/Family Relationships (0924.S.2)

The student will work toward a positive self-identity and learn to relate to others.

Personal Development/Family Relationships Objectives

Students will:

0924.2.1 Explain how an individual's roles and personal traits influence the development of their self-concept.
0924.2.2 Identify factors affecting both positive and negative self-concept.
0924.2.3 Describe common development characteristics changes of early adolescents and how these changes influence an individual's self-concept.
0924.2.4 Investigate, "Who am I."
0924.2.5 Use problem-solving and decision making techniques in coping with assigned adolescent problems.
0924.2.6 Distinguish good and poor traits of being a good friend.
0924.2.7 Formulate a plan to make yourself a good friend.
0924.2.8 Define family, generation, affection, and respect for others.
0922.2.9 Demonstrate the different family roles individuals play across their life span.
0924.2.10 Identify the relationship between children and parents.
0924.2.11 Define your individual family role.
0924.2.12 Investigate the importance of caring for children in a responsible way.
0924.2.13 Identify relationships between rights and responsibilities of family members.
0924.2.14 Identify family crisis situations and community sources of help.
0924.2.15 Describe the effect of social problems on the individual, family and society.

Standard 3: Management (0924.S.3)

The student will gain effective management skills.

Management Objectives

Students will:

0924.3.1 Explain the difference between an individual's wants and needs.

0924.3.2 Distinguish between an individual's basic physical and emotional needs.
0924.3.3 Define resources, human resources, nonhuman resources, private resources, public resources and scarce resources.
0924.3.4 Describe different ways in which resources can be used.
0924.3.5 Describe values, goals and priorities.
0924.3.6 Relate the importance of values in making personal decisions.
0924.3.7 Identify goals, rank goals, and determine ways in which resources can help one reach these goals.
0924.3.8 Define management, management process, schedule, implement, evaluate, time management, habit and procrastinate.
0924.3.9 Identify the steps in the management process.
0924.3.10 Demonstrate how individuals can manage their time.
0924.3.11 Identify income, money management, budget, fixed expenses, flexible expenses, consumer, unit price, quality and warranty.
0924.3.12 Demonstrate how to make a budget.
0924.3.13 Research and give examples of how an individual can shop wisely.
0924.3.14 Determine how personal and shared space and property can be used effectively.

Standard 4: Nutrition and Wellness (0924.S.4)

The student will analyze the effects of nutrition on wellness.

Nutrition and Wellness Objectives

Students will:
0924.4.1 Give examples of how food is related to family traditions.
0924.4.2 Identify the many roles of food in the body.
0924.4.3 Identify those factors that influence eating habits.
0924.4.4 Differentiate between good and poor food choices.
0924.4.5 Investigate the relationship between food consumption, weight management, health physical performance and appearance.
0924.4.6 Using the food pyramid, plan daily menus for one week.
0924.4.7 Plan and complete assigned food labs.
0924.4.8 Demonstrate safety, sanitation, self-sufficiency and teamwork in the foods laboratory.
0924.4.9 Identify good vs. bad health habits.
0924.4.10 Demonstrate good posture when standing, walking and sitting.
0924.4.11 Relate the effects of nutrition, rest, and exercise on an individual's health and appearance.

Standard 5: Consumer Education (0924.S.5)

The student will gain knowledge of human economics and environmental resources that will enable them to work toward becoming self-sufficient adults.

Consumer Education Objectives

Students will:
0924.5.1 Realize the importance of work in one's daily life.
0924.5.2 Define consumer decisions, mass media, advertising, and impulse buying.
0924.5.3 Identify factors which influence needs and wants in consumer choices.
0924.5.4 Give examples of how peers, mass media and advertising can affect what an individual buys.
0924.5.5 Demonstrate skills that ensure consumer rights/responsibilities.
0924.5.6 Relate income to spending and recognize factors that influence price, quality and consumer services.
0924.5.7 Demonstrate awareness of the computer and its varied uses in consumer awareness.

Standard 6: Textiles and Apparel (0924.S.6)

The student will develop knowledge in selecting and caring for their wardrobe.

Textiles and Apparel Objectives

Students will:
0924.6.1 Identify factors affecting a positive personal image.
0924.6.2 Explore good personal grooming habits.
0924.6.3 Inventory personal wardrobe and analyze future clothing needs.
0924.6.4 Explain the difference between fads and fashion.
0924.6.5 Identify different fibers and fabrics.
0924.6.6 Demonstrate reading hangtags, labels and inspecting garment construction before buying.
0924.6.7 Develop routine habits for daily, weekly, and seasonal care of clothing.
0924.6.8 Identify and practice simple stain removal.
0924.6.9 Review sewing equipment.
0924.6.10 Review and practice minor clothing repairs.
0924.6.11 Complete a simple sewing project.
0924.6.12 Explore a career in the textile and apparel industry.

Standard 7: Housing, Interior and Furnishings (0924.S.7)

The student will explore personal living space.

Housing, Interior and Furnishings Objectives

Students will:
0924.7.1 Explain how housing meets the needs of family members.
0924.7.2 Evaluate types of housing.
0924.7.3 Analyze issues related to housing.
0924.7.4 Identify opportunities for volunteerism with regard to housing.
0924.7.5 Analyze career paths within the housing, interiors and furnishing industry.
0924.7.6 Plan and develop a one-room apartment design/model.

Standard 8: Career Awareness (0924.S.8)

The student will begin investigating their future career choices.

Career Awareness Objectives

Students will:
0924.8.1 Identify current and future work trends.
0924.8.2 Select and investigate one such work trend.
0924.8.3 Inventory future plans and abilities.
0924.8.4 Set goals for 1 year, 2 years and 5 years toward a future career.
0924.8.5 Research a future career choice and prepare written report.
0924.8.6 Recognize personal qualities and characteristics and how they influence occupational choices.
0924.8.7 Identify and describe personal traits that lead to success.

Standard 9: Community Involvement (0924.S.9)

The student will learn of community needs and how to be a productive member of the community.

Community Involvement Objectives

Students will:
0924.9.1 Survey needs of local community.
0924.9.2 In conjunction with class members, review surveys and select a community project.
0924.9.3 Using the "Planning Process", identify, plan, implement and evaluate the selected project.

Standard 10: FCCLA (0924.S.10)

The student will investigate the opportunities available through a national student organization.

FCCLA Objectives

Students will:
0924.10.1 Actively participate in the local FCCLA chapter.
0924.10.2 Investigate and complete a "Step One" project.
0924.10.3 Actively use the "Planning Process" to plan and implement local chapter projects.

(Base 7) Basic Attitudes, Skills and Experiences WVEIS Code 0925

The student will focus on a variety of life skills and abilities that will assist their development of responsibility and self disciplined behaviors. The student will work through many decision making and problem solving situations in areas of career awareness, life style choices, community involvement, lifetime relationships, consumer skills, enhancing communication, managing one's health, leadership and citizenship.

BASE is designed to meet the unique needs of Family and Consumer Sciences (FACS) middle and junior high programs that have a wide variety of configurations. BASE is a very flexible curriculum that can meet the needs of various age groups and the wide variety of course lengths and school scheduling programs.

Standard 1: Basic Skills (0925.S.1)

The students will reinforce basic skills by completing daily BASE assignments.

Basic Skills Objectives

Students will:

0925.1.1 Enhance reading, writing and math skills through assigned FACS curriculum.
0925.1.2 Improve communication skills, both oral and written, through involvement in oral presentations and written reports relating to FACS curriculum.
0925.1.3 Investigate a variety of Human Services career goals.

Standard 2: Personal Development/Family Relationships (0925.S.2)

The student will work toward a positive self-identity and learn to relate to others.

Personal Development/Family Relationships Objectives

Students will:

0925.2.1 Explain how an individual's roles and personal traits influence the development of their self-concept.
0925.2.2 Identify factors affecting both positive and negative self-concept.
0925.2.3 Describe common development characteristics changes of early adolescents and how these changes influence an individual's self-concept.
0925.2.4 Investigate, "Who am I."
0925.2.5 Use problem-solving and decision making techniques in coping with assigned adolescent problems.
0925.2.6 Distinguish good and poor traits of being a good friend.
0925.2.7 Formulate a plan to make yourself a good friend.
0925.2.8 Define family, generation, affection, and respect for others.
0922.2.9 Demonstrate the different family roles individuals play across their life span.
0925.2.10 Identify the relationship between children and parents.
0925.2.11 Define your individual family role.
0925.2.12 Investigate the importance of caring for children in a responsible way.
0925.2.13 Identify relationships between rights and responsibilities of family members.
0925.2.14 Identify family crisis situations and community sources of help.
0925.2.15 Describe the effect of social problems on the individual, family and society.

Standard 3: Management (0925.S.3)

The student will gain effective management skills.

Management Objectives

Students will:

0925.3.1 Explain the difference between an individual's wants and needs.

0925.3.2 Distinguish between an individual's basic physical and emotional needs.
0925.3.3 Define resources, human resources, nonhuman resources, private resources, public resources and scarce resources.
0925.3.4 Describe different ways in which resources can be used.
0925.3.5 Describe values, goals and priorities.
0925.3.6 Relate the importance of values in making personal decisions.
0925.3.7 Identify goals, rank goals, and determine ways in which resources can help one reach these goals.
0925.3.8 Define management, management process, schedule, implement, evaluate, time management, habit and procrastinate.
0925.3.9 Identify the steps in the management process.
0925.3.10 Demonstrate how individuals can manage their time.
0925.3.11 Identify income, money management, budget, fixed expenses, flexible expenses, consumer, unit price, quality and warranty.
0925.3.12 Demonstrate how to make a budget.
0925.3.13 Research and give examples of how an individual can shop wisely.
0925.3.14 Determine how personal and shared space and property can be used effectively.

Standard 4: Nutrition and Wellness (0925.S.4)

The student will analyze the effects of nutrition on wellness.

Nutrition and Wellness Objectives

Students will:
0925.4.1 Give examples of how food is related to family traditions.
0925.4.2 Identify the many roles of food in the body.
0925.4.3 Identify those factors that influence eating habits.
0925.4.4 Differentiate between good and poor food choices.
0925.4.5 Investigate the relationship between food consumption, weight management, health physical performance and appearance.
0925.4.6 Using the food pyramid, plan daily menus for one week.
0925.4.7 Plan and complete assigned food labs.
0925.4.8 Demonstrate safety, sanitation, self-sufficiency and teamwork in the foods laboratory.
0925.4.9 Identify good vs. bad health habits.
0925.4.10 Demonstrate good posture when standing, walking and sitting.
0925.4.11 Relate the effects of nutrition, rest, and exercise on an individual's health and appearance.

Standard 5: Consumer Education (0925.S.5)

The student will gain knowledge of human economics and environmental resources that will enable them to work toward becoming self-sufficient adults.

Consumer Education Objectives

Students will:
0925.5.1 Realize the importance of work in one's daily life.
0925.5.2 Define consumer decisions, mass media, advertising, and impulse buying.
0925.5.3 Identify factors which influence needs and wants in consumer choices.
0925.5.4 Give examples of how peers, mass media and advertising can affect what an individual buys.
0925.5.5 Demonstrate skills that ensure consumer rights/responsibilities.
0925.5.6 Relate income to spending and recognize factors that influence price, quality and consumer services.
0925.5.7 Demonstrate awareness of the computer and its varied uses in consumer awareness.

Standard 6: Textiles and Apparel (0925.S.6)

The student will develop knowledge in selecting and caring for their wardrobe.

Textiles and Apparel Objectives

Students will:
0925.6.1 Identify factors affecting a positive personal image.
0925.6.2 Explore good personal grooming habits.
0925.6.3 Inventory personal wardrobe and analyze future clothing needs.
0925.6.4 Explain the difference between fads and fashion.
0925.6.5 Identify different fibers and fabrics.
0925.6.6 Demonstrate reading hangtags, labels and inspecting garment construction before buying.
0925.6.7 Develop routine habits for daily, weekly, and seasonal care of clothing.
0925.6.8 Identify and practice simple stain removal.
0925.6.9 Review sewing equipment.
0925.6.10 Review and practice minor clothing repairs.
0925.6.11 Complete a simple sewing project.
0925.6.12 Explore a career in the textile and apparel industry.

Standard 7: Housing, Interior and Furnishings (0925.S.7)

The student will explore personal living space.

Housing, Interior and Furnishings Objectives

Students will:
0925.7.1 Explain how housing meets the needs of family members.
0925.7.2 Evaluate types of housing.
0925.7.3 Analyze issues related to housing.
0925.7.4 Identify opportunities for volunteerism with regard to housing.
0925.7.5 Analyze career paths within the housing, interiors and furnishing industry.
0925.7.6 Plan and develop a one-room apartment design/model.

Standard 8: Career Awareness (0925.S.8)

The student will begin investigating their future career choices.

Career Awareness Objectives

Students will:
0925.8.1 Identify current and future work trends.
0925.8.2 Select and investigate one such work trend.
0925.8.3 Inventory future plans and abilities.
0925.8.4 Set goals for 1 year, 2 years and 5 years toward a future career.
0925.8.5 Research a future career choice and prepare written report.
0925.8.6 Recognize personal qualities and characteristics and how they influence occupational choices.
0925.8.7 Identify and describe personal traits that lead to success.

Standard 9: Community Involvement (0925.S.9)

The student will learn of community needs and how to be a productive member of the community.

Community Involvement Objectives

Students will:
0925.9.1 Survey needs of local community.
0925.9.2 In conjunction with class members, review surveys and select a community project.
0925.9.3 Using the "Planning Process", identify, plan, implement and evaluate the selected project.

Standard 10: FCCLA (0925.S.10)

The student will investigate the opportunities available through a national student organization.

FCCLA Objectives

Students will:
0925.10.1 Actively participate in the local FCCLA chapter.
0925.10.2 Investigate and complete a "Step One" project.
0925.10.3 Actively use the "Planning Process" to plan and implement local chapter projects.

(Base 8) Basic Attitudes, Skills and Experiences WVEIS Code 0926

The student will focus on a variety of life skills and abilities that will assist their development of responsibility and self disciplined behaviors. The student will work through many decision making and problem solving situations in areas of career awareness, life style choices, community involvement, lifetime relationships, consumer skills, enhancing communication, managing one's health, leadership and citizenship.

BASE is designed to meet the unique needs of Family and Consumer Sciences (FACS) middle and junior high programs that have a wide variety of configurations. BASE is a very flexible curriculum that can meet the needs of various age groups and the wide variety of course lengths and school scheduling programs.

Standard 1: Basic Skills (0926.S.1)

The students will reinforce basic skills by completing daily BASE assignments.

Basic Skills Objectives

Students will:

0926.1.1 Enhance reading, writing and math skills through assigned FACS curriculum.
0926.1.2 Improve communication skills, both oral and written, through involvement in oral presentations and written reports relating to FACS curriculum.
0926.1.3 Investigate a variety of Human Services career goals.

Standard 2: Personal Development/Family Relationships (0926.S.2)

The student will work toward a positive self-identity and learn to relate to others.

Personal Development/Family Relationships Objectives

Students will:

0926.2.1 Explain how an individual's roles and personal traits influence the development of their self-concept.
0926.2.2 Identify factors affecting both positive and negative self-concept.
0926.2.3 Describe common development characteristics changes of early adolescents and how these changes influence an individual's self-concept.
0926.2.4 Investigate, "Who am I."
0926.2.5 Use problem-solving and decision making techniques in coping with assigned adolescent problems.
0926.2.6 Distinguish good and poor traits of being a good friend.
0926.2.7 Formulate a plan to make yourself a good friend.
0926.2.8 Define family, generation, affection, and respect for others.
0922.2.9 Demonstrate the different family roles individuals play across their life span.
0926.2.10 Identify the relationship between children and parents.
0926.2.11 Define your individual family role.
0926.2.12 Investigate the importance of caring for children in a responsible way.
0926.2.13 Identify relationships between rights and responsibilities of family members.
0926.2.14 Identify family crisis situations and community sources of help.
0926.2.15 Describe the effect of social problems on the individual, family and society.

Standard 3: Management (0926.S.3)

The student will gain effective management skills.

Management Objectives

Students will:

0926.3.1 Explain the difference between an individual's wants and needs.

0926.3.2 Distinguish between an individual's basic physical and emotional needs.
0926.3.3 Define resources, human resources, nonhuman resources, private resources, public resources and scarce resources.
0926.3.4 Describe different ways in which resources can be used.
0926.3.5 Describe values, goals and priorities.
0926.3.6 Relate the importance of values in making personal decisions.
0926.3.7 Identify goals, rank goals, and determine ways in which resources can help one reach these goals.
0926.3.8 Define management, management process, schedule, implement, evaluate, time management, habit and procrastinate.
0926.3.9 Identify the steps in the management process.
0926.3.10 Demonstrate how individuals can manage their time.
0926.3.11 Identify income, money management, budget, fixed expenses, flexible expenses, consumer, unit price, quality and warranty.
0926.3.12 Demonstrate how to make a budget.
0926.3.13 Research and give examples of how an individual can shop wisely.
0926.3.14 Determine how personal and shared space and property can be used effectively.

Standard 4: Nutrition and Wellness (0926.S.4)

The student will analyze the effects of nutrition on wellness.

Nutrition and Wellness Objectives

Students will:
0926.4.1 Give examples of how food is related to family traditions.
0926.4.2 Identify the many roles of food in the body.
0926.4.3 Identify those factors that influence eating habits.
0926.4.4 Differentiate between good and poor food choices.
0926.4.5 Investigate the relationship between food consumption, weight management, health physical performance and appearance.
0926.4.6 Using the food pyramid, plan daily menus for one week.
0926.4.7 Plan and complete assigned food labs.
0926.4.8 Demonstrate safety, sanitation, self-sufficiency and teamwork in the foods laboratory.
0926.4.9 Identify good vs. bad health habits.
0926.4.10 Demonstrate good posture when standing, walking and sitting.
0926.4.11 Relate the effects of nutrition, rest, and exercise on an individual's health and appearance.

Standard 5: Consumer Education (0926.S.5)

The student will gain knowledge of human economics and environmental resources that will enable them to work toward becoming self-sufficient adults.

Consumer Education Objectives

Students will:
0926.5.1 Realize the importance of work in one's daily life.
0926.5.2 Define consumer decisions, mass media, advertising, and impulse buying.
0926.5.3 Identify factors which influence needs and wants in consumer choices.
0926.5.4 Give examples of how peers, mass media and advertising can affect what an individual buys.
0926.5.5 Demonstrate skills that ensure consumer rights/responsibilities.
0926.5.6 Relate income to spending and recognize factors that influence price, quality and consumer services.
0926.5.7 Demonstrate awareness of the computer and its varied uses in consumer awareness.

Standard 6: Textiles and Apparel (0926.S.6)

The student will develop knowledge in selecting and caring for their wardrobe.

Textiles and Apparel Objectives

Students will:
0926.6.1 Identify factors affecting a positive personal image.
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The student will explore personal living space.

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Students will:
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The student will begin investigating their future career choices.

Career Awareness Objectives

Students will:
0926.8.1 Identify current and future work trends.
0926.8.2 Select and investigate one such work trend.
0926.8.3 Inventory future plans and abilities.
0926.8.4 Set goals for 1 year, 2 years and 5 years toward a future career.
0926.8.5 Research a future career choice and prepare written report.
0926.8.6 Recognize personal qualities and characteristics and how they influence occupational choices.
0926.8.7 Identify and describe personal traits that lead to success.

Standard 9: Community Involvement (0926.S.9)

The student will learn of community needs and how to be a productive member of the community.

Community Involvement Objectives

Students will:
0926.9.1 Survey needs of local community.
0926.9.2 In conjunction with class members, review surveys and select a community project.
0926.9.3 Using the "Planning Process", identify, plan, implement and evaluate the selected project.

Standard 10: FCCLA (0926.S.10)

The student will investigate the opportunities available through a national student organization.

FCCLA Objectives

Students will:
0926.10.1 Actively participate in the local FCCLA chapter.
0926.10.2 Investigate and complete a "Step One" project.
0926.10.3 Actively use the "Planning Process" to plan and implement local chapter projects.

Community and Human Services WVEIS Code 0927

The student will learn to integrate multiple life roles and responsibilities in family, work and community settings.

Standard 1: Factors Influencing Community Life. (0927.S.1)

The student will examine multiple factors that influence individual, family and community life.

Community Life Objectives

Students will:

0927.1.1 Analyze strategies to manage multiple individual, family, career, and community roles and responsibilities.
0927.1.2 Examine policies, issues, and trends in the workplace and community that impact individuals and families.
0927.1.3 Analyze the impact of social, economic, and technological change on work and family dynamics.
0927.1.4 Analyze ways that individual career goals can enhance the family's capacity to meet goals for all family members.
0927.1.5 Analyze the potential impact of career path decisions on balancing work and family.
0927.1.6 Determine goals for life-long learning and leisure opportunities for all family members.
0927.1.7 Determine skills and knowledge needed to develop a life plan for achieving individual, family and career goals.

Standard 2: Community and Workplace Required Settings. (0927.S.2)

The student will demonstrate skills needed in community and workplace settings.

Required Settings Objectives

Students will:

0927.2.1 Examine potential career choices to determine the knowledge, skills, and attitudes associated with each.
0927.2.2 Demonstrate job seeking and job keeping skills.
0927.2.3 Apply communication skills in community and workplace settings.
0927.2.4 Demonstrate teamwork skills in community and workplace settings.
0927.2.5 Examine strategies to manage the impact of changing technologies in workplace settings.
0927.2.6 Demonstrate leadership skills and abilities in the workplace and community.
0927.2.7 Examine factors that contribute to maintaining safe and healthy work and community environments.
0927.2.8 Demonstrate work ethics and professionalism.

Standard 3: Community and Civic Responsibilities (0927.S.3)

The student will analyze the reciprocal impact of individual and family participation in community activities.

Community and Civic Responsibilities Objectives

Students will:

0927.3.1 Examine goals that support individuals and family members in carrying out community and civic responsibilities.
0927.3.2 Arrange a plan for individuals and families to select and develop skills in community activities.
0927.3.3 Determine skills that provide beneficial services to the community.
0927.3.4 Examine community resources and systems of formal and informal support available to individuals and families.
0927.3.5 Examine the impact of public policies, agencies, and institutions on the family.

Human Services, Development and Relationships WVEIS Code 0928

This course will promote student growth and development of self and others by providing students with the skills to develop respectful and responsible relationships within their family, career and community.

Standard 1: Growth and Development (0928.S.1)

The student will analyze growth and development of self and others across the life span.

Growth and Development Objectives

Students will:

0928.1.1 Analyze human growth and development across the life span/life cycle.
0928.1.2 Explain principles of human growth and development.
0928.1.3 Examine major historical and current human development theories to interpret human development.
0928.1.4 Examine the basic human needs and patterns that influence individual development.
0928.1.5 Explain factors that shape human development from preconception through aging.
0928.1.6 Determine the impact of social, economic and technological forces.
0928.1.7 Explain the effect of gender, ethnicity, and culture on individual development.

Standard 2: Environment and Personal Forces (0928.S.2)

The student will assess environmental and personal forces that impact growth and development.

Environment and Personal Forces Objectives

The students will:

0928.2.1 Consider the influence of personality, temperament, and experience on learning and development.
0928.2.2 Investigate the interrelationship of physical, emotional, social, and intellectual development across the life span.
0928.2.3 Investigate the impact of heredity and family on human growth and development.
0928.2.4 Assess the effects of environment and community on human growth and development.
0928.2.5 Explain the effect of life events and conditions on individuals' physical and emotional development.
0928.2.6 Analyze family development and change across time and cultures.

Standard 3: Interpersonal Relationships (0928.S.3)

The student will analyze influences that affect interpersonal relationships.

Interpersonal Relationships Objectives

The students will:

0928.3.1 Review functions and expectations of various types of relationships.
0928.3.2 Determine factors contributing to healthy and unhealthy relationships.
0928.3.3 Assess processes for handling unhealthy relationships.
0928.3.4 Appraise the impact of life events and conditions on relationships.
0928.3.5 Assess the effect the various stages of the life span have on relationships.
0928.3.6 Examine the effect of personal needs on relationships.
0928.3.7 Determine the processes for building and maintaining respectful, responsible relationships.
0928.3.8 Explain how self-esteem and self-image affect relationships with others.
0928.3.9 Compare physical, emotional, and intellectual responses to stable versus unstable relationships.
0928.3.10 Demonstrate leadership skills and abilities reflecting the democratic process in the family, workplace, and community.
0928.3.11 Examine the impact of leadership skills, abilities, and styles on collaborative group actions.

Standard 4: Relationships Skills (0928.S.4)

The student will demonstrate skills for forming respectful and responsible relationships.

Relationships Skills Objectives

Students will:

0928.4.1 Demonstrate leadership skills to support group members and achieve group goals.
0928.4.2 Establish guidelines for leading small groups in the family.
0928.4.3 Examine the strengths and limitations of team members.
0928.4.4 Determine communication principles and patterns that affect human growth and development.
0928.4.5 Examine communication styles and their effects on relationships.
0928.4.6 Examine factors that affect messages communicated to others.
0928.4.7 Examine types of verbal and nonverbal communication.
0928.4.8 Demonstrate active and reflective listening.
0928.4.9 Describe attitudes and behaviors that foster effective communication.
0928.4.10 Examine communication barriers.
0928.4.11 Demonstrate constructive feedback techniques.
0928.4.12 Apply ethical principles in communication.

Standard 5: Healthy Lifestyles Behaviors (0928.S.5)

The student will evaluate behaviors that promote healthy lifestyles.

Healthy Lifestyles Behaviors Objectives

Students will:

0928.5.1 Examine nurturing practices that support development across the life span.
0928.5.2 Assess available support systems that meet human needs.
0928.5.3 Determine the impact of empathy on relationships.
0928.5.4 Demonstrate awareness of diversity and tolerance and their impact on relationships.
0928.5.5 Analyze the consequences of making generalizations about cultural groups.
0928.5.6 Investigate causes of conflict.
0928.5.7 Demonstrate effective conflict prevention and management techniques.
0928.5.8 Determine the role of decision making and problem solving in reducing and managing conflict.
0928.5.9 Demonstrate nonviolent strategies to address conflict.
0928.5.10 Locate community resources that support conflict prevention and management.
0928.5.11 Determine physical, emotional, and intellectual responses to threat.
0928.5.12 Examine types of standards for making judgments related to personal and family relationships.
0928.5.13 Demonstrate ethical behaviors in family, workplace, and community.
0928.5.14 Manage factors contributing to stress.
0928.5.15 Determine symptoms of stress on self, relationships, and work productivity.
0928.5.16 Evaluate strategies for copying with stress.
0928.5.17 Identify situations that require crisis intervention.

Standard 6: Human Services Careers (0928.S.6)

The student will evaluate career options and opportunities in human services.

Human Services Careers Objectives

Students will:

0928.6.1 Examine personal ethical standards.
0928.6.2 Demonstrate transferable employability skills, in relation to individual, family, community, and career roles.
0928.6.3 Analyze technologies and their relationships to managing individual, family, career, and community roles and responsibilities.
0928.6.4 Analyze issues related to the workplace and community, and discuss how these may be addressed by individuals and communities.

0928.6.5 Determine practices that allow families to maintain economic self-sufficiency.
0928.6.6 Research entrepreneurial opportunities related to these careers.

Surviving Today's Experiences and Problems Successfully (STEPS)
WVEIS Code 0929

Through this year long course the student will develop skills to function successfully within their current family and peer groups. By utilizing basic skills and higher order thinking skill the student will learn management problem techniques, to care for children, nutrition/foods, consumer education, person/family relationships, and clothing and textiles.

Standard 1: Basic Academic Skills (0929.S.1)

The student will reinforce basic academic skills that are integrated throughout the FACS curriculum.

Basic Academic Skills Objectives

Students will:

0929.1.1 Advance reading, writing and math skills through completion of the STEP curriculum assignments.

0929.1.2 Improve communicating skills, both oral and written, through involvement in oral presentations and written reports relating to the STEP curriculum.

0929.1.3 Investigate a variety of Human Services careers.

Standard 2: FCCLA (0929.S.2)

The student will develop a fundamental vision of FCCLA (Family, Career, and Community Leaders of America) at the state and national levels, while participating at the local level.

FCCLA Objectives

Students will:

0929.2.1 Explore FCCLA state and national projects.

0929.2.2 Participate in an FCCLA meetings using basic parliamentary procedure.

0929.2.3 Explain and actively participate in an activity using the steps in the FCCLA planning process to plan local projects.

Standard 3: Careers in Management (0929.S.3)

The student will identify careers in management.

Careers in Management Objectives

Students will:

0929.3.1 Explore opportunities for careers in management.

Standard 4: Personal Resources (0929.S.4)

The student will plan and evaluate use of personal resources.

Personal Resources Objectives

Students will:

0929.4.1 Explore concerns teens have about management.

0929.4.2 Analyze the management process.

0929.4.3 Assess personal values and goals and explain personal responsibilities for setting and reaching goals.

0929.4.4 Determine how resources can be used to reach goals and identify personal resources.

0929.4.5 Review organizational procedures which save time and effort.

0929.4.6 Demonstrate a plan for use of personal time based on personal goals, values and standards.

0929.4.7 Explain reasons management is important in the workplace.

Standard 5: Conservation of Natural Resources (0929.S.5)

The student will identify ways teens can take responsibility for conserving natural resources.

Conservation of Natural Resources Objectives

Students will:
0929.5.1 Identify environmental concerns in the home, the community, the nation and the world.
0929.5.2 Propose a solution to an environmental problem, make a plan and take action.

Standard 6: Child Care and Development Careers (0929.S.6)

The student will identify characteristics of jobs related to childcare and development.

Child Care and Development Careers Objectives

Students will:
0929.6.1 Analyze the role of a babysitter and devise a plan for beginning a babysitting business.
0929.6.2 Describe characteristics of career opportunities related to childcare and development.

Standard 7: Child Care (0929.S.7)

The student will approach problems related to caring for children's play, food, guidance, and safety needs.

Child Care Objectives

Students will:
0929.7.1 Establish goals for meeting children's needs.
0929.7.2 Demonstrate ways teens can help meet the care and safety needs of children.
0929.7.3 Devise ways to care for the needs of infants, toddlers and preschoolers.
0929.7.4 Demonstrate activities and techniques that stimulate children's development.

Standard 8: Careers in Nutrition and Foods

The student will examine career choices related to nutrition and foods.

Careers in Nutrition and Foods Objectives (0929.S.8)

Students will:
0929.8.1 Explore employment opportunities and requirements in nutrition/foods.

Standard 9: Nutrition and Foods (0929.S.9)

The student will exhibit procedures for working in the foods lab in an accurate, safe and sanitary manner and practice etiquette.

Nutrition and Foods Objectives

Students will:
0929.9.1 Determine safe and sanitary ways to prepare, serve, and store food.
0929.9.2 Explain the functions and use of cooking equipment.
0929.9.3 Plan for cooperation in the lab.
0929.9.4 Demonstrate accurate measurement of food preparation ingredients.
0929.9.5 Demonstrate appropriate and courteous table manners.

Standard 10: Nutrition and Wellness (0929.S.10)

The student will determine ways to meet food and nutrition goals and to solve individual nutrition issues.

Nutrition and Wellness Objectives

Students will:

0929.10.1 Identify common nutrition/food concerns of teens.
0929.10.2 Analyze factors affecting teen food choices and assess personal food habits.
0929.10.3 Formulate nutrition goals which lead to wellness, based on current guidelines for meeting nutrition needs.
0929.10.4 Evaluate sources of nutrition information.
0929.10.5 Examine alternatives for providing weekly food intake which meets wellness goals.

Standard 11: Teen Nutrition Concerns and Issues (0929.S.11)

The student will analyze alternative solutions to teen nutrition issues.

Teen Nutrition Concerns and Issues Objectives

Students will:
0929.11.1 Explain consequences of alternatives related to various nutrition issues and make judgments about appropriate courses of action.

Standard 12: Careers in Money Management and Consumer Economics (0929.S.12)

The student will identify career opportunities in money management and consumer economics.

Careers in Money Management and Consumer Economics Objectives

Students will:
0929.12.1 Describe career opportunities in money management and consumer economics.

Standard 13: Analyze Strategies (0929.S.13)

The student will analyze strategies used by sellers and plan consumer strategies which maximize resource use.

Analyze Strategies Objectives

Students will:
0929.13.1 Determine products and services commonly purchased by teens.
0929.13.2 Explore needs, wants and values common to teens and tell how these affect consumer decisions.
0929.13.3 Demonstrate strategies used by sellers to increase sales and provide product information.
0929.13.4 Exhibit buymanship skills useful in managing resources.
0929.13.5 Compare consumer rights with consumer responsibilities, cite ways laws protect consumers and identify other sources of consumer information.
0929.13.6 Explain ways ecological needs affect consumer goals and plan ways to promote ecology through purchasing.

Standard 14: Financial Planning (0929.S.14)

The student will determine ways to plan financial resource use.

Financial Planning Objectives

Students will:
0929.14.1 Identify teen money management concerns.
0929.14.2 Explain how the availability of human, material, and time resources affect consumer decisions.
0929.14.3 Weigh the alternatives for obtaining income as a teen.
0929.14.4 Identify personal expenditure needs throughout high school.
0929.14.5 Make a plan for personal income, expenses and savings.
0929.14.6 Given teen money management problems, weigh alternatives and suggest a course of action.

Standard 15: Careers in Personal and Family Relationships. (0929.S.15)

The student will analyze career choices in personal and family relationships.

Careers in Personal and Family Relationships Objectives

Students will:
0929.15.1 Research careers related to personal and family relationships.
0929.15.2 Analyze the effect of relationship skills on job success.

Standard 16: Relationships Formulation (0929.S.16)

The student will analyze relationship skills which form the basis for all relationships.

Relationships Formulation Objectives

Students will:
0929.16.1 Identify personal concerns regarding building and maintaining relationships.
0929.16.2 Analyze ways to form a more realistic self-concept and to build self-esteem.
0929.16.3 Demonstrate verbal and non-verbal communication that enhances relationships.
0929.16.4 Explain skills that are important in developing good relationships with other persons.

Standard 17: Personal Relationships (0929.S.17)

The student will suggest solutions for problems related to friendship and dating.

Personal Relationships Objectives

Students will:
0929.17.1 Summarize characteristics which build lasting friendships.
0929.17.2 Compare dating and friendship.
0929.17.3 Analyze problems related to friendships and dating, suggest solutions and evaluate suggestions.

Standard 18: Family Problems (0929.S.18)

The student will analyze family relationship problems and suggest a course of action.

Family Problems Objectives

Students will:
0929.18.1 Identify common family relationship concerns of teens.
0929.18.2 Describe ways family forms may differ throughout the family life cycle.
0929.18.3 Explain the functions of a family to its members and to society.
0929.18.4 Explain factors which affect relationships in families.
0929.18.5 Plan ways family members can share and exchange roles within a family.
0929.18.6 Given problem situations, suggest solutions and evaluate.

Standard 19: Career Relating to Teen Issues (0929.S.19)

The student will identify career opportunities related to teen issues.

Career Relating to Teen Issues Objectives

Students will:
0929.19.1 Investigate job opportunities related to teen issues and steps teens can take to control their career futures.

Standard 20: Teen Issues (0929.S.20)

The student will analyze teen issues and suggest solutions for problems experienced by teens.

Teen Issues Objectives

Students will:
0929.20.1 Analyze teen independence/interdependence and explain the meaning of "taking control of

life."

0929.20.2 Analyze alternatives for coping with teen issues.
0929.20.3 Analyze issues affecting teens to determine nature, symptoms and effects of issues and suggest alternatives for coping with the issues.
0929.20.4 Given examples of problems related to teen issues, suggest a solution and justify the choice.

Standard 21: Careers In Clothing/Textiles (0929.S.21)

The student will identify career options in clothing/textiles.

Careers in Clothing/Textiles Objectives

Students will:
0929.21.1 Determine career opportunities in clothing and textiles.

Standard 22: Clothing and Textiles (0929.S.22)

The student will develop knowledge in selecting and caring for their wardrobe.

Clothing and Textiles Objectives

Students will:
0929.22.1 Explain clothing concerns of teens.
0929.22.2 Identify motivations for clothing selection.
0929.22.3 Examine personal clothing goals.
0929.22.4 Given clothing selection situations, make judgments based on source, quality and fabric.
0929.22.5 Construct a simple project using accepted practice for equipment use and construction techniques.
0929.22.6 Practice procedures for storing and repairing clothing which promote a neat appearance and longer clothing use.
0929.22.7 Given clothing labels, determine the type of cleaning needed.
0929.22.8 Determine laundry procedures and describe ways family members can share laundry responsibilities.

Applied Design-Housing/Interior Design WVEIS Code 0941

This course will provide students with the skills and practices that are required for the application of design elements and principles in the areas of housing.

Standard 1: Design Elements and Principles (0941.S.1)

The student will pursue the knowledge, skill and practices required for the application of design elements and principles in the areas of housing.

Design Elements and Principles Objectives

Students will:

0941.1.1 Determine and apply the elements and principles of design.
0941.1.2 Analyze the effects that elements and principles of design have on aesthetics and function.
0941.1.3 Predict the psychological impact that the principles and elements have on individuals and families.
0941.1.4 Demonstrate knowledge of cultural influences upon design.
0941.1.5 Explore the use of current technology to facilitate design.
0941.1.6 Use a variety of equipment, tools, supplies, and techniques in the design process.
0941.1.7 Demonstrate design skills.
0941.1.8 Demonstrate design ideas through visual presentations.

Standard 2: Customer Service/Business Profitability (0941.S.2)

The student will be able to demonstrate "Customer Service/Business Profitability.

Customer Service/Business Profitability Objectives

Students will:

0941.2.1 Demonstrate effective communication skills.
0941.2.2 Evaluate the components of customer service.
0941.2.3 Analyze the merchandising of design products.
0941.2.4 Examine responsibilities, liabilities, and legislation related to safety, security, and environmental factors.

Standard 3: Textiles (0941.S.3)

The student will explore the many areas of textiles

Textiles Objectives

Students will:

0941.3.1 Identify, compare, and analyze the most common textile fibers.
0941.3.2 Predict the effects of textile characteristics on design, construction and use.
0941.3.3 Select appropriate procedures for care and maintenance of textile products/apparel.
0941.3.4 Examine textile legislation, standards, and labeling in the global economy.
0941.3.5 Demonstrate textile design skill.
0941.3.6 Evaluate career paths within the textile industry.

Standard 4: Housing/Interior Design (0941.S.4)

The student will examine the many areas of Housing/Interior Design.

Housing/Interior Design Objectives

Students will:

0941.4.1 Evaluate career paths within the interior design, housing, and home furnishings industry.
0941.4.2 Evaluate the needs, goals, and resources in creating design plans and/or acquiring housing.
0941.4.3 Analyze influences on architectural and furniture design and development.

0941.4.4 Evaluate the use of housing and interiors furnishings and products to relate to specific design needs.
0941.4.5 Demonstrate the use of technology and other skills required for the housing, interiors and furnishings industry.
0941.4.6 Analyze major components of a home's structure.
0941.4.7 Evaluate exterior and interior materials and products used in construction.

Food Preparation WVEIS Code 0951

The student will focus on various food preparation and management skills that promotes health and wellness of individuals and families.

Standard 1: Safety, Sanitation & Storage (0951.S.1)

The student will demonstrate safety, sanitation and food storage procedures.

Safety, Sanitation & Storage Objectives

Students will:
0951.1.1 Practice acceptable personal hygiene.
0951.1.2 Analyze food-borne illnesses.
0951.1.3 Identify and use proper sanitation habits and safety/first-aid procedures in food preparation and storage.

Standard 2: Abbreviations and Equivalents (0951.S.2)

The student will identify and interpret food preparation abbreviations and equivalents.

Abbreviations and Equivalents Objectives

Students will:
0951.2.1 Identify and correctly use abbreviations found in recipes.
0951.2.2 Identify and correctly use math equivalents and symbols common to food preparation.
0951.2.3 Determine the correct equivalents to use when manipulating recipe amounts.
0951.2.4 List kinds of information a good recipe contain.
0951.2.5 Analyze effects of increasing/decreasing a recipes yield.
0951.2.6 Examine how high altitude affects the cooking process.

Standard 3: Terms (0951.S.3)

The student will identify food preparation terms.

Terms Objectives

Students will:
0951.3.1 Identify and define food preparation terms and cookery techniques terms.
0951.3.2 Describe the importance of implementing correct food preparation terms and cookery techniques terms to successful recipe interpretation.
0951.3.3 Demonstrate assigned food preparation and techniques skills.

Standard 4: Measuring and Mixing (0951.S.4)

The student will develop correct measuring techniques.

Measuring and Mixing Objectives

Students will:
0951.4.1 Identify standard units of measure used in food preparation.
0951.4.2 Use correct math common to food preparation when translating recipes.
0951.4.3 Identify and demonstrate the correct measuring equipment for both liquid and dry ingredients.
0951.4.4 Evaluate the importance of exact measurements of ingredients when cooking and baking.

Standard 5: Equipment (0951.S.5)

The student will identify large and small food preparation equipment.

Equipment Objectives

Students will:
0951.5.1 Recognize large and small kitchen equipment.
0951.5.2 Demonstrate safe use and care of all kitchen equipment.
0951.5.3 Identify, select, use and care for equipment used in the preparation of food.
0951.5.4 Improvise for equipment that is not available.
0951.5.5 Compare microwave cooking to conventional cooking.
0951.5.6 Demonstrate safety precautions and care for microwave oven usage.
0951.5.7 Analyze cooking techniques and utensils used for successful microwave cooking.
0951.5.8 Identify factors affecting microwave cooking time.

Standard 6: Utensils (0951.S.6)

The student will identify kitchen utensils.

Utensils Objectives

Students will:
0951.6.1 Identify small kitchen utensils, their uses and care.
0951.6.2 Demonstrate proper use and care of small kitchen utensils in preparation of assigned recipes.

Standard 7: Table Setting and Etiquette (0951.S.7)

The student will practice table setting and etiquette.

Table Setting and Etiquette Objectives

Students will:
0951.7.1 Research table etiquette guidelines.
0951.7.2 Research table etiquette guidelines for different ethnical groups.
0951.7.3 Demonstrate table settings for various types of meals.
0951.7.4 Practice good table manners during food preparations labs.

Standard 8: Nutrition (0951.S.8)

The student will analyze good nutrition practices.

Nutrition Objectives

Students will:
0951.8.1 Identify factors affecting an individual's nutritional needs.
0951.8.2 Relate the role of good nutrition to the health and wellness of individuals and families.
0951.8.3 Demonstrate how to conserve nutrients during food preparation.
0951.8.4 Develop a one-week menu for a family of four using the food pyramid.
0951.8.5 Research diet disorders, (i.e. bulimia, anorexia.)
0951.8.6 Analyze special needs diets, (i.e. diabetic, vegetarian, low cholesterol, etc.)

Standard 9: Cooking Labs (0951.S.9)

The student will apply food preparation techniques and skills.

Cooking Labs Objectives

Students will:
0951.9.1 Develop appropriate menus, grocery orders and timelines for cooking and/or baking labs.
0951.9.2 Prepare and compare six types of cookies.
0951.9.3 Describe the functions of ingredients, nutritive value, and methods of preparation.
0951.9.4 Evaluate products by appearance and eating quality.
0951.9.5 Interpret general information about quick breads and methods of preparation.
0951.9.6 Prepare the following quick breads: biscuits, muffins, pancakes, and loaf breads.

0951.9.7 Evaluate how ingredients function in different products.
0951.9.8 Explain the grading of eggs.
0951.9.9 Draw and label the structure of eggs.
0951.9.10 Describe the functions of eggs in food preparation.
0951.9.11 Prepare fruits and vegetables recipes.
0951.9.12 Prepare dairy products and egg recipes.
0951.9.13 Prepare pasta and potato products recipes.
0951.9.14 Prepare Garde Manger items.
0951.9.15 Supervise kitchen staff as a head cook.
0951.9.16 Classify and choose spices, herbs, and extracts to enhance the flavors in foods.
0951.9.17 Select, prepare, and serve a dish of the students' choice.

Nutrition and Food Science WVEIS Code 0952

Nutrition courses focus on the value of good nutrition in relationship to wellness. Students use scientific processes to study the field of food science. Laboratory skills and experimental methods are used to measure, record and analyze data that relate to the relationship of food science to other sciences (such as chemistry, microbiology, nutrition and physics).

Standard 1: Nutritional Content

The student will evaluate the nutritional content of food to promote individual and family wellness across the life span.

Nutritional Content Objectives

Students will:

0952.1.1 Evaluate the nutritional content of food in relation to the health and wellness needs of individuals and families.
0952.1.2 Using technology, analyze personal eating habits and plan ways to choose food to meet nutritional goals.
0952.1.3 Identify factors, facts, and fallacies that affect wellness.
0952.1.4 Evaluate the use of supplements to meet daily nutritional needs.

Standard 2: Six Basic Nutrients (0952.S.2)

The student will interpret information regarding the six basic nutrients to promote health and wellness.

Six Basic Nutrients Objectives

Students will:

0952.2.1 Identify the functions, food sources, and excess/inadequate amounts of the six major nutrients.
0952.2.2 Explain the process of food digestion and nutrient absorption.
0952.2.3 Examine the properties of each of the six basic nutrients.

Standard 3: Food Preparation Techniques (0952.S.3)

The student will demonstrate planning, selecting, storing, preparing and serving of foods to meet nutritional needs of individuals and families across the life span.

Food Preparation Techniques Objectives

Students will:

0952.3.1 Compare food purchasing options according to cost and nutritional quality.
0952.3.2 Identify meal planning strategies for different stages of the family life cycle.
0952.3.3 Plan, prepare, and store food to achieve nutritional goals.
0952.3.4 Explain how to choose and handle food to preserve nutrition, quality, and safety.
0952.3.5 Explore techniques of food preservation.

Standard 4: Food Safety (0952.S.4)

The student will demonstrate food safety and sanitation practices for handling food.

Food Safety Objectives

Students will:

0952.4.1 Identify potential health problems related to food supply.
0952.4.2 Identify sanitary and food handling practices that can help prevent food spoilage.
0952.4.3 Describe the properties of the microorganisms that cause food spoilage.

0952.4.4 Describe safety guidelines.

Standard 5: Nutritional Factors (0952.S.5)

The student will analyze the internal and external factors that influence nutritional practices and wellness across the life span.

Nutritional Factors Objectives

Students will:
0952.5.1 Examine the nutritional needs and food patterns of various age groups.
0952.5.2 Research nutrition and the athlete.
0952.5.3 Research specialty diets (vegetarian, diabetic, fad diets, etc.).
0952.5.4 Describe how food choices are influenced by available resources and technology.

Standard 6: Product Labels (0952.S.6)

The student will analyze information on product labels.

Product Labels Objectives

Students will:
0952.6.1 Compare foods as to nutritional content and serving size.
0952.6.2 Examine and interpret food labels.

Standard 7: Food Trends (0952.S.7)

The student will analyze behaviors and food industry trends.

Food Trends Objectives

Students will:
0952.7.1 Describe techniques for successful weight control methods.
0952.7.2 Analyze effects of eating disorders.
0952.7.3 Research solutions to reduce calories, increase fiber, reduce sugar, reduce fat, increase complex carbohydrates, etc.
0952.7.4 Identify practical ways to change eating habits.
0952.7.5 Evaluate the use of supplements to meet daily nutritional needs.
0952.7.6 Analyze the metabolic process.
0952.7.7 Examine the issue of diet versus disease prevention (birth defects, cardiovascular, hypertension, etc.)

Standard 8: Food Science Concepts (0952.S.8)

The student will apply the steps in the scientific method to examine basic food science concepts.

Food Science Concepts Objectives

Students will:
0952.8.1 Identify scientific equipment used in the food science industry.
0952.8.2 Explain the steps in the scientific method.
0952.8.3 Write accurate and complete reports of food science experiments.
0952.8.4 Identify basic science concepts.
0952.8.5 Explore basic energy concepts.
0952.8.6 Examine acid and bases.
0952.8.7 Explore experimentation in food science.

Standard 9: Food Science Careers (0952.S.9)

The student will research careers in the nutrition and food science areas.

Food Science Careers Objectives

Students will:

0952.9.1 Identify entry level and advanced level careers in nutrition and food sciences.
0952.9.2 Examine education and training needed for a career in nutrition and food science.
0952.9.3 Explore emerging careers in nutrition, food science, and biotechnology.

Applied Design-Fashion Merchandising WVEIS Code 0961

This course will provide students with the skills and practices that are required for the application of design elements and principles in the areas of fashion.

Standard 1: Design Elements and Principles (0961.S.1)

The student will pursue the knowledge, skill and practices required for the application of design elements and principles in the areas of fashion.

Design Elements and Principles Objectives

Students will:
0961.1.1 Determine and apply the elements and principles of design.
0961.1.2 Analyze the effects that elements and principles of design have on aesthetics and function.
0961.1.3 Predict the psychological impact that the principles and elements have on individuals and families.
0961.1.4 Demonstrate knowledge of cultural influences upon design.
0961.1.5 Explore the use of current technology to facilitate design.
0961.1.6 Use a variety of equipment, tools, supplies, and techniques in the design process.
0961.1.7 Demonstrate design skills.
0961.1.8 Demonstrate design ideas through visual presentations.

Standard 2: Customer Service/Business Profitability (0961.S.2)

The student will demonstrate customer service and business profitability skills.

Customer Service/Business Profitability Objectives

Students will:
0961.2.1 Demonstrate effective communication skills.
0961.2.2 Evaluate the components of customer service.
0961.2.3 Analyze the merchandising of design products.
0961.2.4 Examine responsibilities, liabilities, and legislation related to safety, security, and environmental factors.

Standard 3: Textiles (0961.S.3)

The student will explore the many areas of textiles.

Textiles Objectives

Students will:
0961.3.1 Identify, compare, and analyze the most common textile fibers.
0961.3.2 Predict the effects of textile characteristics on design, construction and use.
0961.3.3 Select appropriate procedures for care and maintenance of textile products/apparel.
0961.3.4 Examine textile legislation, standards, and labeling in the global economy.
0961.3.5 Demonstrate textile design skill.
0961.3.6 Evaluate career paths within the textile industry.

Standard 4: Apparel (0961.S.4)

The student will examine the area of apparel and apply related principles to it.

Apparel Objectives

Students will:
0961.4.1 Evaluate factors that influence clothing design and choices.
0961.4.2 Judge the role of value, quality, and fit in wardrobe selection.
0961.4.3 Evaluate shopping options.

0961.4.4 Demonstrate ability to use technology for fashion design.
0961.4.5 Demonstrate construction techniques used to produce and repair apparel.
0961.4.6 Determine opportunities and preparation requirements for different levels of employment within the apparel industry.

Performance Descriptors (0961.PD.1-4):

Distinguished

The student has demonstrated mastery of the Standards and Objectives of this course with minimal supervision.

Mastery

The student has demonstrated mastery of the Standards and Objectives of this course with occasional supervision.

Partial Mastery

The student has demonstrated mastery of the Standards and Objectives of this course with frequent supervision.

Dental Assisting I — WVEIS Code 0701

This area of study is comprised of components designed to prepare an individual to function as an integral member of the dental health team and to perform the basic duties of a chairside assistant. Students are encouraged to participate in a Career and Technical Student Organization (CTSO).

Standard 1: Careers in Dental Assisting (0701.S.1)

Students will research various opportunities for a career in Dental Assisting.

Careers in Dental Assisting Objectives

Students will:
0701,1.1 Describe the primary roles and responsibilities of a dental assistant.
0701,1.2 Explain the relevant safety practices and procedures for dental assisting.
0701,1.3 Discuss the various dental specialty areas that employ dental assistants.
0701,1.4 Discuss educational and career benefits available for dental assistants.
0701,1.5 Identify the importance of ethical practices in the dental office environment.
0701,1.6 Associate health and grooming habits with successful employment as a dental assistant.

Standard 2: Communication (0701.S.2)

Students will demonstrate professional communication skills.

Communication Objectives

Students will:
0701.2.1 Demonstrate the ability to recognize nonverbal communication signals.
0701.2.2 Describe techniques of skillful listening and discuss their importance in communication.
0701.2.3 Explain how courtesy, tact, poise, discretion, and integrity are utilized in communication.
0701.2.4 Utilize effective communication techniques to demonstrate oral hygiene to patients.
0701.2.5 Identify methods of dealing with fears and anxieties of patients.
0701.2.6 Demonstrate correct telephone manner and technique.

Standard 3: Head and Neck Anatomy (0701.S.3)

Students will describe head and neck anatomy.

Effective Head and Neck Anatomy Objectives

Students will:
0701.3.1 Name and describe the purpose of the landmarks of both mandible and maxilla.
0701.3.2 Locate each landmark on an unlabeled drawing.
0701.3.3 Identify the origin, insertion, and action of each muscle of mastication.
0701.3.4 Locate each muscle of mastication on an unlabeled drawing.
0701.3.5 Label paranasal sinuses on a diagram.
0701.3.6 Locate and examine the three major salivary glands and their associated ducts.
0701.3.7 Describe the functions and location of nerves of the head and neck as associated with anesthesia.
0701.3.8 Discuss the properties of local anesthesia and differentiate between block and infiltration injection.
0701.3.9 Demonstrate and explain charting and treatment of an allergic reaction to anesthesia.
0701.3.10 Prepare an anesthetic aspirating syringe for the administration of local anesthesia.
0701.3.11 Disassemble an anesthetic aspirating syringe for sterilization.

Standard 4: Oral Anatomy (0701.S.4)

Students will identify structures and landmarks of the oral cavity and interpret various charting techniques.

Oral Anatomy Objectives

Students will:

0701.4.1 Name the landmarks of the oral cavity and describe their function.
0701.4.2 Label a drawing of all the landmarks of the oral cavity.
0701.4.3 Describe and identify the parts, tissues and functions of each tooth.
0701.4.4 Identify and describe the functions of the supporting structures of the tooth.
0701.4.5 Name the primary and permanent teeth and list the approximate age of eruption.
0701.4.6 Describe the surfaces of each tooth and the abbreviation used for each surface.
0701.4.7 Label deciduous and permanent teeth using the universal numbering system.
0701.4.8 Demonstrate an awareness of different charting techniques including classifications of caries.

Standard 5: Disease Transmission and Prevention (0701.S.5)

Students will describe and practice principles of disease transmission and prevention.

Disease Transmission and Prevention Objectives

Students will:

0701.5.1 Define, pronounce and spell terminology as related to microbiology, bacteriology, and sterilization.
0701.5.2 Examine the conditions necessary for microorganisms to grow.
0701.5.3 Recognize the cycle of microorganism transmission and prevention.
0701.5.4 Demonstrate knowledge and application of "Standard Precautions".
0701.5.5 Demonstrate proper handwashing technique.

Standard 6: Emergency Medical Care (0701.S.6)

Students will identify the need for and perform basic emergency medical care.

Emergency Medical Care Objectives

Students will:

0701.6.1 Distinguish the four priorities of first aid.
0701.6.2 Explain first aid measures, including symptoms for sudden illness and injury.
0701.6.3 Demonstrate the four methods for the control of bleeding in proper order.
0701.6.4 State the role of the assistant in the administration of oxygen.
0701.6.5 Secure certification for adult, child and infant CPR and choking from American Red Cross or American Heart Association.
0701.6.6 Recognize general characteristics of temperature, pulse, respiration and blood pressure.
0701.6.7 Identify the instruments used to measure vital signs.
0701.6.8 Measure, record and interpret vital signs.

Standard 7: Preventative Dentistry (0701.S.7)

Students will recognize causes, symptoms and treatment for various conditions of the oral cavity related to oral hygiene.

Preventative Dentistry Objectives

Students will:

0701.7.1 State various conditions in the mouth that indicate poor oral hygiene.
0701.7.2 Demonstrate an understanding of proper oral hygiene techniques.
0701.7.3 List and describe the properties of each type of fluoride agent and explain its use.
0701.7.4 Describe the process of applying a topical fluoride agent.
0701.7.5 State the purpose of using a pit and fissure sealant and describe the application process.

Standard 8: Fundamentals of Chairside Assisting (0701.S.8)

Students will associate appropriate materials and instruments with various operative procedures.

Fundamentals of Chairside Assisting Objectives

Students will:
0701.8.1 Identify types, characteristics and uses of hand cutting instruments.
0701.8.2 Identify classifications of handpieces, component parts and their uses.
0701.8.3 Identify types, characteristics and purposes of dental burs.
0701.8.4 List instruments and supplies for various operative procedures.
0701.8.5 Describe types of bases and liners and their principal and secondary use.
0701.8.6 Prepare, measure and mix various bases and liners.
0701.8.7 Describe amalgam composition and explain the safety principles of mercury.
0701.8.8 Show proper technique for mixing and handling amalgam.
0701.8.9 Describe the composite composition and explain the safe use of a high intensity light.
0701.8.10 Tell the steps for various operative procedures.
0701.8.11 Position patient, dentist and assistant for four-handed operative dentistry.
0701.8.12 Interpret various instrument grasps to exchange and retrieve instruments.
0701.8.13 Demonstrate proper use of evacuator, water and air during dental procedures.

Standard 9: Technology (0701.S.9)

Students will demonstrate knowledge of computers and their use within the health care system.

Technology Objectives

Students will:
0701.9.1 Integrate the use of software, hardware, and the internet to practice and master standards identified in the course.
0701.9.2 Utilize the internet as a resource/research tool.

Standard 10: Student Organization

Students will participate in a Career and Technical Organization (CTSO).

Critical Student Organization Objectives (0701.S.10)

Students will:
0701.10.1 Participate in Health Occupations Students of American (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (SkillsUSA/VICA).
0701.10.2 Apply parliamentary procedure in organizational meetings.
0701.10.3 Demonstrate team membership skills, such as cooperation and leadership.
0701.10.4 Take part in local, state, and national health care and education projects.

Dental Assisting II — WVEIS Code 0702

This area of study is comprised of courses designed to prepare an individual to function as a chairside assistant and to perform related office and laboratory procedures under the direction and supervision of the dentist. Students are encouraged to participate in a Career and Technical Student Organization (CTSO).

Standard 1: Radiation Safety (0702.S.1)

Students will describe radiation safety for the patient and auxiliary personnel.

Radiation Safety Objectives

Students will:
0702.1.1 List the purposes and methods of radiation safety.
0702.1.2 Describe the dangers involved in overexposure to radiation and demonstrate proper safety.
0702.1.3 Identify characteristics of basic types of roentgen rays (x-rays).
0702.1.4 Explain the basic parts and functions of an x-ray unit.

Standard 2: Radiography Technique (0702.S.2)

Students will understand the process of exposing, processing and mounting dental radiographs.

Radiography Objectives

Students will:
0702.2.1 Match facial landmarks associated with roentgenology to the correct definitions.
0702.2.2 Distinguish between intraoral and extraoral radiographic film and describe proper storage of each.
0702.2.3 Explain the film requirements for a full mouth series of radiographs for adults and children.
0702.2.4 Differentiate between periapical and bitewing radiographs.
0702.2.5 Identify oral landmarks associated with periapical radiographs.
0702.2.6 Assemble XCP (X-Tension Cone Paralleling) instrument for periapical and bitewing radiographs.
0702.2.7 Arrange in order the steps to take during radiographic exposure.
0702.2.8 Discuss methods and materials used in developing radiographs.
0702.2.9 Develop, mount and file radiographs.
0702.2.10 Evaluate dental radiographs for diagnostic quality.

Standard 3: Secretarial Procedures (0702.S.3)

Students will perform fundamental secretarial procedures.

Secretarial Procedures Objectives

Students will:
0702.3.1 Describe types of filing systems used in the dental office.
0702.3.2 List the requirements for appointment book entries and schedule appointments.
0702.3.3 Care for incoming mail.
0702.3.4 Explain the importance of a properly completed form.
0702.3.5 Complete registration and health history records.

Standard 4: Accounting Procedures (0702.S.4)

Students will perform fundamental accounting procedures.

Accounting Procedures Objectives

Students will:

0702.4.1 Discuss accounting systems used in a dental office.
0702.4.2 Practice accounting, complete a ledger card, receipts, and balance a daily journal page.
0702.4.3 Explain the purpose of a petty cash fund and describe the handling of petty cash.
0702.4.4 Prepare a bank deposit.
0702.4.5 Discuss methods of maintaining a checking account and write a check.
0702.4.6 State points to remember when handling insurance claims and list basic information found on a claim form.
0702.4.7 Complete a dental insurance form.
0702.4.8 Discuss basic dental computer applications.

Standard 5: Dental Health Team (0702.S.5)

Students will demonstrate the ability to work as an effective member of a dental health team.

Dental Health Team Objectives

Students will:

0702.5.1 Display proper communication techniques while serving as a member of the dental health team.
0702.5.2 Display proper grooming techniques while serving as a member of the dental health team.
0702.5.3 Perform various roles of a dental health team member.
0702.5.4 Given various situations use brainstorming techniques to solve dental health team problems.
0702.5.5 Given various scenarios demonstrate proper ethical decision making skills as related to dental health problems.

Standard 6: Chairside Assisting II (0702.S.6)

Students will assist in four-handed dental procedures and perform other chairside duties.

Chairside Assisting II Objectives

Students will:

0702.6.1 Assist with various four-handed operative procedures.
0702.6.2 Describe the process and assist with the placement of a rubber dam.
0702.6.3 Identify and describe the function of instruments used in each dental specialty.
0702.6.4 Discuss the process of preparing and placing dental matrices.

Standard 7: Dental Materials (0702.S.7)

Students will manipulate dental materials used for various dental procedures.

Dental Materials Objectives

Students will:

0702.7.1 Describe types of cements and their principal and secondary use.
0702.7.2 Prepare, measure and mix various dental cements for luting.
0702.7.3 Discuss the physical and chemical properties of alginate impression material.
0702.7.4 Prepare, mix and place maxillary and mandibular alginate impressions.
0702.7.5 Discuss properties of gypsum materials and their uses.
0702.7.6 Mix and pour gypsum materials into prepared alginate impressions.
0702.7.7 Trim maxillary and mandibular models according to specifications.

Standard 8: Technology (0702.S.8)

Students will demonstrate knowledge of computers and their use within the health care system.

Technology Objectives

Students will:

0702.8.1 Integrate the use of software, hardware, and the Internet to practice and master standards identified in the course.

0702.8.2 Utilize the Internet as a resource/research tool.

Standard 9: Student Organization (0702.S.9)

Students will participate in a Career and Technical Organization (CTSO).

Critical Student Organization Objectives

Students will:

0702.9.1 Participate in Health Occupations Students of American (HOSA) or SkillsUSA/ Vocational Industrial Clubs of America (SkillsUSA/VICA).

0702.9.2 Apply parliamentary procedure in organizational meetings.

0702.9.3 Demonstrate team membership skills, such as cooperation and leadership.

0702.9.4 Take part in local, state, and national health care and education projects

Health Care Fundamentals WVEIS Code 0711

The Health Occupations Education student will be introduced to information about health care systems and careers. Information is included on recognition of disease transmission and prevention and the prevention of disease utilizing good nutrition. Students will analyze stages of growth and development and examine human needs. Emphasis will be placed on analyzing and interpreting medical terminology with a focus on medical elements. Students are provided the opportunity to acquire First Aid and CPR certification and are encouraged to affiliate with a Career and Technical Student Organization (CTSO).

Standard 1: Health Care Systems (0711.S.1)

Students will demonstrate knowledge of the general purposes and organization of the various types of health care systems.

Health Care Systems Objectives

Students will:

0711.1.1 Examine systems theory and construct a general systems model listing inputs, throughputs, and feedback loop.
0711.1.2 Compare and contrast health care systems delivering acute and long term care.
0711.1.3 Differentiate major government and voluntary agencies involved in the delivery of health care.
0711.1.4 Identify professional/student organizations as related to specific health care careers.
0711.1.5 Define common terms and abbreviations associated with payment classifications and health insurance plans.
0711.1.6 Distinguish lines of authority or chain of command in a typical health care facility or agency.

Standard 2: Careers (0711.S.2)

Students will research careers in health care systems.

Career Objectives

Students will:

0711.2.1 Research and analyze the duties, educational requirements and employment opportunities of at least ten different health careers.
0711.2.2 Contrast the differences between certification, registration and licensure.
0711.2.3 Research at least one health career by observing or interviewing an individual employed in that field or by requesting information from resources.
0711.2.4 Recognize and interpret at least ten abbreviations used to identify health occupation workers.
0711.2.5 Define, pronounce and spell key terms related to careers in health care.

Standard 3: Disease Transmission and Prevention

Students will demonstrate knowledge of principles of disease transmission and prevention.

Disease Transmission and Prevention Objectives

Students will:

0711.3.1 Examine the conditions necessary for microorganisms to grow.
0711.3.2 Recognize the cycle of microorganism transmission and prevention.
0711.3.3 Perform proper hand washing technique.
0711.3.4 Demonstrate knowledge of standard precautions.

Standard 4: Human Growth and Development (0711.S.4)

Students will demonstrate a knowledge of human needs/human growth and development.

Human Growth and Development Objectives

Students will:
0711.4.1 Examine and describe the basic stages of human growth and development.
0711.4.2 Identify ways in which life stages affect an individual's needs.
0711.4.3 Describe the individual's need for exercise and activity.
0711.4.4 Evaluate Maslow's Hierarchy of Needs.
0711.4.5 Analyze the five stages of grieving.

Standard 5: Nutrition (0711.S.5)

Students will demonstrate knowledge of nutrition.

Nutrition Objectives

Students will:
0711.5.1 Identify the five basic food groups and the number of daily recommended servings of each.
0711.5.2 Compare and analyze therapeutic diets.
0711.5.3 Name the six groups of essential nutrients and their functions and sources.

Standard 6: Medical Terminology (0711.S.6)

Students will demonstrate knowledge of basic medical terminology.

Medical Terminology Objectives

Students will:
0711.6.1 Define commonly used medical roots, prefixes and suffixes.
0711.6.2 Pronounce and spell commonly used medical roots, prefixes and suffixes.
0711.6.3 Match common medical roots, prefixes, and suffixes with their definitions.

Standard 7: Emergency Medical Care (0711.S.7)

Students will demonstrate knowledge and skill in performing basic emergency medical care.

Emergency Medical Care Objectives

Students will:
0711.7.1 Distinguish the four priorities of First Aid.
0711.7.2 Identify signs, symptoms, and treatment for shock.
0711.7.3 Demonstrate the four methods for the control of bleeding in the order they are used.
0711.7.4 Describe first aid treatment for wounds and the terms associated with each type.
0711.7.5 Describe first aid measures for sudden illness and injury including fainting, stroke, seizures, insulin shock and diabetic coma.
0711.7.6 Demonstrate first aid measures for bone and joint injuries including fracture, dislocation, sprain and strain.
0711.7.7 Demonstrate dressing, bandaging and splinting techniques.
0711.7.8 Recognize first aid measures used for specific injuries involving the eyes, head, nose, ears, chest, abdomen and genital organs.
0711.7.9 Describe first aid measures for temperature related injuries including hot and cold exposure and burns.
0711.7.10 Describe first aid measures for poisoning, stings, bites, and allergic reactions.
0711.7.11 Secure certification in First Aid from American Red Cross or American Heart Association.

Standard 8: CPR and First Aid for Obstructed Airway (0711.S.8)

Students will identify the need for and perform Cardiopulmonary Resuscitation and first aid for an Obstructed Airway.

CPR and First Aid for Obstructed Airway Objectives

Students will:

0711.8.1 Express the risk factors for cardiovascular disease.
0711.8.2 Perform correct CPR technique for the following: infant, child, and one-rescuer adult.
0711.8.3 Identify signs and symptoms of an obstructed airway.
0711.8.4 Identify the signs and symptoms of a heart attack.
0711.8.5 Demonstrate universal distress signal for obstructed airway.
0711.8.6 Perform procedures to relieve airway obstruction in an infant, child and adult.
0711.8.7 Demonstrate the correct use of the AED.
0711.8.8 Secure certification for adult, child and infant CPR and choking from American Red Cross or American Heart Association.

Standard 9: Technology (0711.S.9)

Students will demonstrate knowledge of computers and their use within the health care system.

Technology Objectives

Students will:

0711.9.1 Integrate the use of software, hardware, and the internet to practice and master standards identified in the course.
0711.9.2 Utilize the internet as a resource/research tool.

Standard 10: Student Organizations (0711.S.10)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:

0711.10.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (Skills USA/VICA).
0711.10.2 Apply parliamentary procedure in organizational meetings.
0711.10.3 Demonstrate team membership skills, such as cooperation and leadership.
0711.10.4 Take part in local, state, and national health care and education projects.

Supplement to Health Care Fundamentals WVEIS Code 0713

The student will build on standards and objectives introduced in the Health Care Fundamentals course. Within this course students will examine such areas as goal development, critical thinking skills, effective communication, and interpersonal relationships. Utilizing computer simulations of clinical scenarios, students will enhance skills in the analytical and evaluation processes. Upon completion of course standards students will be asked to re-access their personal attitudes and goals in light of new knowledge gained. Students are encouraged to participate in a Career and Technical Student Organization (CTSO). *For health occupation education students who have enrolled at technical centers having already completed Health Care Fundaments (0711).

Standard 1: Goal Development (0713.S.1)

Students will explore self-assessment concepts in order to develop personal and professional goals.

Goal Development Objectives

Students will:
0713.1.1 Explore concepts of self-esteem, values and attitudes.
0713.1.2 Assess personal habits and attitudes.
0713.1.3 Identify professional characteristics necessary for employment in the health care industry.
0713.1.4 Examine the goal setting process.
0713.1.5 Formulate an action plan to achieve personal and academic goals.
0713.1.6 Summarize the importance of time management.

Standard 2: Analytical Skills (0713.S.2)

Students will analyze and evaluate information utilizing clinical simulations.

Analytical Skills Objectives

Students will:
0713.2.1 Analyze clinical scenarios in a critical, objective manner.
0713.2.2 Examine workplace related issues utilizing clinical scenarios.
0713.2.3 Integrate scenario outcomes as they relate to the workplace environment.

Standard 3: Critical Thinking (0713.S.3)

Students will demonstrate effective use of critical thinking skills in the personal decision making process.

Critical Thinking Objectives

Students will:
0713.3.1 Define cognitive processing.
0713.3.2 Examine the different types of thinking.
0713.3.3 Compare and contrast inductive and deductive reasoning.
0713.3.4 Integrate critical thinking skills into personal decision-making.

Standard 4: Effective Communication (0713.S.4)

Students will demonstrate appropriate communication skills in various health care settings.

Effective Communication Objectives

Students will:
0713.4.1 Define methods to improve verbal and nonverbal communication.
0713.4.2 Explore health care consumer-related communication.

0713.4.3 Identify the physical and mental characteristics of listening.
0713.4.4 Create written documentation based on interpretation of clinical scenarios.

Standard 5: Interpersonal Relationships (0713.S.5)

Students will examine elements affecting patient interaction, interpersonal relationships and group dynamics.

Interpersonal Relationships Objectives

Students will:
0713.5.1 Explore the principles of teamwork.
0713.5.2 Summarize factors that affect group dynamics.
0713.5.3 Demonstrate group leadership techniques.
0713.5.4 Identify the steps involved in patient interaction.
0713.5.5 Discuss the relationship between communication and territorial space.

Standard 6: Personal Achievement Assessment (0713.S.6)

Students will re-examine personal attitudes and goals based on newly acquired information.

Personal Achievement Evaluation Objectives

Students will:
0713.6.1 Relate acquired knowledge to potential career success.
0713.6.2 Modify personal goals to reflect mastery of standards.

Standard 7: Technology (0713.S.7)

Students will assess and use electronically produced information to master course standards.

Technology Objectives

Students will:
0713.7.1 Integrate the use of software, hardware and the internet to practice and master standards identified in the course.
0713.7.2 Utilize the internet as a resource and research tool.

Standard 8: Student Organizations (0713.S.8)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:
0713.8.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/ Vocational Industrial Clubs of America (SkillsUSA/VICA).
0713.8.2 Apply parliamentary procedure in organizational meetings.
0713.8.3 Demonstrate team membership skills, such as cooperation and leadership.
0713.8.4 Take part in local, state, and national health care and education projects.

Concepts Of Health Care WVEIS Code 0715

The Health Care Student will be introduced to the personal qualities and communication skills needed to work successfully in a health care setting. The course also integrates advanced medical terminology, building upon basic terminology from the fundamentals course. Major areas of study are the legal and ethical responsibilities of health care workers, patients' rights and legal directives, measurement and assessment, and fundamental math principles used in health care services. Students are encouraged to participate in a Career and Technical Student Organization (CTSO) as part of the course.

Standard 1: Personal Qualities (0715.S.1)

Students will demonstrate awareness of personal qualities as they relate to success as a health care worker.

Personal Qualities Objectives

Students will:

0715.1.1 Describe at least eight personal traits or attitudes desirable in the health care worker.
0715.1.2 Examine basic professional standards of the health care worker as they apply to hygiene, dress, language, confidentiality and behavior.
0715.1.3 Compare the relationship among values, attitudes and behavior.
0715.1.4 Define, pronounce and spell key terms related to personal qualities of the health care worker.

Standard 2: Health Care Consumer (0715.S.2)

Students will demonstrate knowledge of variables that impact the individual health care consumer.

Health Care Consumer Objectives

Students will:

0715.2.1 Compare and contrast health and illness.
0715.2.2 Summarize factors which influence consumer attitudes and use of available health care services.

Standard 3: Communicating Observations (0715.S.3)

Students will apply proper procedures for communicating observations.

Communicating Observation Objectives

Students will:

0715.3.1 Differentiate between subjective and objective reporting.
0715.3.2 Discuss the role of the health care worker in gathering information and in making observations.
0715.3.3 Identify the reasons why observations must be reported promptly, accurately, and objectively.

Standard 4: Communication Skills (0715.S.4)

Students will demonstrate knowledge of effective communication skills in listening, speaking and writing.

Communication Skills Objectives

Students will:

0715.4.1 Convey and follow multi-step verbal directions.
0715.4.2 Participate in and lead group discussions.
0715.4.3 Organize ideas in an understandable format to plan written or oral communications.
0715.4.4 Compose sentences using correct punctuation and grammar.

0715.4.5 Describe ways one can maintain a courteous and professional approach toward patients/residents, families, the health care team, and the public.
0715.4.6 Differentiate basic principles of therapeutic communication.
0715.4.7 Utilize the three essential elements of effective communication.
0715.4.8 Apply appropriate telephone etiquette in answering the telephone and in recording messages.
0715.4.9 Assess alternate methods of communication with the hearing, vision, or speech impaired.

Standard 5: Medical Terminology (0715.S.5)

Students will demonstrate knowledge of advanced medical terminology.

Medical Terminology Objectives

Students will:
0715.5.1 Interpret common medical terms.
0715.5.2 Incorporate standard medical abbreviations and terms in written communications.
0715.5.3 Pronounce and spell medical terms.
0715.5.4 Analyze and compare common medical terms with their definitions.

Standard 6: Legal Issues and Ethics (0715.S.6)

Students will demonstrate knowledge of legal responsibilities and ethics in the health care setting.

Legal Issues and Ethics Objectives

Students will:
0715.6.1 Define, pronounce and spell common terms related to legal responsibilities and ethics in health care.
0715.6.2 Analyze privileged communications and explain how they apply to health care.
0715.6.3 Summarize and apply resident's/patient's bill of rights.
0715.6.4 Detect violations of resident's/patient's bill of rights.
0715.6.5 Differentiate between laws and ethics as related to health care.
0715.6.6 Examine basic professional standards as a safeguard for the health care worker, the employer and the client/resident/patient.
0715.6.7 Explain the concept of operating within one's scope of practice.

Standard 7: Math (0715.S.7)

Students will manipulate mathematical skills as they relate to health care professions.

Math Objectives

Students will:
0715.7.1 Perform the computations addition, subtraction, multiplication and division.
0715.7.2 Measure and compute using integers, fractions, and decimals and convert between metric/household systems.
0715.7.3 Solve problems involving ratio and proportions.
0715.7.4 Select and analyze appropriate diagrams, charts, graphs and tables to plot information.

Standard 8: Measurement and Assessment (0715.S.8)

Students will demonstrate knowledge and skill in measurement and assessment.

Measurement and Assessment Objectives

Students will:
0715.8.1 Describe the four main vital signs.
0715.8.2 Assess and compare the normal ranges for vital signs.

0715.8.3 Utilize appropriate supplies and equipment for measuring vital signs.
0715.8.4 Measure and record vital signs.
0715.8.5 Recognize and report abnormal vital signs.
0715.8.6 Relate vital signs to disease processes.
0715.8.7 Measure and record results of procedures such as height and weight, vital signs, intake and output, and circumference using appropriate mathematical calculations.
0715.8.8 Analyze and interpret diagrams, charts, graphs and tables.

Standard 9: Technology (0715.S.9)

Students will access and use electronically produced information to master course standards.

Technology Objectives

Students will:
0715.9.1 Use software and hardware to practice and master standards identified in the course.
0715.9.2 Use the Internet as a resource/research tool.

Standard 10: Student Organizations (0715.S.10)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:
0715.10.1 Participate in Health Occupations Students of America (HOSA) or Skills USA/ Vocational Industrial Clubs of America (Skills USA/VICA).
0715.10.2 Apply parliamentary procedure in organizational meetings.
0715.10.3 Demonstrate team membership skills, such as cooperation and leadership.
0715.10.4 Take part in local, state and national health care and education projects.

Clinical Concepts WVEIS Code 0717

Students will be introduced to safe work practices for the prevention of illness or injury to clients, co-workers, and self. The course includes a study of the basic structures and major functions of the human body and common disorders associated with each body system. Also included is instruction on disease transmission/prevention, standard precautions, OSHA standards, and principles of sterile technique. In this course, students begin study in a specialized occupational area and build a foundation for more complex and correlated clinical practice within Diversified Clinical Applications (0719). Students are encouraged to participate in a Career and Technical Students Organization (CTSO). *For students desiring preparation for an entry level occupation in health care and who plan to enroll in Diversified Clinical Applications (0719).

Standard 1: Fire Safety (0717.S.1)

Students will demonstrate knowledge of fire safety in the clinical areas.

Fire Safety Objectives

Students will:
0717.1.1 Identify components necessary for the ignition of a fire.
0717.1.2 Demonstrate the proper use of the fire extinguisher.
0717.1.3 Analyze methods to prevent fire and electrical hazards.
0717.1.4 Follow emergency procedures and protocols.

Standard 2: Environmental Safety (0717.S.2)

Students will demonstrate knowledge of environmental safety hazards in the clinical setting.

Safety Objectives

Students will:
0717.2.1 Identify common safety hazards in health care facilities.
0717.2.2 Describe common equipment associated with accidents and methods of prevention.
0717.2.3 Identify routine precautions to be used in oxygen therapy.
0717.2.4 Interpret guidelines in the use of patient/resident safety devices.

Standard 3: Body Mechanics (0717.S.3)

Students will demonstrate knowledge and skill in the use of body mechanics.

Body Mechanics Objectives

Students will:
0717.3.1 Define terms related to body mechanics.
0717.3.2 Apply principles of body mechanics, such as proper lifting techniques.
0717.3.3 Choose appropriate mechanical lifting devices in given situations.
0717.3.4 Transport patient/resident by wheelchair and stretcher.
0717.3.5 Identify safety precautions to be used when positioning and transferring patient/resident.

Standard 4: Body Structure and Function (0717.S.4)

Students will demonstrate knowledge of basic structure and function for each system of the human body in health and common disorders for each.

Body Structure and Function Objectives

Students will:
0717.4.1 Identify structures and functions of major body systems.

0717.4.2 Explain the integration between body systems.
0717.4.3 Define, pronounce, and spell commonly used terms and abbreviations.
0717.4.4 Compare the relationship of wellness to healthy structures and functions of body systems.
0717.4.5 Identify health risk factors and how these influence disease process.
0717.4.6 Describe common disorders in body systems and their diagnosis and treatment.

Standard 5: Disease Transmission and Prevention (0717.S.5)

Students will demonstrate knowledge of principles of disease transmission and prevention.

Disease Transmission and Prevention Objectives

Students will:
0717.5.1 Match terms related to infection control with their definitions.
0717.5.2 Describe the function of the immune system, including the appropriate tissues and organs.
0717.5.3 Recognize clinical situations that involve potential growth of microorganisms.
0717.5.4 Identify common nosocomial infections.
0717.5.5 Identify common pathogenic microorganisms.
0717.5.6 Apply the knowledge of the chain of infection to clinical practice.
0717.5.7 Apply proper hand washing technique to clinical situations.
0717.5.8 Compare the effectiveness of methods used to destroy bacteria.
0717.5.9 Select appropriate personal protective equipment and clothing for specific tasks.
0717.5.10 Don and remove Personal Protective Equipment (PPE).
0717.5.11 Summarize and differentiate the isolation categories established by the Centers for Disease Control (CDC).
0717.5.12 Describe methods of handling biohazard equipment, supplies, specimens and waste.
0717.5.13 Apply OSHA standards as established for clinical situations.
0717.5.14 Describe the components of an exposure incident.
0717.5.15 Complete an incident report.
0717.5.16 Recognize symbols for biohazards and standard precautions.

Standard 6: Sterile Technique (0717.S.6)

Students will apply principles of sterile technique.

Sterile Techniques Objectives

Students will:
0717.6.1 Compare and contrast methods of sterilization.
0717.6.2 Practice and maintain a clean and healthy environment.
0717.6.3 Compare and contrast medical asepsis and surgical asepsis.
0717.6.4 Demonstrate prescribed techniques as related to sterility.
0717.6.5 Assess and initiate proper storage methods and monitor expiration periods for sterilized equipment.
0717.6.6 Assist with sterile procedures, including but not limited to setting up a sterile field, donning sterile gloves, and transfer techniques.

Standard 7: Specialty Area Procedure (0717.S.7)

Students will implement procedures within the scope of specialty area.

Specialty Area Procedures Objectives

Students will:
0717.7.1 Utilize appropriate supplies and equipment.
0717.7.2 Maintain and calibrate equipment.
0717.7.3 Explain specialty/specific procedures and provide related information.

0717.7.4 Perform procedures according to industry standards and manufacturers directions.
0717.7.5 Perform procedures in a logical and sequential manner.
0717.7.6 Customize, adjust or modify procedures as needed and within established guidelines.
0717.7.7 Document procedures accurately.
0717.7.8 Recognize and report abnormal findings.

Standard 8: Technology (0717.S.8)

Students will access and use electronically produced information to master course standards.

Technology Objectives

Students will:
0717.8.1 Describe computer applications currently being used in today's health care setting.
0717.8.2 Use software and hardware to practice and master concepts identified in the course.
0717.8.3 Use the internet as a resource/research tool.

Standard 9: CPR (0717.S.9)

Students will demonstrate knowledge and skill in performing health care provider/professional level Cardiopulmonary Resuscitation.

CPR Objectives

Students will:
0717.9.1 Analyze the differences in the performance of CPR as it pertains to the health professional.
0717.9.2 Secure certification in CPR for the Professional Rescuer from American Red Cross or Health Care Provider (HCP) from American Heart Association.

Standard 10: Student Organizations (0717.S.10)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:
0717.10.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (SkillsUSA/VICA).
0717.10.2 Apply parliamentary procedure in organizational meetings.
0717.10.3 Demonstrate team membership skills, such as cooperation and leadership.
0717.10.4 Take part in local, state, and national health care and education projects.

Diversified Clinical Applications — WVEIS Code 0719

Students will be provided with entry-level knowledge and skills needed to function in a variety of health care settings. Students are required to choose a specialized occupational area for in-depth classroom study and must complete a minimum of 55-100 hours in a correlated (work-based) clinical experience as part of the course. Specialized courses with more in-depth instructional standards and objectives have been established for specific occupations. These appear in the Program Guide for Health Occupations Education in West Virginia. All standards and objectives must be mastered before students attain established credentials and/or industry validation. Students are encouraged to participate in a Career and Technical Student Organization (CTSO). *For students who are preparing for entry level employment in a health occupation.

Standard 1: Employment (0719.S.1)

Students will be prepared for entry-level employment in a health occupation.

Employment Objectives

Students will:

0719.1.1 Achieve course objectives for classroom study in a specialized occupational area.
0719.1.2 Achieve objectives for clinical internships established for occupational specializations, i.e., dental assisting.
0719.1.3 Meet entry-level requirements for certification or registration in a health occupation.

Standard 2: Technology (0719.S.2)

Students will access and use electronically produced information and computers within the health care system.

Technology Objectives

Students will:

0719.2.1 Utilize a computer to input, store and retrieve information.
0719.2.2 Utilize software, hardware, and the Internet to practice and master course standards.

Standard 3: Clinical Internship (0719.S.3)

Students will participate in a clinical internship.

Clinical Internship Objectives

Students will:

0719.3.1 Demonstrate a working knowledge of externship eligibility requirements.
0719.3.2 Comply with required health regulations such as proof of physical examination and immunization status.
0719.3.3 Provide proof of personal health insurance.
0719.3.4 Wear proper clinical attire.
0719.3.5 Maintain academic standards in classroom theory and lab.
0719.3.6 Report to clinical site on time and ready to work.
0719.3.7 Notify clinical site and instructor when absent.
0719.3.8 Conform to policies regarding performance of skills and scope of responsibility.
0719.3.9 Correctly and safely perform entry-level procedures under supervision of an instructor or clinical site preceptor.
0719.3.10 Request assistance or clarification as needed.
0719.3.11 Maintain professional standards including client confidentiality.
0719.3.12 Organize and effectively manage time.
0719.3.13 Complete documentation required of clinical internship accurately.

0719.3.14 Participate in clinical internship evaluation process.
0719.3.15 Utilize facility resources, i.e., other staff members, manuals, and training updates.

Standard 4: Job Seeking and Keeping (0719.S.4)

Students will identify strategies for job seeking and job keeping.

Job Seeking and Keeping Objectives

Students will:
0719.4.1 Identify the steps involved in job analysis and research.
0719.4.2 Analyze various career options and the preparation required for them.
0719.4.3 Complete a job application, cover letter and resume.
0719.4.4 Demonstrate skills related to the interviewing process.
0719.4.5 Exhibit personal skills such as attendance, time management, and individual responsibility.
0719.4.6 Maintain professional conduct and appearance.
0719.4.7 Utilize analytical skills to solve problems and make decisions.
0719.4.8 Recognize attitudes and behaviors necessary for establishing successful working relationships.
0719.4.9 Judge alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, gender, handicap, or age.
0719.4.10 Recognize and adhere to the chain of command/lines of authority in the work setting.
0719.4.11 Exhibit characteristics necessary for advancement.
0719.4.12 Recognize the importance of participating in continuing education programs.
0719.4.13 Manage conflict within the workplace through consideration of other's points of view.
0719.4.14 Prepare a letter of resignation.
0719.4.15 Practice team membership skills such as leadership and cooperation.
0719.4.16 Identify the importance of and develop good customer relation skills.

Standard 5: Student Organizations (0719.S.5)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organization Objectives

Students will:
0719.5.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (SkillsUSA/VICA).
0719.5.2 Apply parliamentary procedure in organizational meetings.
0719.5.3 Demonstrate team membership skills, such as cooperation and leadership.
0719.5.4 Take part in local, state, and national health care and education projects.

Medical Terminology WVEIS Code 0721

Through the study of medical terminology the student will be introduced to the language of medicine. Students will gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the body as a whole. Utilizing a systems approach, the student will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, oncology, and pharmacology. In addition to medical terms, common abbreviations applicable to each system will be interpreted.

Standard 1: Basic Elements of Medical Words (0721.S.1)

Students will effectively use basic medical elements.

Basic Elements of Medical Words Objectives

Students will:

0721.1.1 Identify the four elements that are used to form medical words.
0721.1.2 Analyze medical words by identifying their component elements.
0721.1.3 Describe the basic rules for building medical words.
0721.1.4 Explain the basic steps to defining medical words.
0721.1.5 Analyze the position and role of the suffix when used in a medical term.
0721.1.6 Identify and pronounce surgical, diagnostic, and symptomatic suffixes.
0721.1.7 Analyze suffixes to determine their part of speech.
0721.1.8 Define a diminutive suffix.
0721.1.9 Analyze the position and role of the prefix when used in building medical terms.
0721.1.10 Identify and pronounce prefixes including those indicating position, number, measurement, negation, and direction.

Standard 2: Medical Terminology Associated With the Body As A Whole (0721.S.2)

Students will demonstrate use of medical terminology associated with the body as a whole.

Medical Terminology Associated With the Body As A Whole Objectives

Students will:

0721.2.1 Identify the medical terms associated with the levels of organization of structure and function within the human body.
0721.2.2 Demonstrate an understanding of the disease process by defining medical terms used in pathology.
0721.2.3 Define and pronounce the medical terms used in the anatomical planes of the body, body cavities, and diagnostic imaging.
0721.2.4 Analyze medical terms indicating directional position.
0721.2.5 Interpret the meaning of abbreviations used to indicate body systems, direction, and diagnostic imaging.

Standard 3: Medical Terminology Associated with Body Systems (0721.S.3)

Students will effectively use medical terminology associated with body systems.

- Integumentary
- Gastrointestinal
- Respiratory
- Cardiovascular
- Blood and Lymphatic
- Musculoskeletal
- Genitourinary

- Reproductive
- Endocrine
- Nervous
- Special Senses

Medical Terminology Associated with Body Systems Objectives

The student will:

0721.3.1 Define and pronounce medical terms used to identify the basic structure and function.
0721.3.2 Interpret the meaning of combining forms, suffixes, and prefixes.
0721.3.3 Define and discuss medical terms associated with basic pathology.
0721.3.4 Interpret commonly used diagnostic and symptomatic medical terms.
0721.3.5 Identify and define medical terms used as related to surgical, diagnostic imaging, and laboratory procedures.
0721.3.6 Define medical terms associated with clinical procedures used in the process of examination and evaluation of structure and function.
0721.3.7 Analyze medical terms related to oncology.
0721.3.8 Describe medical terms used in pharmacology to treat common disorders.
0721.3.9 Interpret the meaning of common abbreviations.

Medical Assistant I — WVEIS Code 0731

This course contains the beginning concepts and skills the student will need for entry level employment as a Medical Assistant for both clinical and administrative duties. Major instructional concepts include: orientation to the career of Medical Assistant, ethics and liability, medical terminology, communication, safety, disease transmission and prevention, anatomy and physiology and clinical procedures. The instructional program content is based upon state guidelines and an occupational analysis of the medical assistant field. Adjustments are made to coincide with local physicians offices and clinics as determined by the instructor, administrator and advisory committee. Students are encouraged to participate in a Career and Technical Students Organization (CTSO).

Standard 1: Role, Function and Career Preparation (0731.S.1)

Students will identify concerning the role, function and career preparation for the medical assistant.

Role, Function and Career Preparation Objectives

Students will:
0731.1.1 Analyze the role and responsibilities of a medical assistant.
0731.1.2 Identify, evaluate and apply ideal attributes of a medical assistant.
0731.1.3 Research medical assistant career opportunities.
0731.1.4 Identify student and professional organizations applicable to the medical assistant.
0731.1.5 Demonstrate job seeking and job keeping skills.
0731.1.6 Explain accreditation, certification and continuing education as they pertain to the professional medical assistant.

Standard 2: Ethics And Liability (0731.S.2)

Students will demonstrate knowledge of medical ethics and liability.

Ethics And Liability Objectives

Students will:
0731.2.1 Explain the Code of Ethics for Medical Assistants and the Medical Assistant Creed.
0731.2.2 Describe the Patient's Bill of Rights.
0731.2.3 Define and describe Advanced Directives.
0731.2.4 Define and apply Privileged Communication as it pertains to the medical office.
0731.2.5 Summarize the difference between ethics and law.
0731.2.6 Compare and contrast Implied Consent and Expressed Consent and their application.
0731.2.7 Demonstrate the rules governing Medical Charting.
0731.2.8 Illustrate instances of legal required disclosure.
0731.2.9 Identify Civil and Criminal Law as if pertains to the medical office setting.

Standard 3: Medical Terminology (0731.S.3)

Students will demonstrate knowledge of basic medical terminology.

Medical Terminology Objectives

Students will:
0731.3.1 Interpret commonly used medical roots, prefixes and suffixes.
0731.3.2 Interpret commonly used abbreviations.
0731.3.3 Incorporate standard medical terms and abbreviations in written and oral communications.

Standard 4: Communication (0731.S.4)

Students will learn to communicate effectively with clients and personnel in the medical office.

Communication Objectives

Students will:

0731.4.1 The principles of verbal and non-verbal communication.
0731.4.2 Give and explain proper patient instruction as it relates to basic health care, common medical procedures, and applicable community resources.
0731.4.3 Interpret telephone messages and select appropriate course of action.

Standard 5: Safety (0731.S.5)

Students will describe contributions of the medial assistant to the medical office environment as it pertains to safety issues.

Safety Objectives

Students will:

0731.5.1 Discuss and summarize the OSHA and CDC regulations that apply to the medical office.
0731.5.2 Identify potential office hazards and explain corrective measures.
0731.5.3 Assess common medical emergencies and determine the sequence of appropriate actions, including CPR and the Heimlich maneuver.

Standard 6: Disease Transmission And Prevention (0731.S.6)

Students will demonstrate principles of disease transmission and prevention.

Disease Transmission And Prevention Objectives

Students will:

0731.6.1 Analyze the conditions necessary for the growth and transmission of microbial organisms and ways to prevent the spread of infection.
0731.6.2 Apply CDC guidelines and OSHA standards as established for clinical situations.

Standard 7: Body Structure And Function (0731.S.7)

Students will demonstrate knowledge of basic structure and function for each system of the human body.

Body Structure And Function Objectives

Students will:

0731.7.1 Identify and describe the major structures of each body system.
0731.7.2 Identify and analyze the major functions of each body system.
0731.7.3 Explain the integration between body systems.
0731.7.4 Define, pronounce and spell terms and abbreviations commonly used.
0731.7.5 Describe common disorders in body systems and their diagnosis and treatment.

Standard 8: Physical Examination (0731.S.8)

Students will apply knowledge of basic physical examination skills.

Physical Examination Objectives

Students will:

0731.8.1 Perform screening procedures including the measurement and recording of vital signs, height and weight, vision and hearing screening, and chief complaint.
0731.8.2 Perform assisting skills including positioning and draping, eye and ear procedures, and assisting with special examinations.

Standard 9: Medical and Surgical Asepsis (0731.S.9)

Students will demonstrate knowledge of medical and surgical asepsis.

Medical and Surgical Asepsis Objectives

Students will:

0731.9.1 Differentiate between sanitization, disinfection and sterilization practices and their application in the medical office setting.

0731.9.2 Define and apply techniques of surgical aseptic practices including sterile technique, assisting with minor surgery, and wound care.

Standard 10: Laboratory Procedures (0731.S.10)

Students will demonstrate knowledge of basic laboratory procedures.

Laboratory Procedures Objectives

Students will:

0731.10.1 Explain and discuss the laboratory practices that yield quality assurance and quality control.

0731.10.2 Identify and illustrate the purpose of laboratory tests commonly performed in a medical office, distinguishing between normal and abnormal results.

0731.10.3 Understand and practice accepted standards for specimen collection methods.

0731.10.4 Understand and practice accepted standards for specimen processing methods.

0731.10.5 Record and report laboratory procedures.

0731.10.6 Perform a 12-lead electrocardiogram.

Standard 11: Technology (0731.S.11)

Students will demonstrate knowledge of computers and their use within the health care system.

Technology Objectives

Students will:

0731.11.1 Integrate the use of software, hardware, and the internet to practice and master standards identified in the course.

0731.11.2 Utilize the internet as a resource/research tool.

Standard 12: Student Organizations (0731.S.12)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:

0731.12.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (Skills USA/VICA).

0731.12.2 Apply parliamentary procedure in organizational meetings.

0731.12.3 Demonstrate team membership skills, such as cooperation and leadership.

0731.12.4 Take part in local, state, and national health care and education projects.

Medical Assistant II — WVEIS Code 0732

The student will receive the skills needed for entry-level employment as a Medical Assistant for both clinical and administrative duties. Major instructional concepts include: administrative procedures, insurance, coding and billing, principles of pharmacology and medication administration. Correlated clinical experience is an integral component of this course. Students must complete a clinical internship with a minimum of 100 hours. The instructional program content is based upon state guidelines and an occupational analysis of the medical assistant field. Adjustments are made to coincide with local physicians offices and clinics as determined by the instructor, administrator and advisory committee. Students are encouraged to participate in a Career and Technical Student Organization (CTSO).

Standard 1: Administrative Medical Assistant Duties (0732.S.1)

Students will perform office procedures related to administrative medical assistant duties.

Medical Assistant Duties Objectives

Students will:
0732.1.1 Adapt techniques for patient reception, telephone procedures and appointment scheduling.
0732.1.2 Maintain patient records and files.
0732.1.3 Demonstrate basic banking procedures.
0732.1.4 Demonstrate basic accounting skills.
0732.1.5 Operate basic office equipment.

Standard 2: Insurance, Coding, Billing (0732.S.2)

Students will demonstrate an understanding of medical insurance practices, including coding and billing.

Insurance, Coding, Billing Objectives

Students will:
0732.2.1 Discuss and analyze insurance terms and the purpose of coding.
0732.2.2 Complete a basic insurance form.
0732.2.3 Describe computer databases and their usefulness to the medical office.
0732.2.4 Describe computerized office practices for the medical office.

Standard 3: Pharmacology (0732.S.3)

Students will identify principles of pharmacology.

Pharmacology Objectives

Students will:
0732.3.1 Discuss and summarize the legal role and responsibilities of the medical assistant as it pertains to the administration of medications.
0732.3.2 Describe and examine general principles of pharmacology, classification and schedules of drugs.
0732.3.3 Identify and describe the methods of inventory, storage, dispensation, and disposal of drugs.
0732.3.4 Identify and discuss the written information on a prescription or physician's order including the abbreviations and symbols.

Standard 4: Medication Administration (0732.S.4)

Students will identify principles in the administration of medications

Medication Administration Objectives

Students will:
0732.4.1 Distinguish between the systems of measurements.

0732.4.2 Describe and practice safety measures related to the administration of medications.
0732.4.3 Identify and classify preferred routes of administration and sites of administration.
0732.4.4 Select the proper syringe and needle for the administration of parenteral medications.
0732.4.5 Administer medications by various routes.

Standard 5: Clinical Internship (0732.S.5)

Students will participate in a clinical internship with a minimum of 100 hours.

Clinical Internship Objectives

Students will:
0732.5.1 Demonstrate a working knowledge of internship eligibility requirements.
0732.5.2 Comply with required health regulations such as proof of physical examination and immunization status.
0732.5.3 Provide proof of personal health insurance.
0732.5.4 Wear proper clinical attire.
0732.5.5 Maintain academic standards in classroom theory and lab.
0732.5.6 Report to clinical site on time and ready to work.
0732.5.7 Notify clinical site and instructor when absent.
0732.5.8 Conform to policies regarding performance of skills and scope of responsibility.
0732.5.9 Correctly and safely perform entry-level procedures under the supervision of an instructor or clinical site preceptor.
0732.5.10 Request assistance or clarification as needed.
0732.5.11 Maintain professional standards including client confidentiality.
0732.5.12 Organize and effectively manage time.
0732.5.13 Complete documentation required of clinical internship accurately.
0732.5.14 Participate in the clinical internship evaluation process.
0732.5.15 Utilize facility resources i.e., other staff members, manuals, and training updates.

Standard 6: Technology (0732.S.6)

Students will demonstrate knowledge of computers and their use within the health care system.

Technology Objectives

Students will:
0732.6.1 Integrate the use of software, hardware, and the Internet to practice and master standards identified in the course.
0732.6.2 Utilize the Internet as a resource/research tool.

Standard 7: Student Organizations (0732.S.7)

Students will participate in a Career and Technical Student Organization (CTSO).

Student Organizations Objectives

Students will:
0732.7.1 Participate in Health Occupations Students of America (HOSA) or SkillsUSA/Vocational Industrial Clubs of America (Skills USA/VICA).
0732.7.2 Apply parliamentary procedure in organizational meetings.
0732.7.3 Demonstrate team membership skills, such as cooperation and leadership.
0732.7.4 Take part in local, state, and national health care and education projects.

Lodging Management I — WVEIS Code 1201

The Lodging Management Program (LMP) is a two-year lodging curriculum developed by the Educational Institute of the American Hotel and Lodging Association with input from thousands of lodging professionals across the nation. The courses integrate academic and hands-on activities to provide an overview of the industry and competencies necessary for success in various areas of the lodging industry. Completers of the Lodging Management Program are eligible for a national certificate from the American Hotel and Lodging Association. Students must pass rigorous tests at the end of each course and complete a 400 hour, off-campus, paid internship.

Standard 1: Describe the organization and structure of lodging property management. (1201.S.1)

Lodging Property Management Objectives

Students will:

1201.1.1 Identify types of lodging properties.
1201.1.2 Define and discuss each type of lodging property.
1201.1.3 Group lodging properties based on their purpose, location and guests served.
1201.1.4 Identify the classes of lodging properties.
1201.1.5 Identify the differences in levels of service provided by each class of lodging property.
1201.1.6 Explain lodging property ownership and affiliation differences.
1201.1.7 Create an organization chart for a lodging property.
1201.1.8 Classify functional areas of a lodging property by revenue or support centers.
1201.1.9 Diagram the functional areas of the front-of-the-house and the back-of-the-house at a lodging property.
1201.1.10 Create a chart that lists hotel divisions and departments.
1201.1.11 Explain the functions of each division and department at a lodging property.

Standard 2: Explore the elements and strategies of guest service. (1201.S.2)

Guest Service Objectives

Students will:

1201.2.1 Identify the elements of good guest service.
1201.2.2 Distinguish between marketing tangible products and intangible products to guests.
1201.2.3 Describe the involvement of customers in service.
1201.2.4 Describe the concerns of maintaining quality control in relation to guest services.
1201.2.5 Distinguish between controlling inventory and controlling guest demand.
1201.2.6 Analyze time distribution channels in service.
1201.2.7 Explain the role of strategic planning in guest service.
1201.1.8 Create a flow chart showing the steps needed in a strategic plan for guest services.
1201.1.9 Define moments of truth in guest services.
1201.1.10 Set guest services standards for a lodging property.

Standard 3: Prepare for positions in the hospitality industry. (1201.S.3)

Hospitality Industry Objectives:

Students will:

1201.3.1 Chart entry, skilled and managerial level positions in the lodging industry.
1201.3.2 List the career opportunities available for the lodging and food service industry.
1201.3.3 List and discuss career opportunities available with clubs, airlines, cruise lines and travel agencies.
1201.3.4 Create a career ladder for the lodging industry.
1201.3.5 Complete an application and write a letter of application.

1201.3.6 Write a resume.
1201.3.7 Participate in the interview process through mock interviews.
1201.3.8 Compile a career portfolio.

Standard 4: Identify tasks and demonstrate procedures performed by front office employees. (1201.S.4)

Front Office Employees Objectives

Students will:
1201.4.1 Outline the stages in the guest cycle.
1201.4.2 Categorize the events that occur during the guest's pre-arrival, arrival, occupancy and departure stages.
1201.4.3 Examine the importance of protecting a guest's right to privacy.
1201.4.4 Use a logbook to record front office activities.
1201.4.5 Explain the importance of good communication skills in front office positions.
1201.4.6 Create an information directory.
1201.4.7 Create a split folio and master folio.
1201.4.8 List types of equipment and supplies loaned to guests and identify property policies for those items.
1201.4.9 Demonstrate proper handling of guest mail and packages.
1201.4.10 Identify special needs guests and explain roles and responsibilities of the staff.
1201.4.11 Categorize the types of guest complaints and create a priority list.
1201.4.12 Identify and create policies on how to handle guest complaints.
1201.4.13 Develop a follow-up checklist for guest complaints.
1201.4.14 Evaluate the role of front office employees in security.
1201.4.15 Define and explain types of keys used and key control measures taken to protect guests.
1201.4.16 Outline locking systems and their role in protecting guests.
1201.4.17 Create a plan for front desk surveillance, access control, protecting hotel funds and limiting liability of safe deposit boxes.
1201.4.18 Describe lost and found procedures and timelines.
1201.4.19 Develop emergency response procedures and assign staff responsibilities.

Standard 5: Analyze the role of telecommunications in the front office. (1201.S.5)

Telecommunications Objectives

Students will:
1201.5.1 Explain direct-dial calling, operated assisted calls and premium price calls of the guest.
1201.5.2 Outline the functions of a PBX system.
1201.5.3 Demonstrate how a HOBIC works.
1201.5.4 Define a call accounting system.
1201.5.5 List types of phones and map their locations at a lodging property.
1201.5.6 Take and deliver faxes and messages to the guest.
1201.5.7 Demonstrate wake up call procedures and voice mail instructions.
1201.5.8 Demonstrate email and TDD technology offered to the guest.

Standard 6: Learn the functions required for making a guest reservation. (1201.S.6)

Guest Reservation Objectives

Students will:
1201.6.1 Define various types of reservations.
1201.6.2 List the factors of a binding agreement between the lodging property and a potential guest.
1201.6.3 Describe a global distribution system.

1201.6.4 Define an intersell agency.
1201.6.5 List the ways properties directly receive reservations.
1201.6.6 Make a reservation through the internet.
1201.6.7 Contrast affiliate and non-affiliate reservation networks.
1201.6.8 Outline the functions of a central reservations office.
1201.6.9 Access and perform tasks necessary for operating a reservation computer system.
1201.6.10 Identify information needed for forecasting occupancy rates.
1201.6.11 Calculate percentages of no-shows, walk-ins, overstays and understays.
1201.6.12 Create a three-day and ten-day forecast.

Standard 7: Describe the processes involved in the guest registration cycle. (1201.S.7)

Guest Registration Cycle Objectives

Students will:
1201.7.1 Identify the functions and purposes of pre-registration.
1201.7.2 Demonstrate the use of guest registration cards.
1201.7.3 Describe and chart the flow of registration information throughout the lodging property.
1201.7.4 Determine when a room is available for sale and how to communicate room status reports.
1201.7.5 List and interpret rate schedules and special room rates.
1201.7.6 Demonstrate upselling techniques.
1201.7.7 Describe procedures used when turning guests away and referring guest to another property.
1201.7.8 Outline complete registration procedures.
1201.7.9 Discuss various forms of payment accepted.
1201.7.10 Explain property policies on issuing room keys.
1201.7.11 Instruct guests about promotional or special incentive programs available to them.
1201.7.12 Identify features of the guest accounting module of the computer system.
1201.7.13 Create individual, master, non-guest, employee, control, semi-permanent and permanent folios.
1201.7.14 Discuss various types of entries that can be made to guest accounts.

Standard 8: Learn to perform guest checkout and settlement procedures. (1201.S.8)

Guest Checkout and Settlement Procedures Objectives

Students will:
1201.8.1 Resolve outstanding account balances using various forms of payment.
1201.8.2 Update room status.
1201.8.3 Create a guest history.
1201.8.4 List departure procedures and three methods of check out options.
1201.8.5 List the steps involved in internal control.
1201.8.6 Complete a front office cash sheet and explain the procedures used for cash banks.
1201.8.7 Explain the purpose of a financial records audit.
1201.8.8 Complete a daily operations report.
1201.8.9 Calculate occupancy ratios and opening ratios.
1201.8.10 Interpret room revenue and room division budget reports.

Standard 9: Demonstrate night audit procedures. (1201.S.9)

Night Audit Objectives

Students will:
1201.9.1 Identify and describe the functions of a night auditor.
1201.9.2 Use the basic account posting formula to complete outstanding postings.
1201.9.3 Reconcile room status discrepancies and balance departmental revenue.

1201.9.4 Verify room rates and no-show reservations.
1201.9.5 Post room rates and taxes.
1201.9.6 Prepare a cash deposit.
1201.9.7 Distribute reports after backing up the system.

Standard 10: Explain the functions of the housekeeping department. (1201.S.10)

Housekeeping Objectives

Students will:
1201.10.1 Identify and create a checklist for the cleaning responsibilities of the housekeeping department.
1201.10.2 Create an inventory list of work performance standards and a frequency schedule.
1201.10.3 Identify steps necessary in staffing and scheduling for the housekeeping department.

Standard 11: Explain the role of inventory control in housekeeping department. (1201.S.11)

Inventory Control Objectives

Students will:
1201.11.1 Identify how recycled and non-recycled inventories are maintained.
1201.11.2 Calculate expected inventories and establish inventory levels.
1201.11.3 Identify types of linens and calculate necessary par levels for each type.
1201.11.4 Take a physical inventory of linens and describe effective inventory control methods.
1201.11.5 Describe purchasing responsibilities of the executive housekeeper.
1201.11.6 Identify factors to be considered in an annual linen purchase.

Standard 12: Demonstrate correct guest room cleaning procedures. (1201.S.12)

Cleaning Procedures Objectives

Students will:
1201.12.1 Assemble guest room cleaning supplies on a housekeeping cart.
1201.12.2 Complete a guest room assignment sheet and a room status report.
1201.12.3 Enter a guest room properly.
1201.12.4 Perform basic cleaning tasks in a safe and efficient manor and conduct an inspection.
1201.12.5 Identify new technology that has effected guest room cleaning.

Standard 13: Demonstrate knowledge of on-premise laundry management practices. (1201.S.13)

Laundry Management Practices Objectives

Students will:
1201.13.1 Explain the characteristics of various fabric types.
1201.13.2 List the steps in the laundry cycle.
1201.13.3 Oversee the collection and transportation of soiled linens.
1201.13.4 Demonstrate the proper procedures for sorting, loading, extracting and washing of different linen types.
1201.13.5 Demonstrate the proper procedures for drying, ironing, folding and storing linens.
1201.13.6 Identify types of commercial laundry equipment.
1201.13.7 Outline the importance of a safe, preventive maintenance program.

Standard 14: Discuss carpet construction and maintenance procedures. (1201.S.14)

Carpet Construction and Maintenance Procedures Objectives

Students will:

1201.14.1 Identify carpet types and durability factors.
1201.14.2 Identify primary and secondary backings used on carpets.
1201.14.3 Identify preventative measures and solutions for carpet wicking, shedding, pilling and mildew.
1201.14.4 Demonstrate how to use a floor plan and calendars to schedule routine and preventive carpet maintenance.
1201.14.5 Identify the types and functions of carpet care equipment.
1201.14.6 Demonstrate vacuuming procedures and dry powder cleaning methods.
1201.14.7 Identify applications for antimicrobial cleaning methods, electrostatic dissipation treatments and extraction techniques.

Standard 15: Address safety, chemical and security management in detail. (1201.S.15)

Safety, Chemical and Security Management Objectives

Students will:

1201.15.1 Identify potentially hazardous conditions present at a lodging property.
1201.15.2 Demonstrate safe use of ladders and electrical equipment.
1201.15.3 Store, handle and label chemicals properly.
1201.15.4 Analyze the safety of housekeeping jobs.
1201.15.5 Describe the concerns of using water to clean.
1201.15.6 Explain how to use bathroom cleaners safely.
1201.15.7 Identify common all-purpose cleaners and their additives.
1201.15.8 Compile the safety equipment needed when handling chemicals.
1201.15.9 List the five steps needed to comply with the HazComm standard.
1201.15.10 Create a hazardous chemicals list for the housekeeping department.
1201.15.11 Obtain Material Safety Data Sheets (MSDS) from chemical suppliers.
1201.15.12 List and explain possible housekeeping security risks.
1201.15.13 Define types of fires and create a safety training procedures plan.

Lodging Management II WVEIS Code 1202

The Lodging Management Program (LMP) is a two-year lodging curriculum developed by the Educational Institute of the American Hotel and Lodging Association with input from thousands of lodging professionals across the nation. The courses integrate academic and hands-on activities to provide an overview of the industry and competencies necessary for success in various areas of the lodging industry. Completers of the Lodging Management Program are eligible for a national certificate from the American Hotel and Lodging Association. Students must pass rigorous tests at the end of each course and complete a 400 hour off-campus, paid internship.

Standard 1: Define various management styles and their functions. (1202. S.1)

Management Styles Objectives

Students will:

1202.1.1 List the challenges managers face in balancing the focus of management with the vision of leadership.
1202.1.2 Define empowerment.
1202.1.3 Distinguish between centralized and decentralized organizations.
1202.1.4 Illustrate why a manager's authority must equal the manager's responsibility.
1202.1.5 Define quality service, a guest's perceived value and moments of truth.
1202.1.6 Describe a manager's role and responsibility in quality guest service.
1202.1.7 Define diversity and the role that it plays for a hospitality manager.
1202.1.8 Summarize the Americans with Disabilities Act.
1202.1.9 Respond to potential sexual harassment issues.

Standard 2: Explain the role and necessity of excellent communication skills in the lodging industry. (1202.S.2)

Communication Skills Objectives

Students will:

1202.2.1 List the seven myths about communication.
1202.2.2 Identify ways that managers can improve their communication skills.
1202.2.3 Outline the barriers to effective communication.
1202.2.4 Outline tips for effective speaking and presentations (formal and informal).
1202.2.5 Use visual aids effectively.
1202.2.6 List techniques for active listening.
1202.2.7 Explain the importance of good business writing.
1202.2.8 List basic business writing rules.
1202.2.9 Write a standard business letter and business memorandum.

Standard 3: Possess a thorough knowledge of effective team building techniques. (1202.S.3)

Team Building Objectives

Students will:

1202.3.1 Define a team.
1202.3.2 Explain the stages of team development.
1202.3.3 Describe the roles of individuals as team members.
1202.3.4 Create a team using teambuilding techniques.

Standard 4: Prepare a personal career development plan. (1202.S.4)

Career Development Objectives

Students will:

1202.4.1 Discuss the importance of self-assessment.
1202.4.2 Recognize the reasons for self-marketing and personal promotion.
1202.4.3 Prepare for a first and second interview.
1202.4.4 Respond to job offers.

Standard 5: Discuss hospitality sales and marketing plans. (1202.S.5)

Sales and Marketing Plans Objectives

Students will:
1202.5.1 Explain the difference between marketing and sales.
1202.5.2 Identify the roles and responsibilities of the various positions in the sales and marketing department.
1202.5.3 Explain the four P's of marketing.
1202.5.4 Identify and define lodging market segments.

Standard 6: Will create a marketing plan. (1202.S.6)

Marketing Plan Objectives

Students will:
1202.6.1 Identify the components and list the steps used in developing a marketing plan.
1202.6.2 Perform a marketing audit.
1202.6.3 Explain target markets and positioning.
1202.6.4 Describe marketing objectives, action plans and evaluation procedures.

Standard 7: Explain the functions of a sales office at a lodging property. (1202.S.7)

Sales Office Objectives

Students will:
1202.7.1 List types of meetings and sales records.
1202.7.2 Explain the purpose of a function book and guest room control book.
1202.7.3 Discuss the various filing systems used in a sales office.
1202.7.4 Explain the role of automated systems used to make lists, reports, analyze applications and to provide client information.

Standard 8: Explain the purpose and functions of the banquet and meeting room sales departments. (1202.S.8)

Banquet and Meeting Room Sales Departments Objectives

Students will:
1202.8.1 Outline the basic responsibilities and duties of banquet department employees.
1202.8.2 Explain types of advertising and promotion used in the banquet department.
1202.8.3 Identify the different types of food and beverage sales at a lodging property.
1202.8.4 List types of meeting rooms and meeting room set-ups.
1202.8.5 Book and manage the meeting room functions of a lodging property.

Standard 9: Explain why selling is everyone's responsibility. (1202.S.9)

Selling Objectives

Students will:
1202.9.1 Identify the importance of training and motivating an employee "to sell" the property's products and services.
1202.9.2 Discuss the importance of relationship selling.
1202.9.3 Describe what is meant by upgrading, suggestive selling and cross selling.
1202.9.4 Illustrate the roles of switchboard operators, reservationists, front desk personnel and food

and beverage employees in sales. .

Standard 10: Describe the various telephone sales methods. (1202.S.10)

Telephone Sales Objectives

Students will:
1202.10.1 Explain the basis of effective telephone communication.
1202.10.2 Make sales, promotional, service and public relations calls.
1202.10.3 List and explain the various types of incoming calls.
1202.10.4 Describe a telephone sales blitz.
1202.10.5 Explain the necessary steps in setting up a telemarketing program.

Standard 11: Describe the relationship between hotels and the food service industry. (1202.S.11)

Relationship Between Hotels and Food Service Objectives

Students will:
1202.11.1 List and describe the different types of food service operations and the markets that they serve.
1202.11.2 List the primary departments in a large hotel and define their roles and responsibilities.
1202.11.3 Identify various positions held in the food and beverage department and define their individual roles and responsibilities.
1202.11.4 Explain the critical role of food sanitation practices in food and beverage operations.

Standard 12: Demonstrate the importance of menu knowledge to the food and beverage operations. (1202.S.12)

Food and Beverage Operations Objectives

Students will:
1202.12.1 Describe menu styles and schedules.
1202.12.2 List and explain menu types.
1202.12.3 Explain the importance of menu planning, menu design and menu pricing.

Standard 13: Discuss the structure and scope of dining and beverage service. (1202.S.13)

Dining and Beverage Service Objectives

Students will:
1202.13.1 Identify dining service staff positions.
1202.13.2 Define dining service styles and procedures.
1202.13.3 List the factors that describe superior guest service.
1202.13.4 Identify Beverage Service Procedures.
1202.13.5 Explain the components of responsible beverage service.

Standard 14: Discuss the concepts of casual/theme restaurants. (1202.S.14)

Casual/Theme Restaurants Objectives

Students will:
1202.14.1 Explain what is meant by a marketing perspective.
1202.14.2 Describe how managers set quality standards and deal with training issues.
1202.14.3 List typical dining service staff positions and explain their roles and responsibilities.
1202.14.4 Identify the steps used in the delivery of guest service.

Standard 15: Book and plan banquets and catered events. (1202.S.15)

Banquets and Catered Events Objectives

Students will:
1202.15.1 Identify elements of a contract or letter of agreement and provide an example of each.
1202.15.2 Set up a function room and prepare the staff schedule for the event.
1202.15.3 Prepare, plate, hold and serve food at an event.
1202.15.4 Identify challenges for delivery service at a function.
1202.15.5 Discuss protocol issues.
1202.15.6 Explain payment plan options for banquets and catered events.
1202.15.7 Discuss the importance of customer feedback after delivery of service.

Standard 16: Explain the purpose and functions of room service operations. (1202.S.16)

Room Service Operations Objectives

Students will:
1202.16.1 List the key elements of a well-managed room service operation.
1202.16.2 Evaluate staffing issues and the role of forecasting in staff scheduling.
1202.16.3 Demonstrate how to take, route, prepare, deliver and follow-up room service orders.

Standard 17: Complete a 400-hour, off-campus, paid internship in a lodging property. (1202.S.17)

Paid Internship Objectives

Students will:
1202.17.1 Develop task performance necessary for success in each functional area as described in the LMP workplace competency checklist.
1202.17.2 Develop work habits necessary for success in each functional area as described in the LMP workplace competency checklist.
1202.17.3 Develop the applied knowledge necessary for success in each functional area as described in the LMP workplace competency checklist

Advertising WVEIS Code 0401

This course focuses on the purpose of the promotional strategy of advertising and its role in the marketing environment. Emphasis is placed on the different types of print, broadcast and specialty media, and the advantages and disadvantages of each type. This course will also give an overview of other promotional tools used in the marketing arena.

Standard 1: Fundamentals of Marketing (0401.S.1)

Describe the Fundamentals of Marketing.

Fundamentals of Marketing Objectives

Students will:
0401.1.1 Define the role of marketing and its importance.
0401.1.2 Explain the functions of marketing.
0401.1.3 State the marketing concept.
0401.1.4 Describe the economic benefits of marketing.
0401.1.5 Identify the 4 P's of the marketing mix.
0401.1.6 Illustrate the use of product positioning.
0401.1.7 Analyze variables in both the consumer and industrial markets (demographics, geographics, psychographics) that determine the target market.
0401.1.8 Construct a customer profile.

Standard 2: Promotion (0401.S.2)

Define Promotion.

Promotion Objectives

Students will:
0401.2.1 Explain the role of promotion.
0401.2.2 Explain the concept of the promotional mix.
0401.2.3 Develop a promotional plan.
0401.2.4 Evaluate ethical standards of various promotional media.
0401.2.5 Distinguish between advertising, publicity, sales promotion and visual merchandising.

Standard 3: Advertising as a Promotional Tool (0401.S.3)

Explore Advertising as a Promotional Tool.

Advertising as a Promotional Tool Objectives

Students will:
0401.3.1 Identify the characteristics and benefits of advertising.
0401.3.2 Explore advertising careers.
0401.3.3 Explore the history of advertising.
0401.3.4 Differentiate between the roles of an advertising agency and an in-house advertising department.
0401.3.5 Describe how the advertising agency industry is regulated.

Standard 4: Advertising Media (0401.S.4)

Analyze Various Types of Advertising Media.

Advertising Media Objectives

Students will:
0401.4.1 Identify the various types of media.
0401.4.2 Analyze the advantages and disadvantages of each type of media.

0401.4.3 Select the appropriate media for the target market.
0401.4.4 Identify standards for selecting advertising media.
0401.4.5 Evaluate the effectiveness of advertising media.

Standard 5: Advertising Budget (0401.S.5)

Describe the Purpose of an Advertising Budget.

Advertising Budget Objectives

Students will:
0401.5.1 Identify methods of advertising budgeting.
0401.5.2 Calculate media costs.
0401.5.3 Develop a budget.
0401.5.4 Develop an advertising schedule.
0401.5.5 Explain the role of advertising as an investment.
0401.5.6 Explain placement costs for print and broadcast advertisements.

Standard 6: Advertisement Development (0401.S.6)

Develop Advertisements.

Advertisement Development Objectives

Students will:
0401.6.1 Identify the parts of a print advertisement.
0401.6.2 Create advertising headlines.
0401.6.3 Write advertising body copy.
0401.6.4 Analyze illustrations.
0401.6.5 Choose appropriate styles of typeface.
0401.6.6 Explain the levels of Maslow's Hierarchy of needs.
0401.6.7 Illustrate the types of eye flow patterns.
0401.6.8 Differentiate between the optical center and focal point.
0401.6.9 Explain the steps of developing print advertisements.
0401.6.10 Develop an advertisement layout.
0401.6.11 Develop a television storyboard.
0401.6.12 Write a radio commercial.
0401.6.13 Explain the psychological use of lines.
0401.6.14 Demonstrate the use of color in advertising.
0401.6.15 Create a slogan, logo and signature.
0401.6.16 Describe how to check advertising proofs.

Standard 7: Visual Merchandising as a Promotional Tool (0401.S.7)

Create a Visual Merchandising Display.

Visual Merchandising Objectives

Students will:
0401.7.1 Identify the characteristics and benefits of visual merchandising.
0401.7.2 Identify window and interior display arrangements.
0401.7.3 Illustrate types of display patterns of arrangements.
0401.7.4 Explain how exterior and interior features contribute to the store's image.
0401.7.5 Identify the artistic considerations in display preparations.
0401.7.6 Select display fixtures.
0401.7.7 Design a display sign.
0401.7.8 Select merchandise for display.

0401.7.9 Create a display.
0401.7.10 Describe the procedures for maintaining and dismantling displays.

Standard 8: Public Relations/Publicity as a Promotional Tool (0401.S.8)

Define Public Relations/Publicity as a Promotional Tool.

Public Relations/Publicity Objectives

Students will:
0401.8.1 Identify the characteristics and benefits of public relations.
0401.8.2 Identify the audiences for public relations.
0401.8.3 Explain the importance of company participation in community activities.
0401.8.4 Write a media release.

Standard 9: Technology (0401.S.9)

Explore the Use of Technology in Promotion.

Technology Objectives

Students will:
0401.9.1 Identify technology-based promotion.
0401.9.2 Utilize software applications in the development of promotional tools.

Standard 10: Sales Promotion as a Promotional Tool (0401.S.10)

Define Sales Promotion as a Promotional Tool.

Sales Promotion Objectives

Students will:
0401.10.1 Identify the characteristics and benefits of sales promotion.
0401.10.2 Differentiate between the various types of sales promotion.
0401.10.3 Analyze the advantages and disadvantages of the various types of sales promotion.
0401.10.4 Select appropriate sales promotion.
0401.10.5 Develop a sales promotion.
0401.10.6 Evaluate the effectiveness of a sales promotion.
0401.10.7 Justify the need for sponsorship.

Economics of Business WVEIS Code 0404

This course focuses on the impact of economics as it relates to businesses and individuals. Because businesses are part of the overall economy, the success of any individual business is strongly affected by events in the economy as a whole. In addition, the economy as a whole is affected by the actions of the individual members within it.

Standard 1: Economic Principles (0404.S.1)

Describe the importance of economic principles in today's society.

Economic Principles in Today's Society Objectives

Students will:
0404.1.1 Identify opportunity costs and trade-offs involved in making choices about how to use scarce economic resources.
0404.1.2 Give examples of economic wants and needs.
0404.1.3 Identify the resources (factors of production) that are used to satisfy wants and needs.
0404.1.4 Define economic goods and services.
0404.1.5 Explain how the concept of scarcity affects the availability of economic goods and services.

Standard 2: Productivity, Specialization and Division of Labor Change (0404.S.2)

Explain the importance of productivity and discuss how specialization and division of labor change productivity.

Productivity, Specialization and Division of Labor Change Objectives

Students will:
0404.2.1 Analyze the methods of increasing productivity.
0404.2.2 Demonstrate specialization and division of labor.
0404.2.3 Explain how the relationship of input to output affects the level of productivity.

Standard 3: Basic Economic Systems Differences (0404.S.3)

Explain why societies develop economic systems and identify the basic features of different economic systems.

Basic Economic Systems Differences Objectives

Students will:
0404.3.1 Explain why a society needs an economic system.
0404.3.2 Discuss advantages and disadvantages of different types of economic systems.
0404.3.3 Discuss how an economic system addresses the questions what is to be produced, how it is to be produced, and for whom.

Standard 4: Role of Core U.S. Economic Institutions and Incentives (0404.S.4)

Explain the role of core economic institutions and incentives in the U.S. economy.

Core U.S. Economic Institutions and Incentives Objectives

Students will:
0404.4.1 Describe the concept of profit in the free enterprise system.
0404.4.2 Provide examples of economic institutions and incentives.
0404.4.3 Analyze reasons why a society's allocation of resources will be affected by its laws, public policy, and taxation.

Standard 5: Role of Exchange and Money (0404.S.5)

Explain the role of exchange and money in an economic system and describe the effect of interdependence on economic activity.

Role of Exchange and Money Objectives

Students will:
0404.5.1 Demonstrate the concept of barter.
0404.5.2 Explain why and illustrate how money can contribute to an increased number of exchanges, greater specialization and interdependence, and a higher standard of living in an economy.

Standard 6: Role of Supply and Demand as related to Markets and Prices in the U.S (0404.S.6)

Describe the role of law of supply and demand in the U.S. economy.

Role of Markets and Prices in the U.S. Economy Objectives

Students will:
0404.6.1 Define the concept of supply and demand.
0404.6.2 Analyze prices as determined by supply and demand.
0404.6.3 Identify determinants of supply and demand for goods and services.
0404.6.4 Describe how relative prices affect buying and selling decisions of producers and consumers.
0404.6.5 Graph the concept of price on a supply and demand curve.

Standard 7: Types of Competitive Structures and Markets (0404.S.7)

Describe different types of competitive structures and illustrate the role of competitive markets in the U.S. and other economies.

Types of Competitive Structures and Markets Objectives

Students will:
0404.7.1 Explain how competition among sellers affects prices and profits.
0404.7.2 Determine the role of government in preventing private monopolies and regulating public monopolies.
0404.7.3 Research U.S. laws and government regulations that are designed to maintain competition.
0404.7.4 Compare and contrast price and non-price competition.

Standard 8: Personal Financial Resources and Consumer Decisions (0404.S.8)

Manage limited personal financial resources and recognize that more of the wants and needs of members of a society can be satisfied if wise consumer decisions are made.

Personal Financial Resources and Consumer Decisions Objectives

Students will:
0404.8.1 Analyze the consumer decision making process for products and explain why there is variance in price for a given item bought from different suppliers.
0404.8.2 Use published consumer resources to collect information for making buying decisions.
0404.8.3 Identify sources and types of credit.
0404.8.4 Calculate the cost of credit.
0404.8.5 Develop a plan to allocate financial resources to meet an individual's financial goals.
0404.8.6 Describe the advantages and disadvantages of different saving and investing plans.
0404.8.7 Identify services that financial institutions provide to customers.
0404.8.8 Perform the steps involved in opening and using a checking account.
0404.8.9 Reconcile a bank statement.

Standard 9: U.S. Economy Functions and Measures (0404.S.9)

Explain how the U.S. economy functions as a whole and describe economic measures of economic activity such as gross domestic product, unemployment and inflation.

U.S. Economy Functions and Measures of Activities Objectives

Students will:
0404.9.1 Explain the Consumer Price Index.
0404.9.2 Analyze the factors that affect Gross Domestic Product.

Standard 10: Role of Government in an Economic System (0404.S.10)

Discuss the role of government in an economic system, especially the necessary and desirable role of government in the U.S. economy.

Role of Government in an Economic System Objectives

Students will:
0404.10.1 Explain how government taxation affects consumers and producers.
0404.10.2 Define and give examples of progressive, regressive, and proportional taxes.
0404.10.3 Analyze the effect of national debt on the level of economic activity.

Standard 11: U.S. Economy Citizens Rights and Responsibilities (0404.S.11)

Describe rights and responsibilities of citizens in the U.S. economy.

U.S. Economy Citizens Rights and Responsibilities Objectives

Students will:
0404.11.1 Identify consumer rights.
0404.11.2 Describe how legislation defines and protects consumer rights.
0404.11.3 Examine how society's needs are balanced against the individual's rights and responsibilities.
0404.11.4 Explain how consumer legislation affects product.
0404.11.5 Distinguish between fraudulent, misleading, and legitimate product claims.

Standard 12: Economic Relationships Among Nations (0404.S.12)

Examine the importance of economic relationships among nations and discuss the role of international trade and investment and international monetary relations in the global economy.

Economic Relationships Among Nations Objectives

Students will:
0404.12.1 Explain the importance of imports and exports in a global economy.
0404.12.2 Identify examples of goods and services that imported and exported.
0404.12.3 Explain foreign exchange rates and why the value of currency changes.
0404.12.4 Explain the advantages and disadvantages of free trade agreements between and among nations.

Fashion Marketing WVEIS Code 0407

This course is designed for students to gain basic knowledge of the fashion marketing industry and provide the learner with skills for a career in the field of Fashion Marketing.

Standard 1: Nature of Fashion (0407.S.1)

Explore the Nature of Fashion.

Nature of Fashion Objectives

Students will:
0407.1.1 Explain the concept of fashion in terms of apparel, home fashion and accessories.
0407.1.2 Explain the components of fashion.

Standard 2: Fundamentals of Marketing (0407.S.2)

Describe the Fundamentals of Marketing.

Fundamentals of Marketing Objectives

Students will:
0407.2.1 Define the role of marketing and its importance.
0407.2.2 List examples of marketing functions and related activities.
0407.2.3 Differentiate between the concepts of marketing segmentation, niche and mass marketing.
0407.2.4 Identify the elements of the marketing mix.
0407.2.5 Demonstrate the flow of products in the channel of distribution.
0407.2.6 State the marketing concept.

Standard 3: History and Trends of Fashion (0407.S.3)

Explore the History and Trends of Fashion.

History and Trends of Fashion Objectives

Students will:
0407.3.1 Research and describe the theories of the origin of fashion.
0407.3.2 Describe the influence of historical events on fashion.
0407.3.3 Analyze the influences that economic, culture, social, political, geographic and psychological factors have on fashion.
0407.3.4 Explain the use and importance of fashion cycles.
0407.3.5 Differentiate between fashion trends, fads and classics.
0407.3.6 Identify current trends in fashion.

Standard 4: Color and Design Fundamentals (0407.S.4)

Analyze Color and Design Fundamentals.

Color and Design Fundamentals Objectives

Students will:
0407.4.1 Describe elements and principles of line and design.
0407.4.2 Discuss how to use design to create illusions that enhance appearance.
0407.4.3 Analyze standardized sizing in the fashion industry.
0407.4.4 Explain the principles of color psychology and symbolism and its relationship to fashion.
0407.4.5 Identify purpose of color wheel and analyze color schemes.

Standard 5: Textile Characteristics (0407.S.5)

Evaluate Textile Characteristics.

Textile Characteristics Objectives

Students will:
0407.5.1 Identify the characteristics of natural and man-made fibers.
0407.5.2 Describe the relationship between fabric characteristics and product use.
0407.5.3 Identify the most common fabric constructions.

Standard 6: Economic Principles as Related to the Fashion Industry (0407.S.6)

Describe the Importance of Economic Principles as it relates to the Fashion Industry.

Economic Principles Objectives

Students will:
0407.6.1 Differentiate between goods and services.
0407.6.2 Discuss advantages and disadvantages of the different types of economic systems.
0407.6.3 Explain the concept of profit.
0407.6.4 Discuss the benefits of competition.
0407.6.5 Analyze the law of supply and demand.
0407.6.6 Examine the relationship between cost and price.
0407.6.7 Explain utility.

Standard 7: Communication Skills (0407.S.7)

Enhance Communication Skills.

Communication Skills Objectives

Students will:
0407.7.1 Explain the importance of verbal and nonverbal communication.
0407.7.2 Demonstrate proper telephone communication skills.
0407.7.3 Use effective writing skills.

Standard 8: Customer Service Skills (0407.S.8)

Develop Customer Service Skills.

Customer Service Skills Objectives

Students will:
0407.8.1 Explain the importance of customer service as it relates to a retail business.
0407.8.2 Demonstrate procedures for handling customer complaints.
0407.8.3 Handle multiple tasks simultaneously.
0407.8.4 Interpret company policies to customers.

Standard 9: Principles of Selling (0407.S.9)

Apply the Principles of Selling.

Principles of Selling Objectives

Students will:
0407.9.1 Identify the steps in the selling process.
0407.9.2 Identify and explain the different approaches of opening a sale.
0407.9.3 Conduct a sales presentation for a product or service.

0407.9.4 Choose the proper method of handling objections in order to close a sale.
0407.9.5 Identify and explain the different types of closing a sale.
0407.9.6 Explore various sales careers in the fashion industry.
0407.9.7 Apply textile knowledge to a sales presentation.

Standard 10: Careers in Fashion Marketing (0407.S.10)

Research Careers in Fashion Marketing.

Careers in Fashion Marketing Objectives

Students will:
0407.10.1 Identify personal traits important in a fashion career.
0407.10.2 Identify career opportunities in fashion sales, textiles and manufacturing industries.
0407.10.3 Identify an acceptable fashion image for work, school and social activities.

Standard 11: Technology in the Fashion Industry (0407.S.11)

Explore Technology in the Fashion Industry.

Fashion Industry Technology Objectives

Students will:
0407.11.1 Investigate computer technology applications in fashion marketing.
0407.11.2 Identify computer technology used in fashion/fabric design and production.

Standard 12: Principles of Promotion (0407.S.12)

Demonstrate the Principles of Promotion.

Principles of Promotion Objectives

Students will:
0407.12.1 Identify the elements of the promotional mix in fashion marketing.
0407.12.2 Analyze types of media used in fashion retail advertising.
0407.12.3 Identify the parts of a print advertisement.
0407.12.4 Prepare a broadcast advertisement.
0407.12.5 Analyze visual merchandising displays using the elements of display arrangements, color schemes, display background, mannequins and lighting.

Standard 13: Workplace Skills (0407.S.13)

Develop Job-Seeking, Job-Keeping and Job Learning Skills for the Workplace.

Job-Seeking, Job-Keeping and Job Learning Objectives

Students will:
0407.13.1 Explain the concept of work ethics.
0407.13.2 Explain the importance of positive working relationships and employer expectations.
0407.13.3 Complete the procedures for obtaining employment (resume, cover letter, job application, job search, interview, follow-up letter).

Standard 14: Risk Management (0407.S.14)

Explore Risk Management.

Risk Management Objectives

Students will:

0407.14.1 Identify the impact of internal theft and shoplifting.
0407.14.2 Demonstrate basic safety rules relevant to job safety.
0407.14.3 Describe the first aid measures to be used in case of an emergency or accident.
0407.14.4 Classify type A, B, and C fires and describe their characteristics in order to extinguish them properly.

Standard 15: Inventory Control Procedures (0407.S.15)

Describe Inventory Control Procedures.

Inventory Control Procedure Objectives

Students will:
0407.15.1 Describe the importance of inventory control.
0407.15.2 Describe receiving procedures.
0407.15.3 Explain procedures used to issue items and keep track of inventory.

Standard 16: Fashion Market Centers and Designers (0407.S.16)

Identify Fashion Market Centers and Designers.

Fashion Market Centers and Designers Objectives

Students will:
0407.16.1 Identify domestic fashion market centers.
0407.16.2 Identify international fashion market centers.
0407.16.3 Recognize influential fashion designers.

International Business and Marketing WVEIS Code 0410

This course is for students with a career interest in the field of international trade or for students who intend to pursue a business/marketing degree. This course provides students with an understanding of the various careers in international trade, finance and marketing. Fundamental concepts, principles, and theories of marketing in an international setting are considered.

Standard 1: Role of International Business (0410.S.1)

Explain the Role of International Business.

Role of International Business Objectives

Students will:

0410.1.1 Identify examples of international trade in the local and state community.
0410.1.2 Describe the impact of international business activities on the local, regional and national levels.
0410.1.3 Analyze the impact of a domestic company involving itself in international trade opportunities.
0410.1.4 Describe the resources (e.g., ports, trade routes, transportation centers, foreign trade zones and natural, financial, and human resources) of major cities around the world.
0410.1.5 Identify business opportunities in countries in various levels of economic development.

Standard 2: Communication Strategies (0410.S.2)

Apply Communication Strategies in International Business Relations.

Communication Strategies Objectives

Students will:

0410.2.1 Compose effective business communications.
0410.2.2 Analyze international business blunders resulting from ineffective or incorrect communication patterns.
0410.2.3 Identify international cultural differences in food, dress, social behaviors and language.
0410.2.4 Compare business protocol of various countries.
0410.2.5 State examples of non-verbal communication affecting international businesses.

Standard 3: Social, Cultural, Political, Legal, and Economic Factors (0410.S.3)

Describe Factors That Shape and Impact the International Business Environment.

Social, Cultural, Political, Legal and Economic Factors that Impact the International Business Environment Objectives

Students will:

0410.3.1 Identify distinctive social and cultural factors affecting business activities (e.g. time, workday, workweek, schedules, holidays).
0410.3.2 Describe how trade barriers, tariffs, quotas and taxation policies affect choice of location for companies operating internationally.
0410.3.3 Recognize legal differences that exist between and among countries in areas such as consumer protection, product guidelines, labor laws, contract formulation, liability and taxation.
0410.3.4 Define terms such as GDP (GNP), balance of trade, foreign debt and cost of living.
0410.3.5 Analyze the availability of resources and economic potential in various countries.
0410.3.6 Identify the economic systems used to decide what to produce, how it is produced, and for whom it is produced in a country.
0410.3.7 Evaluate the competitive strengths and weaknesses faced by a company involved in international business.

Standard 4: International Finance and Risk Management (0410.S.4)

Explain the Role, Importance, and Concepts of International Finance and Risk Management.

International Finance and Risk Management Objectives

Students will:
0410.4.1 Explain how currency exchange rates affect companies.
0410.4.2 Identify risks associated with international trade.

Standard 5: Operations and Management of Human Resources (0410.S.5)

Address the Operations and Management of Human Resources.

Operations and Management of Human Resources Objectives

Students will:
0410.5.1 Describe the production processes used to create goods and services in different countries.
0410.5.2 Discuss factors that influence the type of merchandise/inventory control systems used by companies operating internationally.
0410.5.3 Identify the factors that influence the application of managerial styles in different countries.
0410.5.4 Describe how compensation and employee benefits differ in various cultures.
0410.5.5 Identify how differences in occupational health and safety standards impact the conduct of business internationally.

Standard 6: Marketing Concepts (0410.S.6)

Apply Marketing Concepts to International Business.

Marketing Concepts Objectives

Students will:
0410.6.1 Describe how a company markets a product/service in other countries.
0410.6.2 Illustrate how social, cultural, technological and geographic factors influence consumer buying behavior in different countries.
0410.6.3 Evaluate market potential for a good or service in a foreign market.
0410.6.4 Describe how the marketing mix elements need to be adapted for international marketing efforts.
0410.6.5 Analyze buying patterns of consumers in a foreign market.
0410.6.6 Explain how the marketing research process, including data collection, differs in an international application.
0410.6.7 Give examples of countries that have absolute and comparative advantage.
0410.6.8 Explain how brands and packages are affected by culture.
0410.6.9 Explain how the business environment affects prices charged in foreign markets.
0410.6.10 Select distribution channels for a company involved in international business.
0410.6.11 Discuss media used in different foreign markets.
0410.6.12 Analyze the influence of social and cultural factors affecting promotions used in foreign markets.

Standard 7: Trade Concepts in the Import/Export Process (0410.S.7)

Relate Balance of Trade Concepts to the Import/Export Process.

Trade Concepts Objectives

Students will:
0410.7.1 Identify goods and services imported to or exported from a country.
0410.7.2 Analyze the import or export potential for a good or service.

0410.7.3 Describe the role that U.S. Customs and the customs agencies of other countries play in international trade activities.
0410.7.4 Define why trade barriers are imposed by governments (such as quotas, tariffs, licensing requirements, exchange rate controls).
0410.7.5 Describe international trade agreements (e.g., GATT, NAFTA).

Standard 8: Business Ownership and Entrepreneurial Opportunities (0410.S.8)

Identify Forms of Business Ownership and Entrepreneurial Opportunities.

Forms of Business Ownership and Entrepreneurial Opportunities Objectives

Students will:
0410.8.1 Analyze various forms of business ownership (e.g., sole proprietorship, corporation, partnership) for different international business situations.
0410.8.2 Determine social and cultural influences on the form of business ownership used or reuired in different countries.
0410.8.3 Identify potential new international business ventures for locally based companies.
0410.8.4 Distinguish between licensing and franchising for international business activities.

Standard 9: Technology in International Business. (0410.S.9)

Identify Technology Utilized in International Business.

Technology in International Business Objectives

Students will:
0410.9.1 Describe how the use of technology impacts the global market.
0410.9.2 Identify global e-commerce legal issues.

Introduction to Business and Marketing WVEIS Code 0413

This course is an introduction course that explores careers in business and marketing, the role of marketing in today's business world and a broad overview of economics.

Standard 1: Careers in Business and Marketing (0413.S.1)

Explore Careers in Business and Marketing.

Careers Objectives

Students will:
0413.1.1 Research and present information regarding careers in business and marketing.
0413.1.2 Explain how economic trends affect employment in business and marketing careers.
0413.1.3 Complete an interest survey to determine potential career options.

Standard 2: Private Enterprise System (0413.S.2)

Define and Explain How the Market Works in a Private Enterprise System.

Private Enterprise Objectives

Students will:
0413.2.1 Explore the benefits businesses provide to the economy.
0413.2.2 Compare and contrast the private enterprise system with other economic systems.
0413.2.3 Distinguish between consumer needs and wants and how they are satisfied.
0413.2.4 Explain how consumers affect the supply and demand for goods and services.
0413.2.5 Explain how prices affect consumers and producers.
0413.2.5 Describe the economic resources used in the production of goods and services.
0413.2.6 Identify and discuss economic measurements.
0413.2.7 Describe the four phases of the business cycle.

Standard 3: Social and Ethical Environment of Business (0413.S.3)

Explore Polices of a Diverse Workforce in Business and Marketing.

Social and Ethical Environment Objectives

Students will:
0413.3.1 Describe reasons for layoffs and downsizing.
0413.3.2 Write a job description.
0413.3.3 Discuss on-the-job policies dealing with diversity, drug use on the job, theft in the workplace and sexual harassment.
0413.3.4 Identify the functions, levels and responsibilities of managers.
0413.3.5 Discuss the pros, cons and implications of unionization.
0413.3.6 Explain what is meant by the social responsibilities of business.

Standard 4: Financial Management (0413.S.4)

Demonstrate the Handling of Business Finances.

Financial Management Objectives

Students will:
0413.4.1 Explain the types and purposes of financial statements.
0413.4.2 Describe the responsibilities of the Federal Reserve System.
0413.4.3 Calculate interest and finance charges.
0413.4.4 Identify the purpose, process and implications of obtaining credit.

0413.4.5 Identify laws that protect the consumer when applying for credit.
0413.4.6 Prepare a personal budget.
0413.4.7 Reconcile a bank statement.
0413.4.7 Obtain information regarding services provided by a financial institution.
0413.4.8 Identify the purpose and types of insurance.

Standard 5: Role of Marketing (0413.S.5)

Define the Role of Marketing in Today's World.

Role of Marketing Objectives

Students will:
0413.5.1 Apply the four elements of the marketing mix to products and services.
0413.5.2 Identify the stages of the product life cycle.
0413.5.3 Determine the appropriate channel of distribution for products.
0413.5.4 Identify the steps of pricing.
0413.5.5 Identify the functions of marketing.

Standard 6: Business Structure

Explore Development and Maintenance of a Business.

Business Structure Objectives

Students will:
0413.6.1 Identify unique characteristics of an entrepreneur.
0413.6.2 Compare and contrast the advantages and disadvantages of the types of business ownerships.
0413.6.3 Discuss the opportunities available to an entrepreneur.
0413.6.4 Identify the parts of a business plan and the components.

Standard 7: Government and Business Relationships (0413.S.7)

Explore the Relationship Between Government and Business.

Relationship Between Government and Business Objectives

Students will:
0413.7.1 Examine regulations that are encountered when starting a small business.
0413.7.2 Distinguish between progressive, proportional and regressive taxes.

Standard 8: International Business (0413.S.8)

Define the Importance of International Business in the Market Place.

International Business Objectives

Students will:
0413.8.1 Discuss the pros and cons of free trade.
0413.8.2 List examples of United States imports and exports.
0413.8.3 Identify specific products that currently are subject to government trade policies.
0413.8.4 Compare and contrast the economic systems.
0413.8.5 Identify benefits and challenges to competition in the international marketplace.

Standard 9: Role of a Consumer (0413.S.9)

Identify the Role of a Consumer in Business and Marketing.

Role of a Consumer Objectives

Students will:

0413.9.1 Describe choices consumers make when buying goods and services.

0413.9.2 Discuss the basic rights and responsibilities of a consumer.

0413.9.3 Research why regulations are implemented and the effects the regulations have on consumer safety.

Management and Entrepreneurship WVEIS Code 0416

This course provides a background for the development and operation of a business starting with the role of the entrepreneur in our economy to the development of a business plan and the application of specific marketing skills and concepts within the business environment. This course also explores the planning, organizing and controlling of a business, including organizational and human aspects, with emphasis on various theories of management, the knowledge and understanding necessary for managing people and functions, and decision making.

Standard 1: Careers in Supervision and Management (0416.S.1)

Explore the career of a supervisor/manager.

Supervision and Management Career Objectives

Students will:

0416.1.1 Identify unique characteristics of an entrepreneur.
0416.1.2 Compare and contrast the scientific management, functional, human relations/behavioral school and quantitative approaches of management.
0416.1.3 Identify the characteristics of a successful supervisor/manager.
0416.1.4 Identify and discuss the major demographic and societal trends that will affect supervisors/ managers in the future.
0416.1.5 Summarize the difficulties supervisors/managers face in fulfilling managerial roles.

Standard 2: Managerial Functions of Supervision (0416.S.2)

Apply the managerial functions to a supervisor or manager's role.

Managerial Function Objectives

Students will:

0416.2.1 Describe and apply the basic steps of the decision-making process.
0416.2.2 Discuss the functions utilized in management.
0416.2.3 Write a mission statement for a business or department.
0416.2.4 Identify examples of strategic plans, tactical plans and operational plans.
0416.2.5 Explain the concept of a chain of command.

Standard 3: Management Communication Skills (0416.S.3)

Explain the importance of effective communication in the manager's role.

Effective Communication Objectives

Students will:

0416.3.1 Define communication and discuss its implication for effective management in the manager's role.
0416.3.2 Diagram the communication process and explain the importance of each component to the process.
0416.3.3 Identify barriers to communication and suggest methods to overcome those barriers.
0416.3.4 Compare and contrast the formal, informal, horizontal and vertical channels of communication.
0416.3.5 Demonstrate effective communication skills.

Standard 4: Employee Motivation (0416.S.4)

Apply employee motivational factors to the manager's role.

Employee Motivation Objectives

Students will:

0416.4.1 Compare various motivation theories and explain their importance for understanding employee behavior.
0416.4.2 Analyze the application of Theory X and Theory Y in motivating employees.
0416.4.3 Classify motivational factors according to Maslow's hierarchy of needs.
0416.4.4 Define job rotation, job enlargement, and job enrichment and their implications in motivating employees.
0416.4.5 Investigate the significance of Total Quality Management (TQM).
0416.4.6 Explain the concept of authority, responsibility and power as a requirement of any managerial position.
0416.4.7 Define delegation, responsibility and accountability and describe their relationship with one another.

Standard 5: Entrepreneurship (0416.S.5)

Explore the role of an entrepreneur.

Entrepreneur Objectives

Students will:

0416.5.1 Compare and contrast the advantages and disadvantages of the types of ownership.
0416.5.2 Identify entrepreneurial opportunities.
0416.5.3 Analyze the parts of a business plan and components included in each part.
0416.5.4 Write and present a business plan for a small business.

Standard 6: Marketing Plan (0416.S.6)

Write a marketing plan for a small business.

Marketing Plan Objectives

Students will:

0416.6.1 Complete a demographic study to determine a market.
0416.6.2 Determine market potential.
0416.6.3 Identify direct and indirect competition.
0416.6.4 Evaluate competitive strengths and weaknesses.
0416.6.5 Explain the importance of choosing a proper location for a business.
0416.6.6 Describe the different types of goods and services.
0416.6.7 State the marketing concept.
0416.6.8 Utilize market segmentation and target marketing.
0416.6.9 Identify and apply the components of the marketing mix.
0416.6.10 Evaluate the importance of price.
0416.6.11 Describe different pricing strategies.
0416.6.12 Calculate price.
0416.6.13 Describe the steps in the selling process.

Standard 7: Financial Plan (0416.S.7)

Write a financial plan for a small business.

Financial Plan Objectives

Students will:

0416.7.1 Analyze the components of a financial plan.
0416.7.2 Compute capital needs.

0416.7.3 Prepare financial statements (income statement, balance sheet, statement of cash flow).
0416.7.4 Analyze financial statements to ascertain financial health of a business.
0416.7.5 Identify parts of an accounting system.
0416.7.6 Write a personal resume.
0416.7.7 Calculate personal net worth.
0416.7.8 Identify personal/financial assets available to collateralize.
0416.7.9 List potential sources of funds for a business.

Standard 8: Management Plan (0416.S.8)

Write a management plan for a small business.

Management Plan Objectives

Students will:
0416.8.1 Compare and contrast types of business ownership.
0416.8.2 Develop an organizational chart.
0416.8.3 Explain how small businesses recruit effectively.
0416.8.4 Prioritize staffing needs.
0416.8.5 Identify motivational techniques for employees.
0416.8.6 Explain employment laws.
0416.8.7 Monitor results of revenue and explain its impact on inventory, personnel, insurance and promotion.
0416.8.8 Analyze inventory procedures.
0416.8.9 Identify resources available for small business assistance.
0416.8.10 Identify government regulations.
0416.8.11 Research business risks and prevention control.
0416.8.12 List and explain components of a legally enforceable contract.
0416.8.13 Discuss business ethics and social responsibility.

Marketing Principles I — WVEIS Code 0422

This course includes instructional areas designed to provide an understanding of the fundamental marketing processes and the role of marketing in a free enterprise economy.

Standard 1: Marketing Education and Cooperative Procedures (0422.S.1)

Demonstrate Knowledge of Marketing Education and Cooperative Procedures.

Marketing Education and Cooperative Procedures Objectives

Students will:
0422.1.1 Explain the three components of a marketing education program.
0422.1.2 Participate in a simulated business activity.

Standard 2: Human Relation Skills (0422.S.2)

Demonstrate Effective Human Relations Skills.

Human Relations Objectives

Students will:
0422.2.1 Demonstrate the nature of positive consumer/client relations for personal and business success.
0422.2.2 Exhibit appropriate personal appearance, positive attitude, enthusiasm, initiative and behavior in the classroom and in the workplace.
0422.2.3 Demonstrate self-control while handling difficult customers/clients.
0422.2.4 Develop gender-free attitudes about participation in activities in the workplace.
0422.2.5 Analyze self-understanding and self-esteem in the motivation of employees.
0422.2.6 Demonstrate self-control in the handling of customer complaints.
0422.2.7 Set personal goals for the future.
0422.2.8 Use time management principles in creating a schedule of activities.

Standard 3: Job-Seeking, Keeping and Learning Skills (0422.S.3)

Develop Job-Seeking, Job-Keeping and Job Learning Skills for the Workplace.

Job-Seeking, Keeping and Learning Skill Objectives

Students will:
0422.3.1 Explore various marketing occupations.
0422.3.2 Complete the procedures for obtaining employment (resume, cover letter, job application, job search, interview, follow-up letter).
0422.3.3 Identify examples of non-verbal, verbal and written communications.
0422.3.4 Use proper grammar and vocabulary in verbal and written communication.
0422.3.5 Prepare a portfolio of sample work to be utilized in an interview.
0422.3.6 Prepare for and practice an interview for a potential job.

Standard 4: Basic Marketing Math Skills (0422.S.4)

Perform Basic Marketing Math Skills that are utilized in the workplace.

Basic Marketing Math Skills Objectives

Students will:
0422.4.1 Perform procedures associated with the handling of cash, credit cards, and checks (e.g. making change, preparing and closing cash drawers, correcting register errors).
0422.4.2 Operate a calculator to calculate tax, discounts and net sales.

0422.4.3 Process exchanges, returns, allowances, layaways and other types of sales transactions.

Standard 5: Fundamentals of Marketing (0422.S.5)

Describe the Fundamentals of Marketing.

Marketing Fundamental Objectives

Students will:
0422.5.1 Define the role of marketing and its importance.
0422.5.2 Explain the functions of marketing.
0422.5.3 State the marketing concept.
0422.5.4 Describe the economic benefits of marketing.
0422.5.5 Identify the 4 P's of the marketing mix.
0422.5.6 Illustrate the use of product positioning.
0422.5.7 Analyze variables in the consumer and industrial market (demographics, geographics, psychographics) that determine the target market.
0422.5.8 Construct a customer profile.

Standard 6: Basic Safety Techniques (0422.S.6)

Apply and Demonstrate Basic Safety Techniques.

Basic Safety Techniques Objectives

Students will:
0422.6.1 Demonstrate basic safety rules relevant to job safety by reading the appropriate operating instructions and explain the role of OSHA.
0422.6.2 Describe the first aid measures to be used in case of an emergency on the job, along with the procedures to be followed in case of an accident.
0422.6.3 Classify type A, B, and C fires and describe characteristics in order to extinguish properly.
0422.6.4 Discuss appropriate practices for handling and storing hazardous materials.
0422.6.5 Explain the role of OSHA.

Standard 7: Principles of Selling (0422.S.7)

Apply the Principles of Selling.

Principles of Selling Objectives

Students will:
0422.7.1 Identify the steps in the selling process.
0422.7.2 Identify the different approaches in the sales process.
0422.7.3 Identify the different methods of closing a sale.
0422.7.4 Choose the proper method of determining needs and handling objections in closing a sale.
0422.7.5 Conduct a sales presentation.

Standard 8: Consumer Characteristics (0422.S.8)

Analyze Consumer Characteristics and Behaviors as They Relate to Marketing Goods and Services.

Consumer Characteristics Objectives

Students will:
0422.8.1 Categorize buying transactions according to buying motives.
0422.8.2 Discuss how customers make buying decisions.
0422.8.3 Analyze external influences on the consumer buying decision.

Standard 9: Economic Principles (0422.S.9)

Describe the Importance of Economic Principles in Today's Society.

Economic Principles Objectives

Students will:

0422.9.1 Identify the various measurements used to analyze the economy.
0422.9.2 Distinguish between economic wants and needs.
0422.9.3 Define economic goods and services.
0422.9.4 Identify the resources (factors of production) that are used to satisfy wants and needs.
0422.9.5 Explain how scarcity affects the availability of economic goods and services.
0422.9.6 Explain the benefits of competition.
0422.9.7 Identify the opportunity costs and trade-offs involved in making choices.
0422.9.8 Explain the effects of the business cycle on consumers, businesses and government.
0422.9.9 Explain what an economy is.
0422.9.10 Discuss advantages and disadvantages of different types of economic systems.
0422.9.11 Discuss how an economic system addresses the questions (what is to be produced, how it is to be produced, and for whom).
0422.9.12 Analyze the relationship of price to scarcity.
0422.9.13 Describe how prices affect buying and selling decisions.
0422.9.14 Graph the concept of price on a supply and demand curve.

Standard 10: Business Ethics and Social Responsibility (0422.S.10)

Discuss Business Ethics and Social Responsibility.

Business Ethics and Social Responsibility Objectives

Students will:

0422.10.1 Explain the basic functions of a business.
0422.10.2 Name the areas in which businesses are thought to have social responsibilities.
0422.10.3 List ways that business activities have impacted the environment.
0422.10.4 Suggest how marketers can make ethical choices.
0422.10.5 Define consumerism.
0422.10.6 Describe current trends that are likely to improve the workplace for employees.

Standard 11: The Global Marketplace (0422.S.11)

Discuss the Importance of International Trade to Nations.

Global Marketplace Objectives

Students will:

0422.11.1 Distinguish between imports and exports.
0422.11.2 Discuss the interdependence of nations.
0422.11.3 Explain the advantages and disadvantages of international trade.
0422.11.4 Discuss the U.S. balance of trade.
0422.11.5 Identify trade barriers, trade support and trade agreements.
0422.11.6 Analyze how cultural, economic and political factors impact businesses engaged in international trade.

Marketing Principles II — WVEIS Code 0425

Prerequisite: MARKETING PRINCIPLES
This course includes instructional areas designed to prepare for a career in the field of marketing and management. Instruction will prepare students to perform one or more of the marketing functions such as selling, promoting, marketing research, and management. The course can utilize cooperative education to support classroom instruction.

Standard 1: Cooperative Education

Demonstrate Knowledge of Cooperative Education (co-op).

Cooperative Education Objectives

The student will:
0425.1.1 Explain co-op objectives and procedures.
0425.1.2 Analyze co-op rules and regulations.
0425.1.3 Participate in a co-op or project experience.

Standard 2: Principles of Promotion

Demonstrate the Principles of Promotion.

Principles of Promotion Objectives

The student will:
0425.2.1 Define promotion and its role in the economy.
0425.2.2 Explain the role of an advertising agency.
0425.2.3 Describe the nature and scope of public relations and publicity.
0425.2.4 Apply the promotional mix to products and services.
0425.2.5 Determine the target market.
0425.2.6 Identify the types of advertising media and discuss the advantages and disadvantages of each type.
0425.2.7 Develop a print advertisement using effective headlines, copy, illustrations, layouts, color and type face for a product or service.
0425.2.8 Calculate cost per thousand advertising costs to determine cost effectiveness.
0425.2.9 Create visual merchandising displays using various types of display arrangements, color schemes, display backgrounds, mannequins and lighting.
0425.2.10 Prepare a broadcast advertisement.
0425.2.11 Calculate media cost.
0425.2.12 Compare and contrast the elements of visual merchandising.

Standard 3: Fundamentals of Distribution

Define the Fundamentals of Distribution.

Fundamentals of Distribution Objectives

The student will
0425.3.1 Demonstrate the flow of products in the channel of distribution.
0425.3.2 Choose the most cost-effective distribution channel for products.
0425.3.3 Calculate shipping costs using shipping terms.
0425.3.4 Describe three levels of distribution intensity.
0425.3.5 Identify transportation systems for the distribution of products.
0425.3.6 Identify various types of warehouses.

Standard 4: Analyze Pricing

Analyze Pricing Procedures.

Analyze Pricing Objectives

The student will
0425.4.1 Identify various pricing techniques.
0425.4.2 Identify the factors affecting selling price.
0425.4.3 Distinguish between market share and market position.
0425.4.4 Analyze the psychological effects of pricing in the consumer's buying behavior.
0425.4.5 Perform pricing calculations.
0425.4.6 Calculate break-even point, mark-up and markdown.
0425.4.7 Determine the selling price of a product or service.

Standard 5: Reducing Marketing Risk

Identify Techniques to Reduce Marketing Risk.

Reducing Marketing Risk Objectives

The student will
0425.5.1 Describe the types of risk that businesses encounter.
0425.5.2 Determine methods to prevent, reduce, control or transfer risks.
0425.5.3 Outline effective routine security precautions for a business.
0425.5.4 Identify methods of internal theft and shoplifting.

Standard 6: Business Purchasing Procedures

Identify Purchasing Procedures Used by a Business.

Business Purchasing Procedures Objectives

The student will
0425.6.1 Define purchasing and the procedures used in buying/purchasing.
0425.6.2 Explain the buying process.
0425.6.3 Select appropriate products to sell.
0425.6.4 Choose a vendor for a product.
0425.6.5 Decide proper inventory levels for products.
0425.6.6 Compare and contrast inventory control systems.
0425.6.7 Calculate merchandising related discounts and extensions.
0425.6.8 Describe how merchandise is received, checked and marked.
0425.6.9 Prepare purchase orders and invoices.

Standard 7: Finance Principles

Identify the Principles of Finance.

Principles of Finance Objectives

The student will
0425.7.1 Explain the functions of financing.
0425.7.2 Explain the purposes, types and importance of credit.
0425.7.3 Calculate interest cost.
0425.7.4 Summarize credit legislation.

Standard 8: Product/Service Planning

Identify the Aspects of Product/Servicing Planning

Product/Service Planning Objectives

0425.8.1 Explain the nature and scope of product planning.
0425.8.2 Analyze the steps in the consumer buying process.
0425.8.3 Research the impact of consumer protection provisions on the consumer's buying behavior using primary and secondary data.
0425.8.4 Describe extended product features such as warranties and contracts.
0425.8.5 List the principle functions of product packaging and labeling.
0425.8.6 Explain the nature and scope of branding.
0425.8.7 Define the product life cycle.
0425.8.8 Summarize the major provisions of product legislation.

Standard 9: Marketing Research

Define the Nature and Scope of Marketing Research.

Marketing Research Objectives

The student will
0425.9.1 Discuss the importance of marketing research in planning and implementing marketing strategies.
0425.9.2 Explain the function of a marketing information system.
0425.9.3 Describe the four important areas of marketing research.
0425.9.4 Describe the five steps in conducting marketing research.
0425.9.5 Write research instruments.
0425.9.6 Conduct marketing research to identify the market for a product or service.

Standard 10: Management Skills

Explain the Functions of Management.

Management Skills Objectives

The student will
0425.10.1 Describe how management teams are organized.
0425.10.2 Explain the functions of management.
0425.10.3 Analyze the advantages and disadvantages of a career in management.
0425.10.4 Identify management techniques.

Standard 11: Entrepreneurship

Examine Entrepreneurship Opportunities.

Entrepreneurship Objectives

The student will
0425.11.1 Define entrepreneurship.
0425.11.2 Identify the risks involved in entrepreneurship.
0425.11.3 Discuss the advantages and disadvantages of entrepreneurship.
0425.11.4 Identify the personal characteristics and skills entrepreneurs need.
0425.11.5 Discuss business ownership opportunities.

Marketing Work Experience/Internship WVEIS Code 0428

Marketing Work Experience/Internship is a method of instruction for students to receive on-the-job training that contributes to the over-all instructional program. The instruction, through written agreement between school and employers, is a combination of study in school with employment in the appropriate field. The related classroom instruction and on-the-job experiences are planned and supervised by employers and teacher coordinators to complete the student's education as to his/her career objective.

Standard 1: Human Relations Skills (0428.S.1)

Demonstrate Human Relations Skills.

Human Relations Skills Objectives

Students will:
0428.1.1 Demonstrate honesty and integrity.
0428.1.2 Use proper business ethics in all business activities.
0428.1.3 Demonstrate respect for customers, co-workers and management.
0428.1.4 Demonstrate initiative in completing job duties.
0428.1.5 Maintain a positive attitude and positive relationship with customers, co-workers and management.
0428.1.6 Adapt to changes in job responsibilities.
0428.1.7 Appreciate diversity in the workplace.
0428.1.8 Exhibit self-control when working with customers, co-workers and management.
0428.1.9 Use appropriate assertiveness.
0428.1.10 Exhibit empathy for customers, co-workers and management.
0428.1.11 Use feedback from others for personal growth.
0428.1.12 Practice proper business etiquette.
0428.1.13 Identify procedures to respond to sexual harassment.

Standard 2: Business Communications (0428.S.2)

Demonstrate Appropriate Business Communication Skills.

Communications Objectives

Students will:
0428.2.1 Use correct grammar and vocabulary in written and oral communications.
0428.2.2 Listen to and follow directions.
0428.2.3 Explain policies and procedures to customers and clients.
0428.2.4 Perform proper telephone techniques appropriately.
0428.2.5 Demonstrate the proper procedure for job termination.

Standard 3: Basic Work Skills (0428.S.3)

Demonstrate Mastery of Basic Work Skills for a Chosen Occupation.

Basic Work Skills Objectives

Students will:
0428.3.1 Maintain punctuality, appropriate attendance and dependability.
0428.3.2 Work independently without direct supervision.
0428.3.3 Stay with an assigned task until successful completion.
0428.3.4 Utilize time management principles when completing assignments.
0428.3.5 Apply organizational skills in daily activities.
0428.3.6 Participate as a team member when completing a work project.

0428.3.7 Produce quality work.
0428.3.8 Accept accountability for one's performance.
0428.3.9 Perform basic mathematical functions.
0428.3.10 Operate the most common electronic equipment with speed and accuracy.
0428.3.11 Maintain appropriate records for use on the job and in class.
0428.3.12 Demonstrate leadership skills when completing a project or task.
0428.3.13 Exhibit decision-making skills.
0428.3.14 Solve problems individually and as a team member.
0428.3.15 Participate in company meetings and activities.

Standard 4: Basic Safety Techniques (0428.S.4)

Apply and Demonstrate Basic Safety Techniques.

Basic Safety Techniques Objectives

Students will:
0428.4.1 Practice basic safety rules.
0428.4.2 Handle company equipment properly and safely.
0428.4.3 Demonstrate safety procedures for handling and lifting heavy materials.
0428.4.4 Follow procedures in the case of an accident, including reporting procedures.
0428.4.5 Follow security procedures.
0428.4.6 Practice proper safety procedures for handling and storing hazardous materials.
0428.4.7 Recognize and report hazardous conditions.
0428.4.8 Read and interpret operating instructions before using equipment.
0428.4.9 Explain and practice procedures for safe evacuation.
0428.4.10 Classify type A, B, and C fires and describe characteristics in order to extinguish properly.
0428.4.11 Identify proper agencies for safety procedures (fire department, police department, OSHA, hospital).

Professional Selling/Salesmanship WVEIS Code 0431

This course focuses on the purpose of the promotional strategy of selling and its role in the marketing environment. Emphasis is placed on the purpose and steps of the sales process, and the importance of completing each step in the presentation. Professional Selling as a career is also explored.

Standard 1: Fundamentals of Marketing (0431.S.1)

Describe the Fundamentals of Marketing.

Fundamentals of Marketing Objectives

The student will:

0431.1.1 Define the role of marketing and its importance.
0431.1.2 Explain the functions of marketing.
0431.1.3 State the marketing concept.
0431.1.4 Describe the economic benefits of marketing.
0431.1.5 Identify the 4 P's of the marketing mix.
0431.1.6 Illustrate the use of product positioning.
0431.1.7 Analyze variables in both the consumer and industrial markets (demographics, geographics, psychographics) that determine the target market.
0431.1.8 Construct a customer profile.

Standard 2: Promotion (0431.S.2)

Define Promotion.

Promotion Objectives

The student will:

0431.2.1 Explain the role of promotion.
0431.2.2 Explain the concept of the promotional mix.
0431.2.3 Develop a promotional plan.
0431.2.4 Evaluate ethical standards of various promotional media.
0431.2.5 Distinguish between personal selling, advertising, publicity, sales promotion and visual merchandising.

Standard 3: Selling as a Promotional Tool (0431.S.3)

Explore Selling as a Promotional Tool.

Selling As a Promotional Tool Objectives

The student will:

0431.3.1 Identify the characteristics and benefits of selling.
0431.3.2 Explore sales as a career.
0431.3.3 Distinguish between the different types of sales positions.
0431.3.4 Identify the characteristics of a successful salesperson.
0431.3.5 Differentiate between consumer and industrial sales.
0431.3.6 Identify the steps in the sales process.
0431.3.7 Recognize cultural differences that are encountered in sales.
0431.3.8 Write a sales manual.
0431.3.9 Conduct a sales presentation.

Standard 4: Know Your Customer (0431.S.4)

Analyze the Importance of Knowing Your Customer.

Know Your Customer Objectives

The student will:
0431.4.1 Distinguish between rational and emotional buying motives.
0431.4.2 Explain the customer decision-making process.
0431.4.3 Differentiate between a consumer and a customer.
0431.4.4 Identify various customer personality types.

Standard 5: Product Knowledge (0431.S.5)

Analyze the Importance of Product Knowledge.

Product Knowledge Objectives

The student will:
0431.5.1 Identify features and benefits of a product or service.
0431.5.2 Demonstrate product/company knowledge needed for effecting selling.
0431.5.3 Research sources of product knowledge.

Standard 6: Preapproach Activities (0431.S.6)

Identify Preapproach Activities.

Preapproach Activities Objectives

The student will:
0431.6.1 Prepare a prospect list.
0431.6.2 Quality the customer for the list.
0431.6.3 Identify stock keeping and house keeping activities.
0431.6.4 Review sales records concerning the customer.
0431.6.5 Prepare sales materials.

Standard 7: Approach Activities (0431.S.7)

Identify Approach Activities.

Approach Activities Objectives

The student will:
0431.7.1 Discuss the purpose and importance of the approach.
0431.7.2 Identify types of retail approaches.
0431.7.3 Identify activities in the industrial approach.

Standard 8: Determine Customer Needs (0431.S.8)

Explain Why Determining Customer Needs is Essential in the Sales Process.

Determine Customer Needs Objectives

The student will:
0431.8.1 Describe methods used for determining customer needs.
0431.8.2 Discuss various questioning techniques.
0431.8.3 Consider the importance of nonverbal communication.
0431.8.4 Explain the necessity of effective listening.

Standard 9: Demonstration/Presentation (0431.S.9)

Identify Characteristics of a Demonstration/Presentation.

Demonstration/Presentation Objectives

The student will:
0431.9.1 Demonstrate how selling points are used in the demonstration/presentation.
0431.9.2 Explain how products are selected for the demonstration/presentation.
0431.9.3 Identify products to present to customer.
0431.9.4 Display the product for customer consideration.
0431.9.5 Involve the customer in the demonstration/presentation.
0431.9.6 Prepare sales aids.
0431.9.7 Utilize proper vocabulary to demonstrate product.
0431.9.8 Evaluate customer feedback.

Standard10: Handling Customer Objections and Questions (0431.S.10)

Identify Methods to Handle Objections and Questions.

Objections and Questions Objectives

The student will:
0431.10.1 Explain the difference between an excuse and an objection.
0431.10.2 Prepare an objection and analysis sheet.
0431.10.3 Identify common sources of objections.
0431.10.4 Explain the process of handling objections.
0431.10.5 Identify specialized methods of handling objections.
0431.10.6 Give examples of open ended and closed ended questions.

Standard11: Closing the Sale (0431.S.11)

Identify Techniques for Closing a Sale.

Closing the Sale Objectives

The student will:
0431.11.1 List buying signals that a customer sends.
0431.11.2 Explain the general rules for closing a sale.
0431.11.3 Describe specialized methods of closing the sale.
0431.11.4 Recognize the importance of closing the sale.
0431.11.5 Evaluate the reasons for failing to close a sale.
0431.11.6 Demonstrate methods of closing a sale.

Standard12: Suggestion Selling (0431.S.12)

Identify the Importance of Suggestion Selling.

Suggestion Selling Objectives

The student will:
0431.12.1 Identify the benefits of suggestion selling.
0431.12.2 Explain the rules of suggestion selling.
0431.12.3 Demonstrate methods of suggestion selling.

Standard13: Follow-Up Activities (0431.S.13)

Identify Follow-Up Activities.

Follow-Up Activities Objectives

The student will:
0431.13.1 Define the importance of relationship marketing.
0431.13.2 Summarize the importance of after-sale activities.
0431.13.3 Send thank you letters.
0431.13.4 Process payments.
0431.13.5 Identify sources of customer support.

Standard14: Selling Math Activities (0431.S.14)

Perform Selling Math Activities.

Selling Math Activities Objectives

The student will:
0431.14.1 Perform procedures associated with the handling of cash, credit cards, and checks (e.g. making change, preparing and closing cash drawers, correcting register errors).
0431.14.2 Describe the arrangement of currency and coins in a cash register.
0431.14.3 State the rules for safeguarding money in the cash register.
0431.14.4 Operate a calculator to calculate tax, discounts and net sales.
0431.14.5 Process exchanges, returns, allowances, layaways and other types of sales transactions.
0431.14.6 Prepare a purchase order and invoice.
0431.14.7 Calculate shipping costs.
0431.14.8 Identify methods of fraud protection.

Standard15: Sales Management (0431.S.15)

Identify Sales Management Activities.

Sales Management Activities Objectives

The student will:
0431.15.1 Track sales figures.
0431.15.2 Prepare a sales report.
0431.15.3 Identify techniques for motivating employees.
0431.15.4 Prepare sales goals.

Sports, Entertainment, Recreation In Marketing WVEIS Code 0434

This course includes instructional areas designed to prepare for a career in the field of sports, entertainment and/or recreational marketing. The function of Sports Marketing is to determine the interests of the consumer and plan a product or service that the spectator will buy.

Standard 1: Marketing Sports, Entertainment and Recreational Events (0434.SD.1)

Explain the Importance of Sports, Entertainment, and Recreation Marketing.

Importance of Marketing Sports, Entertainment and Recreational Events Objectives

The student will:
0434.1.1 Identify the place of sports, entertainment and recreation (SER) in the field of marketing.
0434.1.2 Identify SER careers.
0434.1.3 Analyze the growth and trends of SER as an industry in the local, state, national and international arenas.

Standard 2: Marketing and Business Overview (0434.SD.2)

Investigate an Overview of Marketing and Business.

Marketing and Business Objectives

The student will:
0434.2.1 Define the marketing functions.
0434.2.2 Identify the components of the marketing mix.
0434.2.3 State the marketing concept.
0434.2.4 Identify the use of market positioning.
0434.2.5 Explain the need and describe the methods of market research.
0434.2.6 Identify types of segmentation and determine the target market.
0434.2.7 Describe the four stages in the product life cycle.

Standard 3: Business Structure (0434.SD.3)

Explain the Business Structure of Sports, Entertainment, and Recreation.

Business Structure Objectives

The student will:
0434.3.1 Identify examples of business ownership.
0434.3.2 Explain reasons for operating as a profit or not-for-profit organization.
0434.3.3 Describe the partnership of business and government to develop SER opportunities.

Standard 4: Communication Strategies (0434.SD.4)

Develop Effective Communication Strategies.

Communication Strategies Objectives

The student will:
0434.4.1 Explain the components of the communication process.
0434.4.2 Identify listening strategies and barriers to effective communication.
0434.4.3 Compose written business communications.
0434.4.4 Interpret nonverbal communication.

Standard 5: Promotion (0434.SD.5)

Develop Promotion.

Promotion Objectives

The student will:
0434.5.1 Describe the five elements of the promotional mix.
0434.5.2 Differentiate between product and institutional promotions.
0434.5.3 Develop a logo, trademark, slogan and trade character.
0434.5.4 Describe the importance of selling.
0434.5.5 Identify the steps of a sale.
0434.5.6 Describe the four major types and uses of sales promotion.
0434.5.7 Develop a promotion campaign.
0434.5.8 Identify the responsibilities of a Sports Information Director or Public Relations person.
0434.5.9 Explain the composition of the media and effective ways to work with each.
0434.5.10 Develop a media/press release, letterhead, mailing list and PSA.
0434.5.11 Explain the types of advertising media.
0434.5.12 Describe the elements of an advertisement.

Standard 6: Sponsorship (0434.SD.6)

Analyze the Purpose of Sponsorship.

Sponsorship Objectives

The student will:
0434.6.1 Explain the reasons for a company to use sponsorship.
0434.6.2 Explain the sociological rationales for buying into sports and entertainment.
0434.6.3 Identify reasons for athlete/entertainer endorsements.
0434.6.4 Evaluate a sponsorship marketing plan/proposal and discuss legal issues.
0434.6.5 Analyze the pricing of sponsorships.

Standard 7: Legal Considerations (0434.SD.7)

Investigate Legal Considerations.

Legal Considerations Objectives

The student will:
0434.7.1 Explain expressed, implied, unilateral and bilateral contracts.
0434.7.2 Identify essential elements of contracts and the legal implications.
0434.7.3 Explain the role of licensing.

Standard 8: Agents and Personal Managers (0434.SD.8)

Examine the Role of Agents and Personal Managers.

Agents and Personal Managers Objectives

The student will:
0434.8.1 Identify the role of agents and personal managers.
0434.8.2 Explain the types of agreements/contracts and financial compensation.
0434.8.3 Identify the factors involved in selection of an agent/personal manager.
0434.8.4 Identify the agent's role in pre-negotiations and endorsement contracts.

Standard 9: Labor Unions (0434.SD.9)

Appraise the Role of Labor Unions.

Labor Union Objectives

The student will:
0434.9.1 Examine the role of unions in sports, entertainment, and recreation marketing.
0434.9.2 Explain the use of collective bargaining in union negotiations.

Standard 10: Business Ethics (0434.SD.10)

Explore Business Ethics.

Business Ethic Objectives

The student will:
0434.10.1 Explain management's role in ethical practices.
0434.10.2 Describe ways to improve ethical behavior in business.
0434.10.3 Explain bootlegging and the ways companies are affected.

Standard 11: Risk Management (0434.SD.11)

Explain the Importance of Risk Management.

Risk Management Objectives

The student will:
0434.11.1 Identify risks.
0434.11.2 Analyze the importance of security and insurance.
0434.11.3 Determine methods to prevent, reduce, control or transfer risks.

Standard 12: Event Planning (0434.SD.12)

Develop and Plan an Event.

Event Planning Objectives

The student will:
0434.12.1 Analyze the growth and trends of event planning.
0434.12.2 Explore sports or entertainment events.
0434.12.3 Illustrate job duties in event planning.
0434.12.4 Develop an event plan.
0434.12.5 Evaluate the event plan.

Standard 13: Financial Planning (0434.SD.13)

Determine the Importance of Financial Planning.

Financial Planning Objectives

The student will:
0434.13.1 Identify sources of costs for SER businesses.
0434.13.2 Explain net profit/net loss and how it is calculated.
0434.13.3 Identify the components of a budget.
0434.13.4 Identify revenue sources.

Standard 14: Product Development (0434.SD.14)

Analyze Product Development.

Product Development Objectives

The student will:
0434.14.1 Describe types of concessions.
0434.14.2 Identify factors affecting product development and concessions.
0434.14.3 Define internal/external merchandise opportunities.

Tour/Hospitality Marketing WVEIS Code 0437

This course focuses on the importance of marketing in the tourism and hospitality industry. Careers in the tourism and hospitality are also explored.

Standard 1: Fundamentals of Marketing (0437.S.1)

Describe the fundamentals of marketing.

Fundamentals of Marketing Objectives

The student will:
0437.1.1 Describe the environment for marketing in the hospitality and travel industry.
0437.1.2 Define the role of marketing and its importance.
0437.1.3 Explain the functions of marketing.
0437.1.4 State the marketing concept.
0437.1.5 Describe the economic benefits of marketing.
0437.1.6 Identify the 4 P's of the marketing mix.
0437.1.7 Illustrate the use of product positioning.
0437.1.8 Analyze variables in both the consumer and industrial markets (demographics, geographics, psychographics) that determine the target market.
0437.1.9 Construct a customer profile.

Standard 2: Marketing and Travel (0437.S.2)

Identify the importance of marketing in the travel industry.

Marketing and Travel Objectives

The student will:
0437.2.1 Explain the meaning of services marketing.
0437.2.2 Differentiate between the marketing of services and the marketing of products.
0437.2.3 Discuss the fundamentals of the hospitality and travel marketing system.
0437.2.4 List the benefits of using the hospitality and travel marketing system.
0437.2.5 Define long- and short-term marketing planning.
0437.2.6 Distinguish between a strategic market plan and a marketing plan.

Standard 3: Marketing Opportunities in Tourism and Hospitality (0437.S.3)

Analyze marketing opportunities.

Marketing Opportunities Objectives

The student will:
0437.3.1 Differentiate between situation, market and feasibility analyses.
0437.3.2 Describe the steps in a situation analysis.
0437.3.3 Describe the steps in a market analysis.
0437.3.4 Describe the steps in a feasibility analysis.

Standard 4: Marketing Research (0437.S.4)

Analyze the importance of marketing research.

Marketing Research Objectives

The student will:
0437.4.1 Discuss the importance of marketing research in planning and implementing marketing strategies.
0437.4.2 Explain the function of a marketing information system.
0437.4.3 Describe the four important areas of marketing research.

0437.4.4 Describe the five steps in conducting marketing research.
0437.4.5 Write research instruments.
0437.4.6 Conduct marketing research to identify the market.
0437.4.7 Discuss the criteria used to determine the viability of market segments.
0437.4.8 List the bases that can be used to segment hospitality and travel markets.
0437.4.9 Describe the major demand and supply trends that influence the industry.
0437.4.10 Describe how the effectiveness of various marketing strategies varies with the product life cycle and an organization's position in the industry.
0437.4.11 Identify the factors that have made positioning essential in the industry.
0437.4.12 Describe the approaches to positioning.

Standard 5: Customer Behavior (0437.S.5)

Discuss customer behavior.

Customer Behavior Objectives

The student will:
0437.5.1 Describe personal factors that influence customer behavior.
0437.5.2 Explain the factors that influences customers' perception of the industry.
0437.5.3 Describe interpersonal factors that influence customer behavior.
0437.5.4 List the steps in the customer buying process.

Standard 6: Marketing Plan (0437.S.6)

Write a marketing plan.

Marketing Plan Objectives

The student will:
0437.6.1 Identify the characteristics of a marketing plan.
0437.6.2 List requirements for an effective marketing plan.
0437.6.3 Explain the benefits of having a marketing plan.
0437.6.4 Complete a demographic study to determine a market.
0437.6.5 Determine market potential.
0437.6.6 Identify direct and indirect competition.
0437.6.7 Evaluate competitive strengths and weaknesses.
0437.6.8 State the marketing concept.
0437.6.9 Utilize market segmentation and target marketing.
0437.6.10 Identify and apply the components of the marketing mix.
0437.6.11 Explain approaches to develop a marketing budget.

Standard 7: Product Development (0437.S.7)

Analyze the importance of product development.

Product Development Objectives

The student will:
0437.7.1 Identify the components of an organization's product/service mix.
0437.7.2 Explain the steps in product development.
0437.7.3 Explain the potential benefits of marketing partnerships to hospitality and travel organizations.

Standard 8: People and Service Quality (0437.S.8)

Explain why people and service quality are important to the industry.

People and Service Quality Objectives

The student will:

0437.8.1 Explain the key role played by people in the marketing mix.
0437.8.2 Describe the total quality management (TQM) concept.
0437.8.3 Explain the importance of employee selection, orientation, training and motivating programs.
0437.8.4 Describe the concept of empowering employees.
0437.8.5 Describe the customer mix.

Standard 9: Distribution (0437.S.9)

Explain distribution in the industry.

Distribution Objectives

The student will:
0437.9.1 Differentiate between the distribution mix in the hospitality and travel industry and other industries.
0437.9.2 List the major travel trade intermediaries.
0437.9.3 Explain the roles played by each of the major travel trade intermediaries.

Standard10: Communication and the Promotional Mix (0437.S.10)

Identify the connection between communication and the promotional mix.

Communication and the Promotional Mix Objectives

The student will:
0437.10.1 List the elements of the promotional mix.
0437.10.2 Explain the communication process.
0437.10.3 Describe how the customer's buying process stage and the buying decision classification influence the effectiveness of promotions.
0437.10.4 Discuss the goals of promotion.
0437.10.5 Explain the relationship of the promotional mix and the marketing mix.

Standard11: Advertising (0437.S.11)

Identify the importance of advertising in the industry.

Advertising Objectives

The student will:
0437.11.1 Identify the various types of media.
0437.11.2 Analyze the advantages and disadvantages of each type of media.
0437.11.3 Select the appropriate media for the target market.
0437.11.4 Identify standards for selecting advertising media.
0437.11.5 Evaluate the effectiveness of the advertising media.
0437.11.6 Explain the difference between consumer and trade advertising.
0437.11.7 Explain how the hospitality and travel industry tends to use advertising.
0437.11.8 Describe the role of advertising agencies.

Standard12: Sales Promotion (0437.S.12)

Identify the importance of sales promotion in the industry.

Sales Promotion Objectives

The student will:
0437.12.1 Identify the characteristics and benefits of sales promotion.
0437.12.2 Differentiate between the various types of sales promotion.
0437.12.3 Analyze the advantages and disadvantages of the various types of sales promotion.
0437.12.4 Select appropriate sales promotion.
0437.12.5 Explain the difference between special communication and special offer promotions.

0437.12.6 Develop a sales promotion.
0437.12.7 Evaluate the effectiveness of a sales promotion.

Standard13: Personal Selling (0437.S.13)

Identify the importance of personal selling in the industry.

Personal Selling Objectives

The student will:
0437.13.1 Identify the characteristics and benefits of selling.
0437.13.2 Differentiate between consumer and industrial sales.
0437.13.3 Describe the characteristics of the successful salesperson.
0437.13.4 Identify the steps in the sales process.
0437.13.5 Recognize cultural differences that are encountered in sales.
0437.13.6 Conduct a sales presentation.

Standard14: Public Relations (0437.S.14)

Identify the importance of public relations in the industry.

Public Relations Objectives

The student will:
0437.14.1 Identify the characteristics and benefits of public relations and publicity.
0437.14.2 Identify the audiences for public relations.
0437.14.3 Describe the steps in developing a public relations plan.
0437.14.4 Identify the vehicles used for public relations and publicity.
0437.14.5 Explain the role and advantages of public relations consultants.
0437.14.6 Write a media release.

Early Childhood & Educational Services I WVEIS Code 1001

Early Childhood and Educational Services provides the integrated knowledge, skill, and practices required for careers in early childhood education and services.

Standard 1: Developmental Practices (1001.S.1)

The student will analyze developmentally appropriate practices to plan for early childhood education and services.

Developmental Practices Objectives

The students will:

1001.1.1 Examine child development theories and their applications for educational and childcare practices as they relate to physical, social, emotional, and cognitive development of children.*
1001.1.2 Determine a variety of assessment methods to observe and interpret children's growth and development.*
1001.1.3 Consider cultural and environmental influences when assessing children's development.*
1001.1.4 Determine special needs of children.
1001.1.5 Put into effect strategies that promote children's growth and development.*

Standard 2: Developmental Needs and Interests (1001.S.2)

The student will demonstrate integration of curriculum and instruction to meet children's developmental needs and interests.

Developmental Needs and Interests Objectives

The students will:

1001.2.1 Examine a variety of curriculum and instructional models.*
1001.2.2 Implement learning activities in all curriculum areas that meet the developmental needs of children.*
1001.2.3 Implement an integrated curriculum that incorporates a child's language, learning styles, home experiences, and cultural values.*
1001.2.4 Demonstrate a variety of teaching methods to meet individual needs of children.*
1001.2.5 Arrange learning centers that provide for children's exploration, discovery, and development.
1001.2.6 Establish activities, routines, and transitions.

Standard 3: Learning Environment (1001.S.3)

The student will demonstrate a safe and healthy learning environment for children.

Learning Environment Objectives

The student will:

1001.3.1 Manage physical space to maintain a safe and healthy learning environment.*
1001.3.2 Apply safe and healthy practices that comply with state regulations.*
1001.3.3 Implement strategies to teach children health, safety, and sanitation habits.*
1001.3.4 Provide safe and healthy meals and snacks.*
1001.3.5 Document symptoms of child abuse and neglect and use appropriate procedures to report suspected abuse or neglect to the designated authorities.
1001.3.6 Implement basic health practices and prevention procedures for workers and children regarding childhood illness and communicable diseases.*
1001.3.7 Demonstrate security and emergency procedures.

**Instructional goals and objectives have been correlated with the United States Department of Labor Child Development Specialist curriculum.*

*Child Development Specialist 1

Early Childhood And Educational Services II WVEIS Code 1002

Early Childhood and Educational Services provides the integrated knowledge, skills, and practices required for careers in early childhood education and services.

Standard 1: Career Paths (1002.S.1)

The student will analyze career paths within early childhood education and services

Career Paths Objectives

The student will:

1002.1.1 Determine the roles and functions of individuals engaged in early childhood education and services.*

1002.1.2 Explore opportunities for employment and entrepreneurial endeavors.

1002.1.3 Examine education and training requirements and opportunities for career paths in early childhood education and services.

1002.1.4 Examine the impact of early childhood education and services occupations on local, state, national, and global economies.

Standard 2: Relationships (1002.S.2)

The student will demonstrate techniques for positive collaborative relationships with children.

Relationships Objectives

The student will:

1002.2.1 Establish developmentally appropriate guidelines for behavior.

1002.2.2 Demonstrate problem-solving skills with children.*

1002.2.3 Demonstrate interpersonal skills that promote positive and productive relationships with children.*

1002.2.4 Implement strategies for constructive and supportive interactions between children and families.

1002.2.5 Present information to parents regarding developmental issues and concerns related to children.

Standard 3: Practices and Standards (1002.S.3)

The student will demonstrate professional practices and standards related to working with children.

Practices and Standards Objectives

The student will:

1002.3.1 Utilize opportunities for continuing training and education.

1002.3.2 Apply professional ethical standards as accepted by the recognized professional organizations.

1002.3.3 Implement federal, state, and local standards, policies, regulations, and laws which impact children, families, and programs.

1002.3.4 Demonstrate enthusiasm, initiative, and commitment to program goals and improvements.

1002.3.5 Apply business management skills to planning businesses in early childhood education and services.

**Instructional goals and objectives have been correlated with the United States Department of Labor Child Development Specialist curriculum.*

** Child Development Specialist 1*

ProStart I (1011 or 1951) WVEIS Code 1011

ProStart is a two-course foodservice curriculum developed by the Educational Foundation of the National Restaurant Association with input from thousands of foodservice professionals across the nation. The courses integrate academic and hands-on learning to provide an overview of the industry and competencies necessary for success in the foodservice industry. Completers of the ProStart program are eligible for a national certificate from the National Restaurant Association Educational Foundation. Students must pass rigorous tests at the end of each course and complete 400 hour off-campus, paid internship. This first course focuses on the basics of preparing and service safe food, preventing accidents, using foodservice equipment and preparing certain types of foods. It also addresses the business topics of human relations, customer service, controlling costs and certain math concepts.

Standard 1: Prepare for a successful career in foodservice management. (1011.S.1)

Foodservice Management Objectives

Students will:

1011.1.1 Recognize how the foodservice industry provides a unique workplace environment.
1011.1.2 Describe the importance of service to success in foodservice
1011.1.3 Describe the elements of excellent service.
1011.1.4 Identify ways to speak to customers and coworkers.
1011.1.5 Identify career opportunities within the foodservice industry.
1011.1.6 Describe the steps in looking for a job.
1011.1.7 Complete the necessary documents for a job interview including the resume, cover letter, and application.
1011.1.8 Participate in a job interview.

Standard 2: Prepare and serve safe food. (1011.S.2)

Safe Food Objectives

Students will:

1011.2.1 Demonstrate proper sanitary procedures for use in food service.
1011.2.2 Show how contamination and cross-contamination is most likely to occur.
1011.2.3 List the major causes of foodborne illnesses, and describe potentially hazardous foods.
1011.2.4 Describe the micro-organisms that cause foodborne illnesses and the conditions in which they thrive.
1011.2.5 Demonstrate safe and proper procedures for receiving, storing, preparing, holding, and serving food.
1011.2.6 Describe ways to prevent infestation by pests.

Standard 3: Practice safe workplace habits. (1011.S.3)

Safe Workplace Objectives

Students will:

1011.3.1 Demonstrate proper safety procedures commonly used in foodservice operations.
1011.3.2 Describe the role of OSHA regulations and explain the Hazard Communication Standard requirements for employers.
1011.3.3 Demonstrate proper procedures for reducing accidents involving fire, slips, trips, falls, lifting and carrying, cuts and equipment.

Standard 4: Demonstrate the basics food preparation. (1011.S.4)

Food Preparation Objectives

Students will:

1011.4.1 Describe the various liquid and dry cooking methods and the foods to which they are best suited.
1011.4.2 Read and follow standardized recipes, describing their components and functions, and convert them to smaller and larger quantities.
1011.4.3 Explain the functions of different types of knives and demonstrate their proper use.
1011.4.4 Identify the tools commonly used in food service for wet and dry measure and demonstrate understanding of equivalence of standard American and metric measures.
1011.4.5 Define common cooking and foodservice terms.

Standard 5 :Operate foodservice equipment safely and effectively. (1011.S.5)

Foodservice Equipment Objectives

Students will:

1011.5.1 List and describe the equipment commonly used in the receiving, storage, food preparation, baking, holding and service, bar, dishwashing and waste disposal areas.
1011.5.2 List and describe the measuring utensils, hand tools, knives, pots and pans commonly used in a food service operation.
1011.5.3 Discuss how to troubleshoot the maintenance and repair of mixers, slicers, steamers, broilers, ranges, grills, fryers, ovens, food warmers, coffee urns, dishwashers and waste disposal systems.
1011.5.4 Discuss the role of the health inspector and how managers get ready for inspections.

Standard 6: Discuss the role of nutrition in a food service operations. (1011.S.6)

Nutrition in Food Service Operations Objectives

Students will:

1011.6.1 Explain the role of Recommended Dietary Allowances (RDAs) and the Food Guide Pyramid in planning healthful meals.
1011.6.2 Plan interesting, appealing and nutritionally balanced meals.
1011.6.3 Demonstrate cooking methods and identify recipes that preserve nutrients in quantity cooking.

Standard 7: Prepare sandwiches and breakfast foods. (1011.S.7)

Sandwiches and Breakfast Foods Objectives

Students will:

1011.7.1 Explain the roles of the production sheet, daily food cost sheet, sales history, and sales mix record in quantity food production.
1011.7.2 Perform total food cost and food cost percentage calculations.
1011.7.3 Determine the total cost and portion cost of standardized recipes.
1011.7.4 Explain the roles of the three components of a sandwich: bread, spread and filling.
1011.7.5 Compare and contrast the various types of sandwich: simple hot, open-faced, deep-fried, simple cold, tea and canapé.
1011.7.6 Set up a safe, sanitary, and efficient sandwich station.
1011.7.7 List the various forms in which milk is available and define pasteurize and homogenize.
1011.7.8 Compare and contrast current, aged, and processed cheeses and give examples of each.
1011.7.9 Describe the methods for cooking eggs: boiled, baked, shirred, poached, fried, scrambled, deviled, omelet, quiche, and soufflé.
1011.7.10 Prepare common breakfast food: pancakes and similar foods, eggs, breakfast cereals and

breakfast meats.

Standard 8: Prepare salads and garnishes. (1011.S.8)

Salads and Garnishes Objectives

Students will:

1011.8.1 Discuss characteristic of the various ingredients that can be used to make both common and unusual salads.
1011.8.2 Prepare and store salads properly.
1011.8.3 Demonstrate techniques used to prepare garnishes
1011.8.4 Discuss common salad dressings and condiments.

Standard 9: Understand personnel management techniques. (1011.S.9)

Personnel Management Techniques Objectives

Students will:

1011.9.1 Demonstrate quality customer service techniques.
1011.9.2 Describe the elements involved in staff planning, recruiting, interviewing, and selecting employees
1011.9.3 Discuss effective methods of motivating and retaining employees
1011.9.4 Show techniques used to conduct and effective employee evaluation.

Standard 10: Prepare fruits and vegetables. (1011.S.10)

Fruits and Vegetables Objectives

Students will:

1011.10.1 Describe and identify the various varieties of fruits and vegetables and the forms in which they are available (fresh, frozen etc.).
1011.10.2 List seasons in which fresh fruits and vegetables are at their best quality and lowest price.
1011.10.3 Match different cooking methods to various fruits and vegetables.
1011.10.4 Explain how to properly select and purchase, receive, store, and handle fruits and vegetables.
1011.10.5 Prepare fruits and vegetables in a variety of ways.

Standard 11: Control food service costs. (1011.S.11)

Food Service Costs Objectives

Students will:

1011.11.1 Perform basic math operations as they relate to foodservice operations: i.e., determine percentages, convert recipes, convert form American and metric units of measure, approximate recipe yields.
1011.11.2 Describe different types of costs related to food, beverage and labor: controlled costs, fixed costs, variable costs, etc.
1011.11.3 Demonstrate operational procedures for preventing waste of food ad beverage.
1011.11.4 Show proper use of recipes, glassware, utensils, production sheets and other tools that help control waste.
1011.11.5 Determine menu prices using various methods.
1011.11.6 Illustrate the cost percentage formula and apply it to operational procedures.
1011.11.7 Describe and apply procedures used in planning and forecasting to control food, beverage and labor costs.

ProStart II (1012 or 1952) WVEIS Code 1012

ProStart is a two-course foodservice curriculum developed by the Educational Foundation of the National Restaurant Association with input from thousands of foodservice professionals across the nation. The courses integrate academic and hands-on learning to provide an overview of the industry and competencies necessary for success in the foodservice industry. Completers of the ProStart program are eligible for a national certificate from the National Restaurant Association Educational Foundation. Students must pass rigorous tests at the end of each course and complete a 400 hour off-campus, paid internship. This second course focuses on the basics of quality table service, menu planning, industry careers and preparing certain types of foods. It also addresses the business topics of marketing, communication, accounting, purchasing, and inventory control.

Standard 1: Prepare Potatoes, Grains and Pasta (1012.S.1)

Prepare Potatoes, Grains and Pasta Objectives

Students will:

1012.1.1 Explain how to properly select, receive, and store potatoes, grains and pasta.
1012.1.2 Match different cooking methods to potatoes, grains and pasta.
1012.1.3 Prepare potatoes, grains and pasta using a variety of recipes and cooking techniques.

Standard 2: Explain the characteristics, activities, opportunities and types of lodging operations. (1012.S.2)

Lodging Operations Objectives

Students will:

1012.2.1 Define the term "lodging property" and discuss each of the characteristic types of lodging operations.
1012.2.2 List and discuss the five key elements that differentiate one lodging establishment from another.
1012.2.3 Identify the two national organizations that rate commercial lodging establishments and list a minimum of five factors used by each in making their judgments.
1012.2.4 Identify ten services offered by some, but not all, lodging properties.
1012.2.5 Discuss career opportunities in the lodging industry and the qualifications commonly sought by lodging employers.
1012.2.6 Name the activities generally accomplished at the front desk, in housekeeping, in the front office and by engineering.
1012.2.7 Describe the different types of rates and what makes them different.

Standard 3: Demonstrate the techniques necessary for quality table service. (1012.S.3)

Table Service Objectives

Students will:

1012.3.1 Set a table properly for guests arrival.
1012.3.2 Set and clear items properly.
1012.3.3 Demonstrate different service styles: American, French, English, Russian, buffet, counter and cafeteria.
1012.3.4 Describe the traditional service staff and the duties and responsibilities of each staff position.
1012.3.5 Present a guest check, receive payment, and say good-bye to guest properly.
1012.3.6 Identify various dining utensils.
1012.3.7 Perform several tableside service and food preparation techniques.
1012.3.8 Show how servers should properly identify, describe and recommend menu items to guests.

Standard 4: Prepare desserts and baked goods. (1012.S.4)

Desserts and Baked Goods Objectives

Students will:
1012.4.1 Identify the functions of basic ingredients used in desserts and breads.
1012.4.2 Describe common desserts and methods used to prepare them.
1012.4.3 Prepare various desserts and baked goods and store them properly.
1012.4.4 Bake different types of breads and quick breads.

Standard 5: Plan an effective menu. (1012.S.5)

Menu Objectives

Students will:
1012.5.1 Characterize various menu types - a la carte, table d'hôte, California, du jour, cycle - and the operations in which they are most commonly used.
1012.5.2 Write descriptions of menus items using appetizing language.
1012.5.3 Critique the physical layout of a menu.

Standard 6: Describe how marketing techniques are used in food service. (1012.

Marketing Techniques Objectives

Students will:
1012.6.1 Describe the basic marketing concepts and terms.
1012.6.2 Describe the elements of a marketing plan.
1012.6.3 Describe elements of successful community and public relations.
1012.6.4 Write and effective press release. LA
1012.6.5 Explain the various advertising media and advantages and disadvantages of each.
1012.6.6 Plan a successful promotional campaign using commonly used professional tools.

Standard 7: Practice appropriate purchasing and inventory control procedures. (1012.S.7)

Purchasing and Inventory Control Objectives

Students will:
1012.7.1 Determine when and how often to order inventory items using both perpetual and physical inventory methods
1012.7.2 Prepare purchase specifications and purchase orders for items to be purchased.
1012.7.3 Explain the formal bidding process.
1012.7.4 Describe the factors involved in selecting appropriate suppliers.
1012.7.5 Describe proper receiving procedures.
1012.7.6 Explain procedures used to issue items and keep track of inventory.

Standard 8: Prepare meats, poultry and seafood. (1012.S.8)

Meats, Poultry and Seafood Objectives

Students will:
1012.8.1 Explain the federal grading systems for meat, poultry, fish and shellfish.
1012.8.2 Describe the various forms of meat, poultry, fish and shellfish.
1012.8.3 Discuss proper procedures for receiving, storing, and handling meat, poultry, fish and shellfish.
1012.8.4 Prepare meat, poultry, fish and shellfish using a variety of cooking methods and recipes.

Standard 9: Use Standard Accounting Practices. (1012.S.9)

Accounting Objectives

Students will:
1012.9.1 Demonstrate basic accounting principles and apply them to common foodservice scenarios.
1012.9.2 Practice double-entry accounting (recording transactions in balanced T accounts).
1012.9.3 Read and interpret income statements and balance sheets
1012.9.4 Calculate cost of sales using opening and closing inventory figures.
1012.9.5 Use the balance sheet equation to determine assets, liabilities and owners equity.

Standard 10: Prepare soups, stocks and sauces. (1012.S.10)

Soups, Stocks and Sauces Objectives

Students will:
1012.10.1 List the common ingredients of and describe the proper procedure for, making a quality stock.
1012.10.2 Prepare a stock.
1012.10.3 Describe common soups and how they are prepared.
1012.10.4 Prepare various soups.
1012.10.5 Identify the major sauce families and the sauces derived from them.
1012.10.6 Prepare quality sauces using proper procedures.

Standard 11: Describe the characteristics, components and opportunities of the tourism industry. (1012.S.11)

Tourism Objectives

Students will:
1012.11.1 Describe the role of travel and tourism in the hospitality industry.
1012.11.2 Recognize career opportunities offered in travel and tourism.
1012.11.3 Distinguish the segments that make up the travel industry.
1012.11.4 Describe the kinds of customer service skills required of people who work in the travel industry.

Standard 12: Communicate well with customers. (1012.S.12)

Communications Objectives

Students will:
1012.12.1 Display basic speaking and listening skills.
1012.12.2 Use effective writing skills in all forms of written communications.
1012.12.3 Display proper and courteous telephone skills.
1012.12.4 Describe menu items effectively and demonstrate suggestive selling techniques.

Standard 13: Complete a 400-hour, off-campus, paid internship in a food service establishment. (1012.S.13)

Internship Objectives:

Students will:
1012.13.1 Develop personal qualities and skills necessary for success in the food service industry as described in the ProStart workplace competency checklist.
1012.13.2 Develop long-term work qualities and skills necessary for success in the food service industry as described in the ProStart workplace competency checklist.
1012.13.3 Develop short-term observable skills necessary for success in the food service industry as described in the ProStart workplace competency checklist.

Basic Control Circuits WVEIS Code 1601

This course will introduce students to basic electricity fundamentals, including all related math calculations required. Ohm's law, various circuits, reading schematic diagrams, and troubleshooting electrical circuits will be covered.

Standard 1: Troubleshoot, test, and repair or replace electrical components. (1601.S.1)

Troubleshoot, Test, And Repair Or Replace Electrical Components Objectives

Students will:

1601.1.1 Troubleshoot electrical faults on series and parallel circuit and calculate unknown values.
1601.1.2 Measure resistance of open and hermetic motor windings.
1601.1.3 Test and replace split phase motors (PSC, RSIR, CSCR, CSIR, and Shaded Pole).
1601.1.4 Test and install motor starting relays (Current, hot wire, potential, solid state).
1601.1.5 Test and replace capacitor (start and run).
1601.1.6 Test and replace contactors, switching relays, overload protectors, transformers and resistance heaters.
1601.1.7 Inspect, replace and repair switches, male and female plugs.
1601.1.8 Identify types of thermostats, test, install and adjust heat anticipators.

Domestic Refrigeration WVEIS Code 1603

This course covers testing, analyzing, and repair of domestic refrigeration systems (refrigerators, air conditioners, central air conditioning, and dehumidifiers).

Standard 1: Demonstrate testing & service skills for domestic refrigeration systems. (1603.S.1)

Demonstrate Testing & Service Skills For Domestic Refrigeration Systems Objectives

Students will:

1603.1.1 Label all components (electrical and mechanical) on domestic refrigeration systems.
1603.1.2 Test and replace all components (electrical and mechanical) of domestic refrigeration systems.
1603.1.3 Test and record temperature, relative humidity and pressure controls.

Fundamentals of Air Conditioning/Refrigeration WVEIS Code 1605

This course will introduce students to the air conditioning, and refrigeration field. Students will become familiar with the skills needed in basic compression refrigeration.

Standard 1: Identify, explore, and evaluate career opportunities related to air conditioning and refrigeration. (1605.S.1)

Career Opportunities Related to Air Conditioning and Refrigeration Objectives

Students will:

1605.1.1 Describe a variety of careers related to air conditioning and refrigeration, and the training necessary to be successful in those careers.
1605.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of air conditioning and refrigeration.
1605.1.3 Identify sources of information about careers in air conditioning and refrigeration.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to air conditioning and refrigeration. (1605.S.2)

Basic Safety Rules and Equipment Objectives

Students will:

1605.2.1 Recognize and follow general shop safety guidelines.
1605.2.2 Select and wear appropriate protective equipment.
1605.2.3 Demonstrate the proper selection and use of fire extinguishers.
1605.2.4 Identify and demonstrate proper use and care of all basic personal safety equipment.
1605.2.5 Describe safety precautions necessary when using hazardous materials.

Standard 3: Perform fabrication operations with copper, brass and steel tubing. (1605.S.3)

Fabrication Operations with Copper, Brass and Steel Tubing Objectives

Students will:

1605.3.1 Differentiate between hard and soft copper tubing.
1605.3.2 Construct a flare joint, a swage joint, and bend copper tubing to specific angles.
1605.3.3 Set up an oxyacetylene welding station, light and adjust the torch.
1605.3.4 Solder brass and copper fittings to copper tubing.
1605.3.5 Silver braze steel and copper tubing.
1605.3.6 Measure, cut and repair capillary tube.

Standard 4: Demonstrate knowledge and skills needed in compression refrigeration. (1605.S.4)

Knowledge and Skills Needed In Compression Refrigeration Objectives

Students will:

1605.4.1 Locate and label components of compression refrigeration system.
1605.4.2 Identify effect of CFC on ozone atmosphere.
1605.4.3 Install access fittings on a hermetic sealed system.
1605.4.4 Recover refrigerant, locate and repair, pressurize and leak test, evacuate, and recharge with vapor and liquid.

1605.4.5 Install manifold gauges on refrigeration systems and use a P/T chart to test compressor operation.
1605.4.6 Replace filter driers using flare fittings and sweat fittings, then triple evacuate to eliminate any moisture.
1605.4.7 Convert temperature to pressure.

Heating Systems WVEIS Code 1607

This course will introduce students to the basic operational theory of furnaces (gas, oil, electric, and heat pumps). Students will perform various testing and adjusting of components and circuits.

Standard 1: Demonstrate knowledge and skill needed to test, service, install and repair heating systems. (1607.S.1)

Demonstrate Knowledge And Skill Needed To Test, Service, Install And Repair Heating Systems Objectives

Students will:

1607.1.1 Test and replace all electrical and mechanical components and safety devices of heating systems.
1607.1.2 Leak test and adjust pressures of fossil fuel heating systems.
1607.1.3 Measure and adjust temperature rise of heating systems.
1607.1.4 Test and adjust combustion efficiency of fossil fuel heating systems.
1607.1.5 Check and install electric base board heating systems.
1607.1.6 Convert watts to B.T.U.'s, Celsius to Fahrenheit.
1607.1.7 Compare electric heat and heat pumps to fossil fuel heating systems.
1607.1.8 Light and adjust pilot light flame.
1607.1.9 Identify installing considerations of heating systems (up flow, down flow, and horizontal).
1607.1.10 Install fuel lines and filters for gas and oil furnaces (black pipe and copper tubing).
1607.1.11 Compute heat loss and heat gain, design duct system from blueprint information and measure airflow through duct system.

Alternative Fuels WVEIS Code 1621

This course will introduce students to basic electrical and automotive fundamentals related an electric vehicle including the math calculations required.

Standard 1: Demonstrate electrical safety. (1621.S.1)

Electrical Safety Objectives

Students will:
1621.1.1 Describe the effect of current on the human body.
1621.1.2 List general safety precautions when working with electricity.
1621.1.3 Identify various types of safety devices used with electricity.
1621.1.4 Describe typical electrical shock hazards in industry, and explain what to do for victims of electrical shock.
1621.1.5 List and describe the safe use of basic hand and power tools used in the field of electricity.
1621.1.6 List and explain personal and electrical safety rules applicable to rotating equipment.

Standard 2: Interpret blueprints, schematics and technical orders. (1621.S.2)

Blueprints, Schematics and Technical Orders Objectives

Students will:
1621.2.1 Demonstrate knowledge of blueprint reading.
1621.2.2 Demonstrate knowledge of schematic reading.
1621.2.3 Draw a block diagram of a motor control system.
1621.2.4 Demonstrate knowledge of elementary wiring diagrams and ladder logic.
1621.2.5 Install motor control centers and systems, using wiring diagrams.
1621.2.6 List and identify motor and motor control symbols.

Standard 3: Apply electrical math concepts. (1621.S.3)

Electrical Math Concepts Objective

Students will:
1621.3.1 Demonstrate knowledge of Ohm's law and power formulas.

Standard 4: Demonstrate the proper use and care of electrical meters. (1621.S.4)

Electrical Meters Objective

Students will:
1621.4.1 Demonstrate the use and care of an ammeter, ohmmeter, and voltmeter.

Standard 5: Construct and analyze basic circuits. (1621.S.5)

Basic Circuits Objectives

Students will:
1621.5.1 Describe the electrical classification of conductors, insulators, and semi-conductors.
1621.5.2 Describe electrical current and differentiate between the different kinds of current.
1621.5.3 Define voltage, current, resistance, and power.
1621.5.4 List, and schematically represent the components that make up a basic electrical circuit.
1621.5.5 Connect batteries into various series and parallel arrangements and measure and record

voltage readings across each configuration.

1621.5.6 Conduct experiments that demonstrate the production of an electromotive force obtaining voltage readings from experiments.

1621.5.7 Construct, solve and troubleshoot series, parallel and complex circuits.

1621.5.8 Perform various battery tests, including: state-of-charge test, capacity (load, high-rate discharge) test, and three (3) minute charge test, and determine needed service.

1621.5.9 Inspect, clean, fill, or replace battery, battery cables, connectors and clamps.

1621.5.10 Slow and fast charge conventional and maintenance free batteries.

Standard 6: Perform basic soldering techniques. (1621.S.6)

Basic Soldering Techniques Objectives

Students will:

1621.6.1 Demonstrate proper use and care for soldering tools and equipment.

1621.6.2 Demonstrate correct stripping, tinning, and soldering procedures.

1621.6.3 Identify characteristics of a good solder connection.

Standard 7: Demonstrate skills applicable to pilot devices. (1621.S.7)

Skills Applicable to Pilot Devices Objectives

Students will:

1621.7.1 Explain purpose and uses of pilot devices.

1621.7.2 Explain and list various types of electronic and mechanical sensors and pilot devices.

1621.7.3 Install and troubleshoot various pilot devices and their circuits.

Standard 8: Demonstrate skills related to motor controls. (1621.S.8)

Skills Related to Motor Controls Objectives

Students will:

1621.8.1 Explain the difference between manual and automatic circuits.

1621.8.2 List the equipment and parts needed for automatic circuits.

1621.8.3 Identify basic motor control circuits.

1621.8.4 Connect basic AC and DC circuits for automatic and manual control.

1621.8.5 Explain and demonstrate basic troubleshooting of control circuits.

1621.8.6 Install reversing circuits.

1621.8.7 Demonstrate the use of a phase rotation meter.

Standard 9: Apply skills to relays. (1621.S.9)

Apply Skills to Relays Objectives

Students will:

1621.9.1 Describe and explain relays and relay circuits.

1621.9.2 Identify and install overload relays in control circuits.

1621.9.3 Identify and install potential-type relays in control circuits.

1621.9.4 Explain the difference between relay and magnetic starters.

1621.9.5 Explain troubleshooting techniques of relay and magnetic starters.

1621.9.6 Check various relays for faults or defects.

1621.9.7 Explain, check, and adjust various types of time delay relays.

Standard 10: Differentiate between the different types of motor braking circuits. (1621.S.10)

Motor Braking Circuits Objectives

Students will:
1621.10.1 Explain the various types of braking circuits for AC and DC motors.
1621.10.2 Describe dynamic braking circuits for AC and DC motors.

Standard 11: Troubleshoot AC and DC motors. (1621.S.11)

AC and DC Motors Objectives

Students will:
1621.11.1 Describe the various types of single-phase and three-phase AC motors and DC motors.
1621.11.2 Install, check, and troubleshoot various types of DC motors in a circuit.

Standard 12: Apply calculations to assure that NEC standards are met. (1621.S.12)

NEC Standards Objectives

Students will:
1621.12.1 Calculate conductor size and ampacity, overcurrent protection, grounding, bonding, and grounded conductor size.

Standard 13: Demonstrate automotive general electrical system diagnosis. (1621.S.13)

Automotive General Electrical System Diagnosis Objectives

Students will:
1621.13.1 Identify automotive electrical symbols.
1621.13.2 Check continuity in electrical circuits with a test light.
1621.13.3 Check applied voltages and voltage drops in electrical circuits with analog and digital voltmeters.
1621.13.4 Check current flow in electrical circuits and components with an ohmmeter.
1621.13.5 Check continuity and resistance in electrical circuits and components with analog and digital ohmmeters.
1621.13.6 Find shorts and grounds in electrical circuits.
1621.13.7 Diagnose the cause(s) of a constant battery drain.
1621.13.8 Inspect, test, and replace fusible links, circuit breakers, and fuses.

Standard 14: Perform hydraulic system diagnosis and repair. (1621.S.14)

Hydraulic System Diagnosis and Repair Objectives

Students will:
1621.14.1 Check master cylinder for internal and external leaks and proper operation, determine needed repairs.
1621.14.2 Diagnose poor stopping, pulling or dragging caused by problems in the hydraulic system, determine needed repairs.
1621.14.3 Inspect brake lines and fittings for leaks, dents, kinks, rust, cracks or wear; tighten loose fittings and supports.
1621.14.4 Fabricate and install brake lines (double flare and ISO types); replace hoses, fittings, and supports as needed.
1621.14.5 Inspect, test, and replace components of brake warning light system.

Standard 15: Demonstrate drum brake diagnosis and repair. (1621.S.15)

Drum Brake Diagnosis and Repair Objectives

Students will:

1621.15.1 Diagnose poor stopping, noise, pulling, grabbing, dragging or pedal pulsation problems, determine needed repairs.

1621.15.2 Remove, clean, and inspect brake drums, shoes, springs, pins, clips, levers, adjusters/self-adjusters, and backing support plates, service, lubricate and reassemble.

1621.15.3 Pre-adjust brake shoes and parking brake before installing brake drums or drum and hub assemblies, and wheel bearings.

Standard 16: Demonstrate disc brake diagnosis and repair. (1621.S.16)

Disc Brake Diagnosis and Repair Objectives

Students will:

1621.16.1 Diagnose poor stopping, noise, pulling, grabbing, dragging, or pedal pulsation caused problems, determine needed repairs.

1621.16.2 Remove caliper assembly and brake pads from mountings; clean and inspect for leaks and damage to caliper housing. Inspect parts for wear, rust, scoring, and damage; replace seal, boot or worn parts. Clean and inspect caliper mounting and slides for wear and damage.

1621.16.3 Clean, inspect, and measure rotor with a dial indicator and a micrometer; follow manufacturer's recommendations in determining need to machine or replace.

1621.16.4 Reinstall wheel, torque lug nuts, and make final checks and adjustments.

Standard 17: Perform diagnosis and repair of miscellaneous items. (1621.S.17)

Diagnosis and Repair of Miscellaneous Items Objectives

Students will:

1621.17.1 Diagnose wheel bearing noises, wheel shimmy, and vibration problems; determine needed repairs.

1621.17.2 Remove, clean, inspect, re-pack, and reinstall wheel bearings, replace seals, reinstall hub, adjust wheel bearings. Replace bearing and race as needed.

1621.17.3 Check parking brake operation, cables and components for wear, rusting, binding, corrosion and clean, lubricate and replace as needed.

1621.17.4 Check operation of brake stop light system; adjust and service as needed.

Standard 18: Perform diagnosis and adjust wheel alignment. (1621.S.18)

Diagnosis and Adjust Wheel Alignment Objectives

Students will:

1621.18.1 Check and adjust front and rear wheel camber, caster, toe, SAI (steering axis inclination) and determine needed repairs.

1621.18.2 Check rear wheel thrust angle; determine needed repairs.

1621.18.3 Check for front wheel setback; determine needed repairs.

1621.18.4 Check front cradle (sub-frame) alignment; determine needed repairs.

Standard 19: Perform diagnosis and repair of wheels and tires. (1621.S.19)

Diagnosis and Repair of Wheels and Tires Objectives

Students will:

1621.19.1 Inspect tires; check and adjust air pressure. Diagnose tire wear patterns and determine

needed repairs. Rotate tires according to manufacturer's recommendations.

1621.19.2 Measure wheel, tire, axle, and hub run-out; determine needed repairs.

1621.19.3 Dismount, inspect, repair, and remount tire on wheel. Balance wheel and tire assembly (static and dynamic). Reinstall wheel; torque lug nuts.

Standard 20: Perform clutch diagnosis and repair. (1621.S.20)

Clutch Diagnosis and Repair Objectives

Students will:

1621.20.1 Diagnose clutch noise, binding, slippage, pulsation, and chatter problems; determine needed repairs.

1621.20.2 Inspect, adjust or replace clutch pedal linkage, cables, automatic adjuster mechanisms, brackets, bushings, pivots, springs, hydraulic clutch slave and master cylinders, lines, and hoses.

1621.20.3 Inspect, adjust or replace release (throw-out) bearing, lever and pivot, crankshaft pilot bearing or bushing (as applicable), clutch pressure plate assembly and clutch disc.

1621.20.4 Inspect, repair, and service or replace flywheel and ring gear. Measure flywheel-to-block run out and crankshaft end play; determine needed repairs.

1621.20.5 Inspect engine block, clutch (bell) housing, and transmission case mating surfaces; measure clutch (bell) housing bore-to-crankshaft run out and face squareness; determine needed repairs.

Standard 21: Troubleshoot and repair lighting systems. (1621.S.21)

Repair Lighting Systems Objectives

Students will:

1621.21.1 Diagnose brighter than normal, intermittent, dim or no light operation.

1621.21.2 Inspect, replace, and aim headlights and bulbs.

1621.21.3 Inspect and diagnose incorrect turn signal or hazard light operations; repair or replace as needed.

Standard 22: Perform diagnosis and repair of driver information systems. (1621.S.22)

Driver Information Systems Objectives

Students will:

1621.22.1 Diagnose intermittent, high, low, no gauge readings, or no readings on electronic instrument clusters, test sensors, sending units, connectors, and wires of electronic instrument circuits.

1621.22.2 Test gauge circuit voltage regulators (limiters); replace as needed.

1621.22.3 Inspect and test gauges and gauge sending units, connectors, wires, and printed circuit boards of gauge circuits; repair or replace as needed.

1621.22.4 Diagnose incorrect operation of warning devices and other driver information systems.

Standard 23: Perform accessories diagnosis and repair. (1621.S.23)

Accessories Diagnosis and Repair Objectives

Students will:

1621.23.1 Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; repair as needed.

1621.23.2 Diagnose incorrect operation of motor-driven accessory circuits, heated glass operation, electric door and hatch/trunk lock operation and cruise control systems.

1621.23.3 Diagnose supplemental restraint system (SRS) problems; repair as needed. (Note: Follow manufacturer's safety procedures to prevent accidental deployment.)

1621.23.4 Diagnose radio static and weak, intermittent, or no radio reception.

Basic Engine Concepts WVEIS Code 1623

This course will introduce students to basic engine concepts, skills, technology and service of the automobile.

Standard 1: Perform general engine diagnosis, removal and reinstallations (R&R). (1623.S.1)

General Engine Diagnosis, Removal and Reinstallations (R&R) Objectives

Students will:

1623.1.1 Interpret and verify complaint; listen to engine noises; inspect engine assembly for fuel, oil, coolant, and other leaks; determine needed repairs.
1623.1.2 Diagnose the cause of excessive oil consumption, unusual engine exhaust color, odor, and sound; determine needed repairs.
1623.1.3 Perform engine vacuum tests; determine needed repairs.
1623.1.4 Perform cylinder power balance tests; cylinder compression tests; cylinder leakage tests; determine needed repairs.
1623.1.5 Remove engine (front-wheel drive); prepare for disassembly; reinstall engine.

Standard 2: Demonstrate cylinder head and valve train diagnosis and repair. (1623..S.2)

Cylinder Head and Valve Train Diagnosis and Repair Objectives

Students will:

1623.2.1 Remove cylinder head(s); inspect cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition.
1623.2.2 Install cylinder heads and gaskets; tighten according to manufacturer's specifications and procedures.
1623.2.3 Inspect and test valve springs for squareness, pressure, and free height comparison; inspect valve spring retainers, locks, and valve grooves; replace as needed. Replace valve stem seals.
1623.2.4 Inspect valve guides for wear; check valve guide height and stem-to-guide clearance; inspect valves; inspect valve seats; recondition or replace as needed.
1623.2.5 Check valve face-to-seat contact and valve seat concentricity (run out), service seats and valves as needed.
1623.2.6 Check valve spring assembled height and valve stem height; service valve and spring assemblies as needed.
1623.2.7 Inspect pushrods, rocker arms, rocker arm pivots and shaft for wear, bending, cracks, looseness, and blocked oil passages (orifices); repair or replace.
1623.2.8 Inspect hydraulic or mechanical lifters; replace as needed. Adjust valves (mechanical or hydraulic lifters).
1623.2.9 Inspect and replace camshaft drives (including gear wear and backlash, sprocket and chain wear, overhead cam drive sprockets, drive belts, belt tension, and tensioners).
1623.2.10 Inspect camshaft for run out, measure journals and lobes for wear.
1623.2.11 Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine needed repairs.
1623.2.12 Verify camshaft(s) timing according to manufacturer's specifications and procedure.

Standard 3: Perform engine block diagnosis and repair. (1623.S.3)

Engine Block Diagnosis and Repair Objectives

Students will:

1623.3.1 Inspect and replace pans, covers, gaskets, and seals.
1623.3.2 Inspect engine block for cracks, passage condition, core and gallery plug condition, and surface warpage; determine needed repairs.
1623.3.3 Inspect internal and external threads; repair as needed.
1623.3.4 Inspect and measure cylinder walls for damage and wear; determine needed repairs. Remove cylinder wall ridges. Deglaze and clean cylinder walls.
1623.3.5 Inspect crankshaft for surface cracks and journal damage; check oil passage condition; measure journal wear; determine needed repairs.
1623.3.6 Inspect and measure main and connecting rod bearings for damage, clearance, and end play; determine needed repairs (includes the proper selections of bearings).
1623.3.7 Identify piston and bearing wear patterns that indicate connecting rod alignment and main bearing bore problems; inspect rod alignment and bearing bore condition.
1623.3.8 Inspect, measure, service or replace pistons. Inspect, measure, and install piston rings.
1623.3.9 Inspect, repair or replace crankshaft vibrations damper (harmonic balancer).
1623.3.10 Inspect flywheel or flex plate and ring gear for cracks and wear; measure run out and determine needed repairs.
1623.3.11 Inspect, remove, and replace crankshaft pilot bearing or bushing (as applicable).
1623.3.12 Reassemble engine components using correct gaskets and sealants.
1623.3.13 Inspect auxiliary (balance, intermediate, idler, counterbalance or silencer) shaft(s); inspect shaft(s) and support bearings for damage and wear; determine needed repairs; reinstall and time.
1623.3.14 Prime engine lubrication system.

Standard 4: Perform lubrication and cooling systems diagnosis and repair. (1623.S.4)

Cooling Systems Diagnosis and Repair Objectives

Students will:

1623.4.1 Perform oil pressure tests; inspect oil pump ears or rotors, housing, pressure relief devices, and pump drive; replace as needed.
1623.4.2 Perform cooling system tests (pressure, combustion leakage, and temperature) determine needed repairs.
1623.4.3 Inspect, replace, and adjust drive belts and pulleys.
1623.4.4 Inspect and replace engine cooling and heater system hoses.
1623.4.5 Inspect, test, and replace thermostat and housing.
1623.4.6 Inspect coolant; drain, flush, and refill cooling system with recommended coolant and bleed air as required.
1623.4.7 Inspect, test, remove, and replace water pump.
1623.4.8 Inspect and test radiator, pressure cap, and coolant recovery system; remove and replace radiator.
1623.4.9 Clean, inspect, and test fan(s) (electrical or mechanical), inspect and test electrical fan control system and circuits, fan clutch, fan shroud and air dams.
1623.4.10 Inspect, test, and replace oil temperature and pressure switches and sensors. Inspect auxiliary oil coolers; replace as needed.
1623.4.11 Perform oil and filter change.

Brakes WVEIS Code 1625

This course will introduce students to the basic fundamental skills, technology, and service of automotive brake systems. Students will comply with personal and environmental safety practices associated with proper ventilation, handling, storage, and disposal of brake components.

Standard 1: Perform hydraulic system diagnosis and repair. (1625.S.1)

Hydraulic System Diagnosis and Repair Objectives

Students will:

1625.1.1 Check master cylinder for internal and external leaks and proper operation; determine needed repairs.
1625.1.2 Remove, bench bleed, and replace master cylinders.
1625.1.3 Diagnose poor stopping, pulling or dragging caused by problems in the hydraulic system; determine needed repairs.
1625.1.4 Inspect brake lines and fittings for leaks, dents, kinks, rust, cracks or wear; tighten loose fittings and supports.
1625.1.5 Fabricate and install brake lines (double flare and ISO types); replace hoses, fittings, and supports as needed.
1625.1.6 Select, handle, store, and install brake fluids to proper level. Bleed (manual, pressure, vacuum or surge) brake system; flush hydraulic system.
1625.1.7 Inspect, test, and replace metering (hold-off), proportioning (balance), pressure differential, and combinations valves.
1625.1.8 Inspect, test, replace and adjust height (load) sensing proportioning valve.
1625.1.9 Inspect, test, and replace components of brake warning light system.

Standard 2: Demonstrate drum brake diagnosis and repair. (1625.S.2)

Drum Brake Diagnosis and Repair Objectives

Students will:

1625.2.1 Diagnose poor stopping, noise, pulling, grabbing, dragging or pedal pulsation problems; determine needed repairs.
1625.2.1 Remove, clean (using proper safety procedures), inspect, and measure brake drums. Service (mount brake drum on lathe and machine) or replace as needed.
1625.2.3 Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, and backing support plates; lubricate/reassemble.
1625.2.4 Remove and reinstall wheel cylinders.
1625.2.5 Pre-adjust brake shoes and parking brake before installing brake drums or drum/hub assemblies and wheel bearings.

Standard 3: Demonstrate disc brake diagnosis and repair. (1625.S.3)

Disc Brake Diagnosis and Repair Objectives

Students will:

1625.3.1 Diagnose poor stopping, noise, pulling, grabbing, dragging, or pedal pulsation caused problems; determine needed repairs.
1625.3.2 Remove caliper assembly from mountings; clean and inspect for leaks and damage to caliper housing. Inspect parts for wear, rust, scoring, and damage; replace seal, boot or worn parts. Clean and inspect caliper mounting and slides for wear and damage.

1625.3.3 Remove, clean, and inspect pads and retaining hardware; determine needed service. Reassemble, lubricate, and reinstall caliper, pads, and related hardware.
1625.3.4 Clean, inspect, and measure rotor with a dial indicator and a micrometer; follow manufacturer's recommendations in determining need to machine or replace.
1625.3.5 Adjust calipers with integrated parking brake system. Fill master cylinder with recommended fluid and seat pads; inspect caliper for leaks.
1625.3.6 Reinstall wheel, torque lug nuts, and make final checks and adjustments.

Standard 4: Perform diagnosis and repair of power assist units. (1625.S.4)

Power Assist Units Objectives

Students will:
1625.4.1 Test pedal free travel with and without engine running; check power assist operation.
1625.4.2 Check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster.
1625.4.3 Inspect the vacuum-type power booster unit for vacuum leaks; inspect the check valve for proper operation; repair or replace parts as needed.

Standard 5: Perform diagnosis and repair of miscellaneous items. (1625.S.5)

Diagnosis and Repair of Miscellaneous Items Objectives

Students will:
1625.5.1 Diagnose wheel bearing noises, wheel shimmy, and vibration problems; determine needed repairs.
1625.5.2 Remove, clean, inspect, re-pack, and reinstall wheel bearings and replace seals; reinstall hub and adjust wheel bearings. Replace wheel bearing and race as needed.
1625.5.3 Check parking brake cables and components for wear, rusting, binding, corrosion and clean, lubricate and replace as needed.
1625.5.4 Check parking brake operation; adjust as needed. Check operation of parking brake indicator light system.
1625.5.5 Check operation of brake stop light system; adjust and service as needed.

Standard 6: Perform diagnosis and repair of an anti-lock brake system. (1625.S.6)

Anti-Lock Brake System Objectives

Students will:
1625.6.1 Inspect, test, and service anti-lock brake system (ABS) hydraulic, electrical, and mechanical components. Observe anti-lock brakes system (ABS) warning light(s) at startup; determine if further diagnosis is needed.
1625.6.2 Diagnose poor stopping, wheel lock-up, abnormal pedal feel or pulsation, and noise problems caused by the anti-lock brake system (ABS); determine needed repairs.
1625.6.3 Diagnose anti-lock brake system (ABS) electronic control(s) and components using self-diagnosis and/or recommended test equipment; determine needed repairs.
1625.6.4 Depressurize high pressure components of the anti-lock brake system (ABS) following manufacturer's recommended safety procedures.
1625.6.5 Fill and bleed the anti-lock brake system's (ABS) front and rear hydraulic circuits and master cylinder with recommended fluid following manufacturer's procedures; inspect system for leaks.
1625.6.6 Perform a fluid pressure (hydraulic boost) diagnosis on the high pressure anti-lock brake system (ABS); determine needed repairs.
1625.6.7 Remove and install anti-lock brake system (ABS) electrical/electronic and hydraulic components following manufacturer's procedures and specifications.
1625.6.8 Service, test, and adjust anti-lock brake system (ABS) speed sensors following manufacturer's

recommended procedures

1625.6.9 Diagnose anti-lock brake system (ABS) braking problems caused by vehicle modifications (tire size, curb height, final drive ratio, etc.).

Electrical/Electronic Systems WVEIS Code 1627

This course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile.

Standard 1: Demonstrate general electrical system diagnosis. (1627.S.1)

General Electrical System Diagnosis Objectives

Students will:

1627.1.1 Use wiring diagrams during diagnosis of electrical circuit problems.
1627.1.2 Check electrical circuits with a test light; determine needed repairs.
1627.1.3 Check voltage and voltage drop in electrical/electronic circuits using a digital multi meter (DMM) and current flow in electrical/electronic circuits and components using an ammeter.
1627.1.4 Check electrical circuits using jumper wires; determine needed repairs.
1627.1.5 Find shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine needed repairs.
1627.1.6 Measure and diagnose the cause(s) of abnormal key-off battery drain; repair as needed.
1627.1.7 Inspect and test fusible links, circuit breakers, and fuses; replace as needed.
1627.1.8 Inspect and test switches, connectors, relays, and wires of electrical/electronic circuits; repair or replace as needed.

Standard 2: Apply battery diagnosis and service. (1627.S.2)

Battery Diagnosis and Service Objectives

Students will:

1627.2.1 Perform battery state-of-charge test and perform slow/fast battery charge.
1627.2.2 Perform battery capacity (load, high-rate discharge) test and determine needed service.
1627.2.3 Maintain or restore electronic memory functions.
1627.2.4 Inspect, clean, fill and replace battery, clean battery cables, connectors, clamps, and hold-downs; repair or replace as needed.
1627.2.5 Start a vehicle using jumper cables and a battery or auxiliary power supply.

Standard 3: Demonstrate starting system diagnosis and repair. (1627.S.3)

Starting System Diagnosis and Repair Objectives

Students will:

1627.3.1 Perform starter current draw and circuit voltage drop test; determine needed repairs.
1627.3.2 Inspect and test starter relays and solenoids; replace as needed.
1627.3.3 Remove and replace/reinstall starter.
1627.3.4 Perform starter bench tests; determine needed repairs.
1627.3.5 Inspect, test, and repair or replace switches, connectors, and wires of starter control circuits.
1627.3.6 Disassemble, clean, inspect, and test starter components; replace as needed.

Standard 4: Perform charging system diagnosis and repair. (1627.S.4)

Charging System Diagnosis and Repair Objectives

Students will:

1627.4.1 Diagnose charging system problems that cause an undercharge, a no-charge or an overcharge condition. Perform charging circuit voltage drop tests.
1627.4.2 Inspect and adjust alternator drive belts; replace as needed.

1627.4.3 Inspect and test voltage regulator; replace as needed.
1627.4.4 Remove, inspect, and replace/reinstall alternator.
1627.4.5 Disassemble, clean, inspect, and test alternator components; replace as needed.

Standard 5: Troubleshoot lighting systems, diagnosis and repair. (1627.S.5)

Lighting Systems, Diagnosis and Repair Objectives

Students will:
1627.5.1 Diagnose brighter than normal, intermittent, dim or no light operation.
1627.5.2 Inspect, replace, and aim headlights and bulbs.
1627.5.3 Inspect and diagnose incorrect turn signal or hazard light operations; repair or replace as needed.

Standard 6: Perform diagnosis and repair of driver information systems. (1627.S.6)

Driver Information Systems Objectives

Students will:
1627.6.1 Diagnose intermittent, high, low, no gauge readings, or no readings on electronic instrument clusters, test sensors, sending units, connectors, and wires of electronic instrument circuits.
1627.6.2 Test gauge circuit voltage regulators (limiters); replace as needed.
1627.6.3 Inspect and test gauges and gauge sending units, connectors, wires, and printed circuit boards of gauge circuits; repair or replace as needed.
1627.6.4 Diagnose incorrect operation of warning devices and other driver information systems.

Standard 7: Perform diagnosis and repair of horn and wiper/washer. (1627.S.7)

Horn and Wiper/Washer Objectives

Students will:
1627.7.1 Diagnose incorrect horn operation; repair as needed.
1627.7.2 Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; repair as needed.
1627.7.3 Diagnose incorrect windshield washer operation; repair as needed.

Standard 8: Perform accessories diagnosis and repair. (1627.S.8)

Accessories Diagnosis and Repair Objectives

Students will:
1627.8.1 Diagnose incorrect operation of motor-driven accessory circuits, heated glass operation, electric door and hatch/trunk lock operation and cruise control systems.
1627.8.2 Diagnose supplemental restraint system (SRS) problems; repair as needed. (Note: Follow manufacturer's safety procedures to prevent accidental deployment.
1627.8.3 Diagnose radio static and weak, intermittent, or no radio reception.

Engine Performance WVEIS Code 1629

This course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile. Students will comply with personal and environmental safety practices associated with proper ventilation and the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.

Standard 1: Perform general engine diagnosis. (1629.S.1)

General Engine Diagnosis Objectives

Students will:

1629.1.1 Interpret and verify complaint, inspect engine assembly for fuel, oil, coolant, and other leaks.
1629.1.2 Diagnose unusual engine noise or vibrations problems, unusual exhaust color, odor or sound.
1629.1.3 Perform engine absolute (vacuum/boost) manifold pressure tests; determine needed repairs.
1629.1.4 Perform cylinder power balance test, cylinder compression test and cylinder leakage test.
1629.1.5 Diagnose engine mechanical, electrical, electronic, fuel, and ignition problems with an oscilloscope and engine diagnostic equipment; determine needed action.
1629.1.6 Prepare a 4 or 5 gas analyzer; inspect and prepare vehicle for test and obtain exhaust readings; interpret readings and determine needed action.

Standard 2: Perform computerized engine controls diagnosis and repair. (1629.S.2)

Computerized Engine Controls Diagnosis and Repair Objectives

Students will:

1629.2.1 Diagnose emissions or driveability problems resulting from failure of computerized engine controls with no diagnostic trouble codes stored; determine needed repairs.
1629.2.2 Retrieve and record stored diagnostic trouble codes and diagnose the causes of emissions or driveability problems resulting from failure of computerized engine controls.
1629.2.3 Inspect, test, adjust, and replace computerized engine control system sensors, powertrain control module (PCM), actuators, and circuits.
1629.2.4 Obtain and interpret digital multimeter (DMM) readings.
1629.2.5 Access and use electronic service information (ESI).
1629.2.6 Locate and interpret vehicle and major component identifications numbers, (VIN, vehicle certification labels and calibration decals).
1629.2.7 Inspect and test power and ground circuits and connections and practice recommended precautions when handling static sensitive devices.
1629.2.8 Diagnose driveability and emissions problems resulting from failures of interrelated systems (cruise control, security alarms, torque controls, suspension controls, traction controls, torque management, A/C, automatic transmissions, and similar systems); determine needed repairs.

Standard 3: Perform diagnosis and repair of ignition system. (1629.S.3)

Ignition System Objectives

Students will:

1629.3.1 Diagnose no-starting, driveability, and emissions problems on vehicles with electronic ignition (distributor-less) systems and on vehicles with distributor ignition (DI) systems.
1629.3.2 Inspect and test ignition primary circuit wiring and components, distributor, ignition system secondary circuit wiring and components and ignition coil(s).
1629.3.3 Check and adjust (where applicable) ignition system timing and timing advance/retard.
1629.3.4 Inspect and test ignition wiring harness and connectors, ignition system pick-up sensor or triggering devices and ignition control module.

Standard 4: Perform fuel, air induction, and exhaust systems diagnosis and repair. (1629.S.4)

Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair Objectives

Students will:

1629.4.1 Diagnose hot or cold no-starting, hard starting, poor driveability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems on vehicles with carburetor-type fuel systems and injection-type fuel systems.

1629.4.2 Inspect fuel tank and fuel cap, replace fuel filter, fuel lines, fittings, and hoses. Check fuel for contaminants and quality.

1629.4.3 Inspect and test mechanical and electrical fuel pumps and pump control systems; replace as needed.

1629.4.4 Inspect and test fuel pressure regulations system and components of injection-type fuel systems and test cold enrichment system components.

1629.4.5 Remove, clean, and reinstall throttle body, adjust related linkages and inspect throttle body mounting plates, air induction and filtration system, intake manifold, and gaskets.

1629.4.6 Inspect and test fuel injectors; clean and replace.

1629.4.7 Check/adjust idle speed and fuel mixture where applicable.

1629.4.8 Remove, inspect, and test vacuum and electrical components and connections of fuel system; repair or replace as needed.

1629.4.9 Inspect exhaust manifold, exhaust pipes, mufflers, resonators, tail pipes, and heat shields; repair or replace as needed.

1629.4.10 Perform exhaust system back-pressure test; determine needed action.

1629.4.11 Test the operation of turbocharger/supercharger systems, remove, clean, inspect and repair or replace turbocharger/supercharger system components and identify the causes of turbocharger/supercharger failure.

Standard 5: Demonstrate emissions control systems diagnosis and repair. (1629.S.5)

Emissions Control Systems Diagnosis and Repair Objectives

Students will:

1629.5.1 Inspect and test positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, hoses and diagnose oil leaks, emissions, and driveability problems resulting from failure of the positive crankcase ventilation (PCV) system.

1629.5.2 Diagnose emissions and driveabiliity problems cause by failure of the exhaust gas re-circulation (EGR) system, inspect and test valve, valve manifold, and exhaust passages, vacuum/pressure controls, filters, and hoses, electrical/electronic sensors, controls, and wiring.

1629.5.3 Inspect and test components of catalytic converter systems, diagnose emissions and driveability problems resulting from failure of the secondary air injection and catalytic converter systems, mechanical components of secondary air injection systems, electrical/electronically-operated components and circuits of the air injection systems.

1629.5.4 Inspect and test components of intake air temperature control system, and diagnose emissions and driveability problems resulting from failure of the intake air temperature control system.

1629.5.5 Inspect and test components of early fuel evaporation control system, and diagnose emissions and driveability problems resulting from failure of the early fuel evaporation control system.

1629.5.6 Adjust valves on engines with mechanical or hydraulic lifters.

1629.5.7 Verify correct camshaft timing; determine needed action.

1629.5.8 Verify engine operating temperature; determine needed action.

1629.5.9 Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; service or replace as needed.

1629.5.10 Inspect and test thermostat, by-pass, and housing; replace as needed.

1629.5.11 Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; service or replace as needed.

Fundamentals Of Automotive Technology WVEIS Code 1631

This course will introduce students to the basic skills in automotive technology/ service. Students will become familiar with fundamentals of automotive technology and basic automotive electrical systems.

Standard 1: Identify, explore, and evaluate career opportunities related to automotive technology. (1631.S.1)

Career Opportunities Related to Automotive Technology Objectives

Students will:

1631.1.1 Describe a variety of careers related to automotive technology, and the training necessary to be successful in those careers.
1631.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of automotive technology.
1631.1.3 Identify sources of information about careers in automotive technology.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to automotive technology. (1631.S.2)

Automotive Technology Objectives

Students will:

1631.2.1 Recognize and follow general shop safety guidelines.
1631.2.2 Select and wear appropriate protective equipment.
1631.2.3 Demonstrate the proper selection and use of fire extinguishers.
1631.2.4 Identify and demonstrate proper use and care of all basic personal safety equipment.
1631.2.5 Describe safety precautions necessary when using hazardous materials.
1631.2.6 Explain the OSHA "Right to Know" law.
1631.2.7 Conduct safety inspections in the lab.

Standard 3: Identify basic hand and power tools and demonstrate safe and appropriate use. (1631.S.3)

Basic Hand and Power Tools Objectives

Students will:

1631.3.1 Choose the proper hand tools for given applications, and describe the proper care and maintenance of each.
1631.3.2 Demonstrate any adjustments possible with each tool.
1631.3.3 Choose proper power tools for given application, and demonstrate proper care and maintenance of each.
1631.3.4 Make necessary adjustments to power tools.
1631.3.5 Recognize and identify appropriate blade or bit for given situation, and demonstrate the ability to change blades and bits on cutting tools.

Standard 4: Demonstrate a working knowledge of general electrical system diagnosis. (1631.S.4)

General Electrical System Diagnosis Objectives

Students will:

1631.4.1 Identify automotive electrical symbols.
1631.4.2 Check continuity in electrical circuits with a test light.
1631.4.3 Check applied voltages and voltage drops in electrical circuits with analog and digital

voltmeters.

1631.4.4 Check current flow in electrical circuits and components with an ohmmeter.

1631.4.5 Check continuity and resistance in electrical circuits and components with analog and digital ohmmeters.

1631.4.6 Find shorts and grounds in electrical circuits.

1631.4.7 Diagnose the cause(s) of a constant battery drain.

1631.4.8 Inspect, test, and replace fusible links, circuit breakers, and fuses.

Standard 5: Demonstrate battery diagnosis and service. (1631.S.5)

Battery Diagnosis and Service Objectives

Students will:

1631.5.1 Perform various battery tests, including: state-of-charge test, capacity (load, high-rate discharge) test, and three (3) minute charge test, and determine needed service.

1631.5.2 Inspect, clean, fill, or replace battery, battery cables, connectors and clamps.

1631.5.3 Slow and fast charge conventional and maintenance free batteries.

1631.5.4 Jump start a vehicle with jumper cables and a booster battery or auxiliary power supply.

Standard 6: Demonstrate starting system diagnosis and repair procedures. (1631.S.6)

Starting System Diagnosis and Repair Procedures Objectives

Students will:

1631.6.1 Perform starter current draw test and starter circuit voltage drop test: determine needed repairs.

1631.6.2 Inspect, test, and repair or replace switches, connectors, and wires of starter control circuits.

1631.6.3 Inspect, test, and replace starter relays and solenoids.

1631.6.4 Remove and replace starter.

1631.6.5 Disassemble and clean starter components, inspect and replace starter drive, inspect and replace starter brushes and brush holders, inspect and replace starter bushings and end frames, inspect and test starter field coils and inspect, test, and replace starter armature.

1631.6.6 Perform starter free-running (bench) tests; determine needed repairs.

Standard 7: Identify and repair charging system components. (1631.S.7)

Charging System Components Objectives

Students will:

1631.7.1 Diagnose charging system problems that cause an overcharge, undercharge or a no-charge condition.

1631.7.2 Inspect, adjust, and replace alternator drive belts, pulleys, and fans.

1631.7.3 Perform charging system output test; determine needed repairs.

1631.7.4 Perform alternator output test; determine needed repairs.

1631.7.5 Remove and replace regulator.

Heating and Air Conditioning WVEIS Code 1633

This course will introduce students to the heating and air conditioning systems of the automobile. Students will comply with personal and environmental safety practices associated with the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety regulations.

Standard 1: Perform diagnosis and repair of A/C system. (1633.S.1)

Perform Diagnosis and Repair of A/C System Objectives

Students will:

1633.1.1 Diagnose unusual operating noises in the A/C system; determine needed repairs.
1633.1.2 Conduct performance test of the A/C system; determine needed repairs.
1633.1.3 Leak test A/C system; determine needed repairs.
1633.1.4 Inspect the condition of discharged oil. Select oil type; measure and add oil to the A/C system as needed.

Standard 2: Perform refrigeration system component diagnosis and repair. (1633.S.2)

Refrigeration System Component Diagnosis and Repair Objectives

Students will:

1633.2.1 Diagnose A/C system problems that cause the protection devices (pressure, thermal, and PCM) to interrupt system operations; determine needed repairs.
1633.2.2 Inspect A/C compressor drive belts; replace and adjust as needed.
1633.2.3 Inspect, test, and replace A/C compressor clutch components or assembly.
1633.2.4 Remove and replace A/C compressor and mountings.
1633.2.5 Inspect and replace A/C compressor shaft seal assembly.
1633.2.6 Diagnose A/C system problems caused by too much moisture in the refrigerant; determine needed repairs.
1633.2.7 Install A/C system filter. Remove and inspect A/C system mufflers, hoses, lines, fittings, 0-rings, seals, and service valves; replace as needed.
1633.2.8 Inspect A/C condenser for air flow restrictions; service as required.
1633.2.9 Inspect receiver/drier or accumulator/drier; service as needed.
1633.2.10 Inspect and test expansion valve or orifice (expansion) tube; replace as needed.
1633.2.11 Inspect evaporator housing water drain; repair as needed.

Standard 3: Perform diagnosis and repair of heating and engine cooling systems. (1633.S.3)

Heating and Engine Cooling Systems Objectives

Students will:

1633.3.1 Diagnose temperature control problems in the heater/ventilation system; determine needed repairs.
1633.3.2 Perform cooling system, cap, and recovery system tests (pressure, combustion leakage, and temperature); determine needed repairs.
1633.3.3 Inspect engine cooling and heater system hoses and belts; replace as needed.
1633.3.4 Inspect, test, and replace thermostat and housing.
1633.3.5 Determine coolant condition; drain and recover. Flush system and refill with recommended coolant; bleed system.
1633.3.6 Clean, inspect and test fan, fan clutch (electrical and mechanical), fan shroud, and air dams;

replaces as needed.

1633.3.7 Inspect and test heater control valve(s); replace as needed.

Standard 4: Perform operating systems and related controls diagnosis and repair. (1633.S.4)

Operating Systems and Related Controls Diagnosis and Repair Objectives

Students will:

1633.4.1 Diagnose failures in the electrical controls of heating and A/C systems; determine needed repairs.

1633.4.2 Inspect and test A/C - heater blower, motors, resistors, switches, relays, wiring, and protection devices; repair or replace as needed.

1633.4.3 Test A/C compressor load cut-off systems; determine needed repairs.

1633.4.4 Diagnose failures in the vacuum and mechanical controls of the heating and A/C system; determine needed repairs.

1633.4.5 Inspect and test A/C -heater control panel assembly; inspect and test A/C-heater control cables and linkages; replace as needed.

1633.4.6 Inspect and test A/C-heater vacuum control switches, hoses, diaphragms (motors), vacuum reservoir, check valve, and restrictors; replace as needed.

1633.4.7 Check operation of automatic and semi-automatic heating, ventilation, and air-conditioning (HVAC) control systems; determine needed repairs.

Standard 5: Perform refrigerant recovery, recycling and handling. (1633.S.5)

Refrigerant Recovery, Recycling and Handling Objectives

Students will:

1633.5.1 Verify correct operation and maintenance of refrigerant handling equipment. Identify and recover A/C system refrigerant.

1633.5.2 Recycle, label and store refrigerant.

1633.5.3 Test recycled refrigerant for non-condensable gases.

1633.5.4 Evacuate and charge A/C system.

Manual/Automatic Drive Train Axles WVEIS Code 1635

This course will introduce students to the manual/automatic drive train and axle systems of the automobile.

Standard 1: Apply clutch diagnosis and repair. (1635.S.1)

Clutch Diagnosis and Repair Objectives

Students will:

1635.1.1 Diagnose clutch noise, binding, slippage, pulsation, and chatter problems; determine needed repairs.

1635.1.2 Inspect, adjust or replace clutch pedal linkage, cables, automatic adjuster mechanisms, brackets, bushings, pivots, springs, hydraulic clutch slave and master cylinders, lines, and hoses.

1635.1.3 Inspect, adjust or replace release (throw-out) bearing, lever and pivot, crankshaft pilot bearing or bushing (as applicable), clutch pressure plate assembly and clutch disc.

1635.1.4 Inspect, repair, and service or replace flywheel and ring gear. Measure flywheel-to-block runout and crankshaft end play; determine needed repairs.

1635.1.5 Inspect engine block, clutch (bell) housing, and transmission case mating surfaces; measure clutch (bell) housing bore-to-crankshaft runout and face squareness; determine needed repairs.

Standard 2: Demonstrate manual transmission diagnosis and repair. (1635.S.2)

Manual Transmission Diagnosis and Repair Objectives

Students will:

1635.2.1 Diagnose transmission noise, hard shifting, jumping out of gear, and fluid leakage problems; determine needed repairs.

1635.2.2 Inspect, adjust, and replace transmission shift linkages, brackets, bushings, cables, pivots, and levers. Inspect, replace, and align power train mounts.

1635.2.3 Inspect and replace transmission gaskets, seals, and sealants; inspect sealing surfaces.

1635.2.4 Remove, disassemble, clean, reassemble transmission components and reinstall transmission.

1635.2.5 Inspect, adjust, and reinstall transmission shift cover, forks, grommets, levers, shafts, sleeves, detent mechanisms, interlocks, and springs. Inspect lubrication devices (oil pump or slingers).

1635.2.6 Inspect and replace speedometer drive gear, driven gear, vehicle speed sensor (VSS) and retainers.

1635.2.7 Inspect, repair, and replace extension housing and transmission case mating surfaces, bores, bushings, and vents.

Standard 3: Perform transaxle diagnosis and repair. (1635.S.3)

Transaxle Diagnosis and Repair Objectives

Students will:

1635.3.1 Diagnose transaxle noise, hard shifting, jumping out of gear, and fluid leakage problems; determine needed repairs.

1635.3.2 Inspect, adjust, and reinstall transaxle shift linkages, brackets, bushings, cables, pivots, and levers. Inspect and reinstall power train mounts.

1635.3.3 Inspect and replace transaxle gaskets, seals, and sealants; inspect sealing surfaces.

1635.3.4 Remove and reinstall transaxle and replace final drive.

1635.3.5 Inspect, adjust and reinstall transaxle shift cover, forks, levers, grommets, shafts, sleeves, detent mechanism, interlocks and springs, input (clutch) shaft and bearings, output shaft, gears, thrust washers, bearings, and retainers.
1635.3.6 Measure end play or preload (shim or spacer selection procedure) on transaxle shafts; adjust as needed.
1635.3.7 Inspect and reinstall synchronizer hub, sleeve, keys (inserts), springs, and blocking rings, reverse idler gear, shaft, bearings, thrust washers, and retainers.
1635.3.8 Inspect transaxle case, mating surfaces, bores, bushings, and vents.
1635.3.9 Inspect and reinstall speedometer drive gear, driven gear, vehicle speed sensor (VSS), and retainers, inspect, measure, adjust, and reinstall differential pinion gears (spiders), shaft, side gears, side bearings, thrust washers, and case assembly. Inspect lubrication devices (oil pump or slingers).
1635.3.10 Diagnose differential assembly noise and vibration problems; determine needed repairs.

Standard 4: Perform diagnosis and repair of universal and constant-velocity (CV) joint. (1635.S.4)

Universal and Constant-Velocity (CV) Joint Objectives

Students will:
1635.4.1 Diagnose constant-velocity (CV) joint/ universal joint noise and vibrations problems; determine needed repairs.
1635.4.2 Diagnose front wheel drive (FWD) front wheel bearing noise and vibration problems.
1635.4.3 Inspect, service, and replace shafts, yokes, boots, and shaft center support bearings.
1635.4.4 Check and correct shaft balance; measure shaft runout; measure and adjust driveline angles.

Standard 5: Perform ring and pinion gears and differential case assembly. (1635.S.5)

Ring and Pinion Gears and Differential Case Assembly Objectives

Students will:
1635.5.1 Diagnose ring and pinion gears noise and vibrations and fluid leakage problems.
1635.5.2 Inspect and replace companion flange and pinion seal; measure companion flange runout.
1635.5.3 Inspect ring gear, pinion gear, spacers, sleeves, and bearings and measure runout. Measure and adjust drive pinion depth, pinion bearing preload, side bearing preload and pinion gear total backlash and backlash variation on a differential carrier assembly (threaded cup and shim types).
1635.5.4 Disassemble, inspect, measure, and adjust or replace differential pinion gears (spiders), shaft, side gears, side bearings, thrust washers, and case. Check ring and pinion tooth contact patterns; adjust as needed.
1635.5.5 Reassemble and reinstall differential case assembly; measure runout; make needed adjustments.

Standard 6: Demonstrate limited slip differential, diagnosis and repair. (1635.S.6)

Limited Slip Differential, Diagnosis and Repair Objectives

Students will:
1635.6.1 Diagnose noise, slippage, and chatter problems; determine needed repairs.
1635.6.2 Inspect and flush differential housing; refill with correct lubricant.
1635.6.3 Inspect and reinstall clutch (cone or plate) components.
1635.6.4 Measure rotating torque; determine needed repairs.

Standard 7: Perform diagnosis and repair of axle shafts. (1635.S.7)

Perform Diagnosis and Repair of Axle Shafts Objectives

Students will:

1635.7.1 Diagnose rear axle shafts, bearings, and seals for noise, vibration, and fluid leakage problems; determine needed repairs.
1635.7.2 Remove and replace rear axle shafts. Inspect and replace rear axle shaft wheel studs.
1635.7.3 Inspect, measure rear axle flange runout and shaft end play and replace rear axle shaft seals, bearings, and retainers.

Standard 8: Perform four-wheel drive/all wheel drive component diagnosis and repair. (1635.S.8)

Four-Wheel Drive/All Wheel Drive Component Diagnosis and Repair Objectives

Students will:

1635.8.1 Diagnose noise, vibration, and unusual steering problems; determine needed repairs.
1635.8.2 Inspect, adjust, and repair shifting controls (mechanical, electrical, and vacuum), bushings, mounts, levers, and brackets.
1635.8.3 Remove, disassemble, service, and reassemble transfer case and components and reinstall transfer case.
1635.8.4 Inspect, service, and replace front-wheel bearings and locking hubs.
1635.8.5 Inspect viscous coupling assembly. Check drive assembly seals and vents; check lube level.

Standard 9: Demonstrate automatic transmission/transaxle diagnosis, maintenance and adjustment. (1635.S.9)

Automatic Transmission/Transaxle Diagnosis, Maintenance and Adjustment Objectives

Students will:

1635.9.1 Interpret and verify drivers complaint, diagnose noise and vibrations problems, verify proper engine operation, diagnose unusual fluid usage, level, and condition problems.
1635.9.2 Perform stall tests, perform lock-up converter system tests and determine needed repairs.
1635.9.3 Diagnose electronic, mechanical, and vacuum control systems; determine needed repairs.
1635.9.4 Inspect, adjust, or replace manual shift valve and throttle (TV) linkages or cables and check gear select indicator (as applicable).
1635.9.5 Inspect, repair, and replace governor assembly.
1635.9.6 Inspect, measure, clean, and replace valve body (includes surfaces and bores, springs, valves, sleeves, retainers, brackets, check-ball, screens, spacers, and gaskets); check/adjust valve body bolt torque.
1635.9.7 Inspect servo bore, piston, seals, pin, spring, and retainers; repair or replace as needed.
1635.9.8 Inspect accumulator bore, piston, seals, spring, and retainer; repair or replace as needed.
1635.9.9 Inspect, test, adjust, repair or replace transmission related electrical and electronic components (includes computers, solenoids, sensors, relays, switches, and harnesses).
1635.9.10 Inspect, replace, align power train mounts.
1635.9.11 Inspect and replace parking brake shaft, spring, and retainer.
1635.9.12 Remove and reinstall transmission and torque converter (rear-wheel drive).
1635.9.13 Remove and reinstall transaxle and torque converter assembly.
1635.9.14 Disassemble, clean, and inspect and reassemble transmission/transaxle.

Standard 10: Perform oil pump and converter diagnosis and repair. (1635.S.10)

Oil Pump and Converter Diagnosis and Repair Objectives

Students will:

1635.10.1 Inspect converter flex plate, attaching parts, pilot and pump drive, and seal areas.
1635.10.2 Measure torque converter end play and check for interference; check stator clutch.
1635.10.3 Inspect, measure, and replace oil pump housings, shafts, vanes, rotors, gears, valves, seals, and bushings.
1635.10.4 Check torque converter and transmission cooling system for contamination.

Standard 11: Inspect and repair gear train, shafts, bushings and case. (1635.S.11)

Gear Train, Shafts, Bushings and Case Objectives

Students will:
1635.11.1 Check end play or preload, inspect, measure, and replace thrust washers and bearings.
1635.11.2 Inspect bushings, oil delivery seal rings, ring grooves, and sealing surface areas; replace as needed.
1635.11.3 Inspect and measure planetary gear assembly (includes sun, ring gear, thrust washers, planetary gears, and carrier assembly); replace as needed.
1635.11.4 Inspect cases, bores, passages, bushings, vents, and mating surfaces; replace as needed.
1635.11.5 Inspect, measure, repair, adjust or replace transaxle final drive components.
1635.11.6 Inspect and reinstall parking pawl, shaft, spring, and retainer; replace as needed.

Standard 12: Perform diagnosis and repair of friction and reaction units. (1635.S.12)

Friction and Reaction Units Objectives

Students will:
1635.12.1 Inspect clutch drum, piston, check-balls, springs, retainers, seals, and friction and pressure plates, clutch pack clearance, and inspect bands and drums; replace as needed.
1635.12.2 Air test operation of clutch and servo assemblies.
1635.12.3 Inspect roller and sprag clutch, races, rollers, sprags, springs, cages, and retainers; replace as needed.

Suspension and Steering Diagnosis WVEIS Code 1637

This course will introduce students to the basic fundamental skills, technology, and service of automotive suspension and steering systems.

Standard 1: Perform steering systems diagnosis and repair. (1637.S.1)

Steering Systems Diagnosis and Repair Objectives

Students will:

1637.1.1 Disable supplemental restraint system (SRS) in accordance with manufacturer's procedures.
1637.1.2 Diagnose steering column noises, looseness, and binding problems (including tilt mechanisms); determine needed repairs.
1637.1.3 Diagnose power rack and pinion and non-rack and pinion steering gear binding, uneven turning effort, looseness, hard steering, steering gear vibration, and fluid leakage problems: determine needed repairs.
1637.1.4 Inspect and replace steering shaft universal-joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism, and steering wheel.
1637.1.5 Adjust manual or power non-rack and pinion worm gear bearing pre-load and sector lash.
1637.1.6 Remove and replace manual or power rack and pinion steering gear; inspect mounting bushings and brackets.
1637.1.7 Disassemble, inspect, repair, and reassemble rack and pinion steering gear.
1637.1.8 Adjust manual or power rack and pinion steering gear.
1637.1.9 Inspect and replace manual or power rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
1637.1.10 Inspect manual and power steering fluid levels and condition. Flush, fill, and bleed power steering system. Inspect, replace, and adjust power steering pump belt.
1637.1.11 Diagnose power steering fluid leakage; determine needed repairs.
1637.1.12 Remove, inspect, and replace power steering pump, pump mounts, pump seals, and gaskets. Remove, inspect, and replace power steering pump pulley and check alignment.
1637.1.13 Perform power steering system pressure test; determine needed repairs. Inspect and replace power steering hoses and fittings.
1637.1.14 Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper. Inspect, replace, and adjust tie ends (sockets), tie rod sleeves, and clamps.
1637.1.15 Diagnose, inspect, adjust, repair or replace components of electronically-controlled steering systems.
1637.1.16 Diagnose, inspect, repair or replace components of variable-assist steering systems.

Standard 2: Perform diagnosis and repair of front suspensions. (1637.S.2)

Diagnosis and Repair of Front Suspensions Objectives

Students will:

1637.2.1 Diagnose short and long arm suspension system noises, body sway, and uneven riding height problems; determine needed repairs.
1637.2.2 Diagnose MacPherson strut suspension system noises, body sway, and uneven riding height problems; determine needed repairs. Remove, inspect, and replace ball joints on strut suspension systems.
1637.2.3 Remove, inspect, and replace MacPherson strut cartridge or assembly, strut coil spring, insulators, and upper strut bearing mount.
1637.2.4 Remove, inspect, replace upper and lower control arms, bushings, shafts, and rebound

bumpers. Remove, inspect, and replace steering knuckle assemblies.
1637.2.5 Remove, inspect, replace and adjust strut (compression/tension) rods and bushings.
1637.2.6 Remove, inspect, and replace upper and lower ball joints on short and long arm suspension systems.
1637.2.7 Remove, inspect, and replace short and long arm suspension system coil springs and spring insulators.
1637.2.8 Remove, inspect, replace, and adjust suspension system torsion bars; inspect mounts.
1637.2.9 Remove, inspect, and replace stabilizer bar bushings, brackets, and links.
1637.2.10 Lubricate suspension and steering systems.

Standard 3: Perform diagnosis and repair of rear suspensions. (1637.S.3)

Rear Suspensions Objectives

Students will:
1637.3.1 Remove, inspect, and replace coil springs and spring insulators.
1637.3.2 Remove, inspect and replace transverse links, control arms, bushings, and mounts.
1637.3.3 Remove, inspect, and replace leaf springs, leaf spring insulators (silencers), shackles, brackets, bushings, and mounts.
1637.3.4 Remove, inspect, and replace MacPherson strut cartridge or assembly, strut coil spring, and insulators (silencers).

Standard 4: Demonstrate miscellaneous services. (1637.S.4)

Miscellaneous Services Objectives

Students will:
1637.4.1 Inspect, remove, and replace shock absorbers.
1637.4.2 Remove, inspect, and service or replace front and rear wheel bearings.
1637.4.3 Diagnose, inspect, adjust, repair or replace components of electronically-controlled suspension systems.

Standard 5: Perform diagnosis and adjust wheel alignment. (1637.S.5)

Wheel Alignment Objectives

Students will:
1637.5.1 Diagnose vehicle wander, drift, pull, hard steering, bump steer, ride height, memory steer, torque steer, and steering return problems; determine needed repairs.
1637.5.2 Check and adjust front and rear wheel camber, caster, toe, SAI (steering axis inclination) and determine needed repairs.
1637.5.3 Center steering wheel.
1637.5.4 Check rear wheel thrust angle; determine needed repairs.
1637.5.5 Check for front wheel setback; determine needed repairs.
1637.5.6 Check front cradle (sub-frame) alignment; determine needed repairs.

Standard 6: Perform diagnosis and repair of wheels and tires. (1637.S.6)

Wheels and Tires Objectives

Students will:
1637.6.1 Inspect tires; check and adjust air pressure. Diagnose tire wear patters and determine needed repairs. Rotate tires according to manufacturer's recommendations.
1637.6.2 Diagnose wheel/tire vibrations, shimmy, and noise problems; determine needed repairs.
1637.6.3 Measure wheel, tire, axle, and hub run-out; determine needed repairs.
1637.6.4 Diagnose tire pull (lead) problem; determine corrective actions.

1637.6.5 Dismount, inspect, repair, and remount tire on wheel. Balance wheel and tire assembly (static and dynamic). Reinstall wheel; torque lug nuts.

Cabling-Video/Data/Voice WVEIS Code 1641

This course will introduce students to the fundamentals of telecommunications, cabling installation, standards, codes, plans and specifications.

Standard 1: Demonstrate knowledge of cabling installation overview. (1641.S.1)

Cabling Installation Overview Objectives

Students will:
1641.1.1 Describe the history and future directions of the cabling industry.
1641.1.2 Describe the knowledge and skills covered in the training.
1641.1.3 Register for the required examinations for the training.

Standard 2: Describe general information related to cabling. (1641.S.2)

Cabling Objectives

Students will:
1641.2.1 Identify structured premise cabling system characteristics.
1641.2.2 Specify standards and codes.
1641.2.3 Read plans and specifications.
1641.2.4 Understand various cabling media.
1641.2.5 Use various types of connectors.
1641.2.6 Apply transmission fundamentals.
1641.2.7 Properly do grounding and bonding.
1641.2.8 Use the accepted safety standards and procedures.
1641.2.9 Work as a professional in the cabling industry.

Standard 3: Utilize the proper cable installation practices. (1641.S.3)

Cable Installation Practices Objectives

Students will:
1641.3.1 Apply pre-cabling preparation practices.
1641.3.2 Perform cable pulling operations.
1641.3.3 Install the necessary firestopping systems.
1641.3.4 Apply cable termination functions.
1641.3.5 Perform cable splicing procedures.
1641.3.6 Properly perform cable testing procedures.
1641.3.7 Be able to troubleshoot cable problems.
1641.3.8 Perform retrofitting procedures.
1641.3.9 Perform administrative tasks associated with cabling practices.

Networking Fundamentals WVEIS Code 1645

This is the first of four courses designed to provide students with classroom and laboratory experience in the computer-networking field. Instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment. Students will also be made aware of safety, building and environmental codes and regulations.

Standard 1: Demonstrate the proper care, maintenance and use of networking software, tools and equipment. (1645.S.1)

Networking Software, Tools and Equipment Objectives

Students will:

1645.1.1 Apply safety rules, regulations, and procedures.
1645.1.2 Utilize decision-making techniques and employ higher-level thinking skills.
1645.1.3 Demonstrate an understanding of the OSI model and its seven layers.
1645.1.4 Demonstrate an understanding of IP addressing schemes.
1645.1.5 Define and demonstrate an understanding of the concept of routers.
1645.1.6 Display an understanding of the application of the binary number system.
1645.1.7 Understand the use of ARP/RARP with routers.
1645.1.8 Discuss the problems and capabilities with various types of media.
1645.1.9 Identify and describe the appropriate IEEE standards for Ethernet and Token Ring
1645.1.10 Design a LAN in the lab setting.
1645.1.11 Describe the design of three types of topologies.
1645.1.12 Make a connection between network media and telecommunications outlets.
1645.1.13 Successfully string cable using approved methods.
1645.1.14 Properly use a cable stretcher for selected tests on the wire.
1645.1.15 Apply EIA/TIA standards to MDF's and IDF's.
1645.1.16 Define and select solutions for: surge, spike, sag, oscillation and ground loop.
1645.1.17 Apply SCAN skills to the workplace.

Project Based Networking WVEIS Code 1647

This is the fourth of four courses designed to introduce new content and extend previously learned networking skills. Project Based Networking introduces Wide Area Networks (WAN's), Integrated Services Data Networks (ISDN), Point-to-Point Protocols (PPP) and Frame Relay design, configuration, and maintenance. The culmination of the course is the Threaded Case Study, in which the student designs a WAN utilizing all the knowledge gained in the previous Cisco Courses.

Standard 1: Demonstrate the ability to use Wide Area Networks, Integrated Services Data Networks, Point-to-Point Protocols and Frame Relay design, configuration and maintenance. (1647.S.1)

Wide Area Networks, Integrated Services Data Networks, Point-to-Point Protocols and Frame Relay Design, Configuration and Maintenance Objectives

The student will:

1647.1.1 Understand the basics of WAN technologies.
1647.1.2 Study WAN encapsulation formats, protocols, HDLC, PPP.
1647.1.3 Become aware of the process for gathering data to implement a WAN.
1647.1.4 Describe the placement of Integrated Services Data Network and Frame Relay
1647.1.5 Describe PPP's connection negotiation process
1647.1.6 Understand the use of Link Control Protocol and Network Control Protocol.
1647.1.7 Configure and verify a PPP connection.
1647.1.8 Be able to explain why ISDN is used.
1647.1.9 Apply the standards of ISDN.
1647.1.10 Configure an ISDN connection.
1647.1.11 Understand the services and standards of Frame Relay.
1647.1.12 Understand the functions of DLCI in Frame Relay.
1647.1.13 Explain how Frame Relay solves the problem of split horizon.
1647.1.14 Configure Frame Relay.
1647.1.15 Utilize knowledge gained in the Threaded Case Study.

Routing and Switching — WVEIS Code 1649

This is the third of four courses designed to provide students with classroom and laboratory experience in the computer-networking field. In this course students will learn about switches, Local Area Networks (LAN's), and Virtual Local Area Networks (VLAN's) design, configuration and maintenance.

Standard 1: Demonstrate knowledge, design, configuration and maintenance of switches, Local Area Networks and Virtual Local Area Networks. (1649.S.1)

Local Area Networks and Virtual Local Area Networks Objectives

Students will:

1649.1.1 Explain The Concept Of Congestion In Switched Ethernet LAN's.
1649.1.2 Design A Plan That Improves LAN Performance Through The Use Of Switches.
1649.1.3 Differentiate Between Symmetric And Asymmetric Switching.
1649.1.4 Define And Explain The Functions Of A VLAN.
1649.1.5 Setup A VLAN By Configuring The Switch.
1649.1.6 Explain The Operation Of VLAN Network Security.
1649.1.7 List And Summarize The IEEE 802 VLAN Standards.
1649.1.8 Define The LAN Design Goals.
1649.1.9 Design A LAN And Justify The Decisions Made On Selected Criteria.
1649.1.10 Demonstrate IGRP Configuration Tasks.
1649.1.11 Compare And Contrast Routing Versus Routed Protocols.
1649.1.12 Compare: Distance Vector, Hybrid, And Link State Routing Protocols.
1649.1.13 Differentiate Between Static Routes, Default Routes And Dynamic Routes.
1649.1.14 Describe The Purpose Of Standard Access Lists And Extended Access Lists.
1649.1.15 Create A List Of Deny/Permit Test.
1649.1.16 Create An IP Access List Using: Wildcard Mask Bits, Wildcard Any & Host.
1649.1.17 Discuss The Difference Between Novell IPX And Other Networks.
1649.1.18 Configure A Novell Network Using Novell IPX Addresses.

Routing Theory and Router Technologies WVEIS Code 1651

This is the second of four courses designed to provide students with classroom and laboratory experience in the computer-networking field. This course will focus on the role of the router in networks. Students will study routing protocols, router configuration and various router commands.

Standard 1: Perform routing protocols, router configuration and various router commands. (1651.S1)

Routing Protocols, Router Configuration and Various Router Commands Objectives

Students will:

1651.1.1 Identify the functions of the TCP/IP transport-layer Protocols.
1651.1.2 Manage the configuration files from the privileged exec mode on a router.
1651.1.3 Identify the functions performed by ICMP.
1651.1.4 Control router passwords, identification and enable banners.
1651.1.5 Identify the main Cisco IOS software commands for router startup.
1651.1.6 Check an initial configuration using the setup command.
1651.1.7 Log into a router in both user and privileged modes.
1651.1.8 Be able to use the context-sensitive help facility on the router.
1651.1.9 Use command history and editing features.
1651.1.10 List the commands to load Cisco IOS software from flash memory or ROM.
1651.1.11 Prepare to load, upgrade and load a Cisco IOS software image.
1651.1.12 Identify the parts in a specific protocol address.
1651.1.13 Become aware of problems encountered with topology changes.
1651.1.14 Configure IP addresses and subnet masks.
1651.1.15 Prepare the initial configuration for a router and enable IP.
1651.1.16 Add the RIP routing protocol to the router configuration.
1651.1.17 Add the IGRP routing protocol to the router
1651.1.18 Configure standard access lists to filter IP traffic.
1651.1.19 Configure extended access lists to filter IP traffic.

Web Course Design WVEIS Code 1653

This course will teach students to use the web design elements of a professional web page software package as well as various software programs that support that package.

Standard 1: Use the CISCO fundamentals of web design. (1653.S.1)

CISCO Fundamentals of Web Design Objectives

Students will:

1653.1.1 Demonstrate an understanding of the basic design principles for a web page.
1653.1.2 Demonstrate an understanding of file formats related to creating web pages.
1653.1.3 Create basic HTML code using a text editor.
1653.1.4 Create a personal web page in HTML code using a text editor.
1653.1.5 Use an HTML editor to create and edit HTML code.
1653.1.6 Create and edit images for web pages using digital cameras and various photography and graphic software programs.
1653.1.7 Optimize images for the web.
1653.1.8 Create vector and bitmap graphics.
1653.1.9 Create .SWF and .GIF animations.
1653.1.10 Create animations with DHTML.
1653.1.11 Create navigational elements.
1653.1.12 Edit and optimize video for web delivery.
1653.1.13 Create web pages with interactive elements.
1653.1.14 Demonstrate the use of accessibility.
1653.1.15 Demonstrate the use of usability.
1653.1.16 Create and use tables, hyperlinks, and frames.
1653.1.17 Create and use Cascading Style Sheets.
1653.1.18 Demonstrate site management skills.
1653.1.19 Create a website for the course project.

Standard 2: Use ethics in web page design. (1653.S.2)

Web Page Design Objective

Students will:

1653.2.1 Practice ethic behavior when developing and using web pages and the Internet.

Blueprint Reading — WVEIS Code 1661

This course will introduce students to basic blueprint reading fundamentals, including symbols, orthographic projections, isometric and sketching techniques, dimensioning, title blocks and common practices.

Standard 1: Determine requirements from construction drawings and floor plans, draw office and field sketches and identify and interpret basic civil, mapping and architecture symbols. (1661.S.1)

Construction Drawings and Floor Plans Objectives

Students will:

1661.1.1 Identify alphabet of lines and mapping symbols.
1661.1.2 Describe location of six (6) most commonly used views with orthographic projections.
1661.1.3 Demonstrate isometric and plane view sketching techniques.
1661.1.4 Complete statements concerning methods of dimensioning.
1661.1.5 Differentiate between notes and specifications.
1661.1.6 Analyze information from plan views and title blocks.
1661.1.7 Explain function and use of typical drawings.
1661.1.8 Read a drawing and write a bill of materials.
1661.1.9 Draw working sketches using field notes, dimensions and specifications.
1661.1.10 Identify drawing symbols and draw samples of each.
1661.1.11 Describe common blueprint abbreviations.
1661.1.12 Interpret abbreviations for common construction practices.
1661.1.13 Use print machine to make working copies of original drawings.

Fundamentals of Collision Repair Technology WVEIS Code 1671

This course will introduce students to the basic fundamentals of Collision Repair Technology. Students will become familiar with tools and materials for basic analysis and damage repair; general occupational information and computer applications.

Standard 1: Identify, explore, and evaluate career opportunities related to automotive technology.(1671.S.1)

Automotive Technology Objectives

Students will:

1671.1.1 Describe a variety of careers related to automotive technology, and the training necessary to be successful in those careers.
1671.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of automotive technology.
1671.1.3 Identify sources of information about careers in automotive technology.

Standard 2: Demonstrate knowledge of basic safety rules, equipment and hazardous waste disposal as it relates to collision repair technology. (1671.S.2)

Collision Repair Technology Objectives

Students will:

1671.2.1 Recognize and follow general collision repair lab safety guidelines, including the wearing of appropriate protective equipment.
1671.2.2 Demonstrate the proper selection and use of fire extinguishers.
1671.2.3 Identify personal health and safety hazards according to OSHA guidelines.
1671.2.4 Identify and properly dispose of hazardous waste according to EPA regulations.
1671.2.5 Inspect air makeup and exhaust systems to insure proper filtering and ventilation. (intake filters, exhaust filters, fan, and other mechanical components of the system).
1671.2.6 Select spray mask and inspect to insure proper fit and operation; inspect condition of the mask filters and other components.

Standard 3: Analyze damage and prepare a vehicle for repairs. (1671.S.3)

Vehicle Repair Objectives

Students will:

1671.3.1 Review damage report, and analyze damage to determine appropriate methods for overall repair.
1671.3.2 Remove damaged or necessary inside and outside trim and moldings.
1671.3.3 Remove damaged, non-structural body panels and components that may interfere with or be damaged during repair.
1671.3.4 Remove all vehicles mechanical and electrical components that may interfere with or be damaged during repair; replace after repair.
1671.3.5 Protect panels and parts adjacent to repair area to prevent damage.
1671.3.6 Remove dirt, grease, and wax from those areas to be repaired.
1671.3.7 Remove dirt, corrosion protection, under coatings, sealers, and other protective coatings necessary to perform repairs to structural areas.
1671.3.8 Remove repairable plastics and other parts that are recommended for off-car repair.

Standard 4: Metal finish a damaged panel to its original form. (1671.S.4)

Metal Finish Objectives

Students will:
1671.4.1 Grind the paint from the damaged area of body panel.
1671.4.2 Pick and file the damaged area of a body panel to eliminate surface irregularities.
1671.4.3 Disc sand the repaired body panel to produce final smoothness.

Standard 5: Mix and apply body fillers. (1671.S.5)

Body Filler Objectives

Students will:
1671.5.1 Mix and apply plastic body filler and cheese-grate during curing.
1671.5.2 Rough sand cured plastic body filler to contour; finish sand.
1671.5.3 Featheredge repaired areas.

Standard 6: Inspect, adjust, repair, or replace moveable glass and hardware. (1671.S.6)

Glass and Hardware Objectives

Students will:
1671.6.1 Inspect, adjust, repair or replace window regulators, run channels, glass, power mechanisms, and related controls.
1671.6.2 Repair or replace all power-driven accessories and related controls (including electrically-heated glass).
1671.6.3 Diagnose and repair water leaks, dust leaks, and wind noises; inspect, repair and replace weather stripping.
1671.6.4 Inspect, repair or replace, and adjust removable, manually-operated, roof panel, and hinges, latches, guides handles, retainer, and controls of sun roofs.

Mechanical and Electrical Components WVEIS Code 1673

This course will introduce students to the entry-level skills necessary in mechanical and electrical repairs as they apply to collision repair technology.

Standard 1: Inspect and service supplemental airbag restraint systems. (1673.S.1)

Airbag Restraint System Objectives

Students will:

1673.1.1 Disarm airbag system in accordance with manufacturer's procedures.
1673.1.2 Inspect and replace damaged sensors and wiring in accordance with manufacturer's procedures; insure proper sensor orientation.
1673.1.3 Verify that system is armed and operational in accordance with manufacturer's procedures.
1673.1.4 Remove and replace non-deployed airbag; observe manufacturer's safety procedures.
1673.1.5 Use fault codes to diagnose and repair airbag system.

Standard 2: Inspect and service passive restraint systems.

Passive Restraint System Objectives

Students will:

1673.2.1 Remove and replace seatbelt and shoulder harness assembly in accordance with manufacturer's procedures.
1673.2.2 Inspect anchorages for deformation; repair as required.
1673.2.3 Verify proper operation of seatbelt in accordance with manufacturer's procedures.
1673.2.4 Remove and replace track and drive assembly, lap retractor, torso retractor assembly, inboard buckle-lap retractor, knee blocker, etc.

Standard 3: Service active restraint systems. (1673.S.3)

Active Restraint System Objectives

Students will:

1673.3.1 Remove and replace seatbelt and shoulder harness assembly in accordance with manufacturer's procedures.
1673.3.2 Inspect anchorage for deformation; repair as required.

Standard 4: Identify, inspect, and repair suspension and steering systems. (1673.S.4)

Repair Suspension and Steering Systems Objectives

Students will:

1673.4.1 Inspect and replace rack and pinion steering gear, inner tie rod ends (sockets), and bellows boots.
1673.4.2 Remove and replace power steering gear (non-rack and pinion type).
1673.4.3 Remove and replace power steering pump; inspect pump mounts.
1673.4.4 Remove, replace, and adjust tie rods, tie rod sleeves, clamps, and tie rod ends (sockets).
1673.4.5 Remove and replace strut rods and bushings on long and short arm suspension systems.
1673.4.6 Remove and replace upper and lower ball joints on short and long arm suspension systems.
1673.4.7 Remove and replace steering knuckle/spindle assemblies.
1673.4.8 Remove and replace front and rear suspension components.
1673.4.9 Remove and replace shock absorbers.
1673.4.10 Diagnose vehicle wandering, pulling hard steering, bump steering, memory steering, torque

steering, and steering return problems; determine needed repairs.
1673.4.11 Check and adjust caster on suspension systems with a caster adjustments.
1673.4.12 Measure vehicle ride height; determine needed repairs.
1673.4.13 Center steering wheel.
1673.4.14 Diagnose tire wear patterns; determine needed repairs.

Standard 5: Inspect and service air conditioning systems. (1673.S.5)

Air Conditioning System Objectives

Students will:
1673.5.1 Inspect, repair and replace air conditioner system hoses, lines, fittings, and related components (compressor, condenser, evaporator).
1673.5.2 Recharge air conditioner according to manufacturer's recommendations.

Standard 6: Inspect, adjust, and repair hydraulic brake systems. (1673.S.6)

Hydraulic Brake System Objectives

Students will:
1673.6.1 Inspect brake lines and fittings for leaks, dents, kinks, rust, cracks or wear; tighten loose fittings and supports; replace brake lines (double flare and ISO types), hoses, fittings, and supports.
1673.6.2 Inspect flexible brake hoses for leaks, kinks, cracks, bulging, or wear; tighten loose fittings and supports.
1673.6.3 Select, handle, store, and install brake fluids, (including silicone fluids).
1673.6.4 Bleed (manual, pressure, vacuum, or surge) and/or flush hydraulic brake system, in accordance with manufacturer's procedures.
1673.6.5 Pressure test brake hydraulic system by applying heavy force to pedal, hold for 15 seconds and inspect for leaks.
1673.6.6 Adjust brake shoes and reinstall brake drums or drum/hub assemblies and wheel bearings.
1673.6.7 Reinstall wheel, torque lug nuts, and make final checks for adjustments.
1673.6.8 Remove and replace caliper assembly.
1673.6.9 Clean and inspect; caliper mountings and slides for wear and damage.
1673.6.10 Check parking brake system operation.

Standard 7: Inspect and service cooling systems. (1673.S.7)

Cooling Systems Objectives

Students will:
1673.7.1 Inspect and replace engine cooling system hoses and belts.
1673.7.2 Drain, flush and refill system with proper coolant and level or protection.
1673.7.3 Inspect, remove and replace radiator, pressure cap, coolant recovery system, and water pump.
1673.7.4 Remove and replace fan, fan clutch (both electrical and mechanical), and fan shroud.

Standard 8: Analyze, repair, and replace electrical components. (1673.S.8)

Electrical Components Objectives

Students will:
1673.8.1 Check voltages in electrical wiring circuits with a voltmeter; determine needed repairs.
1673.8.2 Check continuity and resistance in electrical wiring circuits and components with an ohmmeter; determine needed repairs.
1673.8.3 Check electrical wiring circuits with jumper wires; determine needed repairs.

1673.8.4 Inspect, test, and replace fusible links, circuit breakers, and fuses.
1673.8.5 Perform battery state-of-charge in accordance with manufacturers recommendations.
1673.8.6 Identify programmable electrical/electronic components; record data from reprogramming before disconnecting battery.
1673.8.7 Inspect, clean, and repair or replace battery cables, connectors, and clamps.
1673.8.8 Inspect, adjust, and replace alternator drive belts, pulleys, and fans.
1673.8.9 Remove and replace alternator.
1673.8.10 Remove and replace headlights, parking/taillights, stop lights, flashers, turn-signals and backup lights; check operation.
1673.8.11 Inspect, replace, and aim headlights/bulbs.
1673.8.12 Check operation of retractable headlight assembly.
1673.8.13 Remove and replace motors, switches, relays, connectors, and wires of retractable headlight assembly circuits.
1673.8.14 Inspect, test, and repair or replace switches, relays, bulbs, sockets, connectors, and wires of all light circuits including four-wire taillight systems.

Non-Structural Analysis And Damage Repair WVEIS Code 1675

This course will introduce students to the entry-level skills necessary in non-structural analysis and repair of metal and composite parts.

Standard 1: Determine the extent of damage, plan method, and make outer body panel repairs, replacement and adjustments. (1675.S.1)

Outer Body Panel Repair Objectives

Students will:

1675.1.1 Determine the extent of the direct and indirect damage, the direction of impact, and plan the methods and order of repair.
1675.1.2 Determine the extent of damage to aluminum body panels; repair; weld or replace in accordance with manufacturer's specifications.
1675.1.3 Remove, replace and align hood, hood hinges, and hood latch.
1675.1.4 Remove, replace and align deck lid, lid hinges, and lid latch.
1675.1.5 Remove and replace doors, tailgates, hatches, lift gates, latches assemblies and hinges.
1675.1.6 Remove, replace and align bumpers, reinforcements, guards, isolators, and mounting hardware.
1675.1.7 Check and adjust clearances of front fenders, headers, and other panels.
1675.1.8 Check door hinge condition; check door frames for proper fit; check and adjust door clearances (where adjustable) along quarter panel, door, rocker panel, fender, and top.
1675.1.9 Repair or replace door skins and intrusion beams in accordance with vehicle manufacturer's specification.
1675.1.10 Straighten roughed out contours of damaged panel to a surface condition for body filling or metal finishing using power and hand tools.
1675.1.11 Weld cracked or torn steel body panels; re-weld broken welds.
1675.1.12 Heat shrink stretched panel areas back to contour, and restore contour with heat.
1675.1.13 Cold shrink stretched panel areas back to cover, and apply protective coatings and sealants.

Standard 2: Identify and repair various types of automotive plastics. (1675.S.2)

Automotive Plastics Objectives

Students will:

1675.2.1 Identify types of plastics to be repaired and their repair procedures.
1675.2.2 Repair rigid and flexible plastic parts with urethane or epoxy adhesives and fiberglass reinforcements according to vehicle and industry specifications.
1675.2.3 Remove damaged areas from rigid exterior sheet molded compound (SMC) panels and repair with partial panel installation.
1675.2.4 Retexture and refinish interior plastic parts.
1675.2.5 Repair vinyl-clad urethane foam parts.
1675.2.6 Reshape and shrink flexible exterior plastic parts.

Structural Analysis and Damage Repair WVEIS Code 1677

This course will introduce students to the entry-level skills necessary in structural analysis and repair of frame and unibody type vehicles using welding techniques, measuring equipment and frame machines.

Standard 1: Identify weld types, joints, welder setup and analyze weld defects. (1677.S.1)

Weld Objectives

Students will:

1677.1.1 Identify weldable and non-weldable materials used in autobody components.
1677.1.2 Determine correct electrode wire type, diameter and gas to be used in specific welding situations.
1677.1.3 Determine the correct type of weld and weld joint (continuous, stitch/pulse, tack, plug, etc,) for each specific weld repair.
1677.1.4 Identify safety considerations: eye protection, proper clothing, shock hazards, dangerous fumes, etc. before beginning welding operation.
1677.1.5 Set up and tune the welder in accordance with manufacturers' instructions; clean the gun and gas nozzle as required.
1677.1.6 Protect computers and other electronic modules from possible welding damage.
1677.1.7 Clean the metal to be welded; assure good metal fit through preparation and clamping.
1677.1.8 Use the proper angle of the gun to the joint, and the direction of gun travel for the type of weld being made in the flat, horizontal, vertical, and overhead positions.
1677.1.9 Identify cause(s) of splits and sputters, burn through, lack of penetration, cracks in metal, porosity, incomplete fusion, excessive spatter, distortion, and waviness of bead; make necessary adjustments.
1677.1.10 Identify cause(s) of contact tip burn-back and failure of wire to feed; make necessary adjustments.

Standard 2: Diagnose, measure and repair unibody and framed damage. (1677.S.2)

Unibody and Framed Damage Objectives

Students will:

1677.2.1 Diagnose and measure structural damage using tram and centering gauges according to manufacturer's specifications.
1677.2.2 Diagnose and measure unibody damage using a dedicated (fixture) or universal measuring system compared to specification.
1677.2.3 Attach body anchoring devices.
1677.2.4 Straighten and align all types of frame damage on a typical frame type vehicle (mash, sag, sideway, twist, kickup, diamond).
1677.2.5 Straighten and align structural panels on unibody type vehicles (roof, cowl, pillars, rockers, front and rear sections).
1677.2.6 Apply cold and heat stress relief methods and weld in accordance with vehicle manufacturer's recommendations.
1677.2.7 Remove and replace damaged frame horns, side rails, cross members and structural steel body panels in accordance with vehicle manufacturers recommendation/industry standards.
1677.2.8 Perform structural panel sectioning in accordance with vehicle manufacturers specifications/ industry standards.
1677.2.9 Restore corrosion protection to repaired structural areas in accordance with vehicle

manufacturers specifications.

Standard 3: Remove and replace fixed glass using manufacturers procedures. (1677.S.3)

Fixed Glass Objectives

Students will:

1677.3.1 Remove and replace fixed glass (heated and non-heated) and modular glass using manufacturers procedures.

1677.3.2 Remove and replace butyl-retained and urethane-retained modular glass with mechanical fasteners.

1677.3.3 Determine when to use the partial cutout or the full cutout method of repair when replacing a windshield.

Surface Preparation and Refinishing WVEIS Code 1679

This course will introduce students to the entry-level skills necessary in the surface preparation and refinishing of vehicles using various refinishing systems.

Standard 1: Prepare a surface for refinishing using proper safety precautions. (1679.S.1)

Surface Safety Precautions Objectives

Students will:

1679.1.1 Remove and store trim and molding.
1679.1.2 Remove dirt, wax, road grime, and special coatings from area to be refinished. and from adjacent surfaces; wash entire vehicle.
1679.1.3 Inspect and identify type of finish and surface condition; develop a plan for refinishing.
1679.1.4 Chemically and mechanically remove paint finish where necessary.
1679.1.5 Featheredge and wet sand area to be refinished.
1679.1.6 Identify type of metal and apply suitable metal treatments.
1679.1.7 Mask trim and other areas that will not be refinished.
1679.1.8 Mix primer, primer-surface, or primer-sealer; spray onto surface of repaired area according to parts manufacturer's specifications.
1679.1.9 Dry or wet block sand areas to which primer-surface has been applied.
1679.1.10 Compound or prepare around the edge of the repaired area to be refinished.
1679.1.11 Blow dust from entire vehicle including cracks and moldings in the area to be refinished.
1679.1.12 Clean area to be refinished with a proper solvent.
1679.1.13 Remove, with a tack rag, any dust or lint particles from the area to be refinished.
1679.1.14 Apply recommended sealer to the area being refinished according to manufacturer's specifications.
1679.1.15 Scuff sand to remove nibs or over spray from a sealer.

Standard 2: Inspect, clean and operate spraying equipment. (1679.S.2)

Spraying Equipment Objectives

Students will:

1679.2.1 Inspect, clean, and determine condition and adequacy of spray guns and related equipment (air hose, regulator, air lines, and compressor).
1679.2.2 Check and adjust air pressure on the spray gun (includes siphon-feed, and gravity-feed).
1679.2.3 Adjust spray gun using fluid and pattern control valves.
1679.2.4 Check and adjust high volume, low pressure spraying equipment.

Standard 3: Mix, match, and apply various refinishing systems. (1679.S.3)

Refinishing Systems Objectives

Students will:

1679.3.1 Determine type and color of paint on vehicle.
1679.3.2 Shake, stir, thin or reduce, or strain paint according to manufacturer's recommendations.
1679.3.3 Select proper air pressure and spraying technique (gun arc, gun angle, gun distance, gun speed, and spay pattern overlap) for finish being applied.
1679.3.4 Apply selected product on test panel in accordance with manufacturers recommendations.
1679.3.5 Apply acrylic enamel, urethane and urethane basecoat/clearcoat for spot and panel blending, and overall refinishing.
1679.3.6 Check for color matching of all applied finishes.

1679.3.7 Select and perform sanding, buffing, and polishing processes for finish.
1679.3.8 Identify the types of rigid and flexible plastic parts to be finished; determine correct materials and refinishing procedures.
1679.3.9 Apply finish coat to rigid and flexible plastic parts.
1679.3.10 Clean, condition, and refinish vinyl (e.g., upholster, dashes, and tops).
1679.3.11 Clean and detail vehicle after complete refinishing.
1679.3.12 Apply decals, transfers, tapes, woodgrains, pinstripes (painted and taped), etc.

Standard 4: Identify and solve paint application problems and finish defects, and determine cause and cure. (1679.S.4)

Paint Application Objectives

Students will:
1679.4.1 Identify, prevent and correct all paint application problems that occur in refinishing operations.

Fundamentals of Broadcasting (Radio & TV) WVEIS Code 1681

This course will introduce students to the basic fundamentals needed to support broadcast managers in the production and broadcasting of materials or programs. Students will become familiar with the equipment, processes, and procedures used in producing and making radio and television broadcasts.

Standard 1: Identify, explore, and evaluate career opportunities related to radio and television production. (1681.S.1)

Radio and Television Production Objectives

Students will:

1681.1.1 Describe a variety of careers related to radio and television production, and the training necessary to be successful in those careers.
1681.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of radio and television production.
1681.1.3 Identify sources of information about careers in radio and television production.
1681.1.4 Describe the effect that computers and automation have and will have on the broadcast industry.

Standard 2: Identify elements of radio broadcast equipment and procedures. (1681.S.2)

Radio Broadcast Objectives

Students will:

1681.2.1 Identify safety rules for operating radio broadcasting equipment.
1681.2.2 Define uses for electronic equipment (microphones, recorders, etc.) and proper care while operating.
1681.2.3 Demonstrate efficiency and accuracy while performing cue up and playing of records, compact disks, cassettes, open reel tapes and computerized audio files.
1681.2.4 Operate audio console and identify proper modulations levels.

Standard 3: Identify elements of television broadcast equipment and procedures. (1681.S.3)

Television Broadcast Objectives

Students will:

1681.3.1 Identify safety rules for operating television broadcasting equipment.
1681.3.2 Define uses for television broadcasting electronic equipment (microphones, cameras, etc.) and proper care while operating.
1681.3.3 Apply knowledge of camera shots and angles.
1681.3.4 Illustrate proper way to hold scripts and props.
1681.3.5 Identify problems of microphone and camera consciousness, and ways to overcome camera fright.
1681.3.6 Recognize and perform hand signals used in television broadcasting.
1681.3.7 Identify various types of video equipment.
1681.3.8 Demonstrate the ability to make minor repairs to lighting such as replacing defective bulbs, cables and equipment.
1681.3.9 Illustrate proper posture for on-air performance.
1681.3.10 Prepare and demonstrate use of cue cards.
1681.3.11 Select and demonstrate proper use of "hitting marks".

Radio Broadcast Applications WVEIS Code 1683

This course will provide students with the knowledge to perform, either in a live or mock setting, a radio broadcast.

Standard 1: Prepare material for on-air presentations. (1683.S.1)

Air Presentations Objectives

Students will:
1683.1.1 Describe FCC rules and regulations relating to radio broadcasting.
1683.1.2 Identify various news services, their differences and how they are used.
1683.1.3 Interpret wire service copy.
1683.1.4 Describe the importance of objectivity in story writing to avoid bias.
1683.1.5 Demonstrate proper conversational and broadcast news style writing skills.
1683.1.6 Read and use various editing techniques to rewrite scripts.
1683.1.7 Follow format clock and time news reports and programs correctly.
1683.1.8 Set up and make entries in an operating log and a program log.
1683.1.9 Write and produce a newscast.

Standard 2: Demonstrate basic skills for delivering on-air productions. (1683.S.2)

Basic Skills On Air Productions Objectives

Students will:
1683.2.1 Identify problems of voice quality and ways to overcome "mike fright".
1683.2.2 Interpret and perform hand signals used in radio broadcasting.
1683.2.3 Speak clearly and in conversational style when delivering a broadcast.
1683.2.4 Read, in an effective manner, copy written by someone else.
1683.2.5 Apply ad-libbing techniques.

Standard 3: Demonstrate advanced skills in radio production. (1683.S.3)

Advanced Skills in Radio Production Objectives

Students will:
1683.3.1 Clean magnetic heads on tape equipment and bulk erase tapes.
1683.3.2 Write a commercial or public service announcement.
1683.3.3 Preview, critique, and select segments for possible airing.
1683.3.4 Determine story priority for a news broadcast.
1683.3.5 Conduct and perform a sports interview, a live interview, and a remote broadcast.
1683.3.6 Prepare and broadcast sports and news commentaries and editorials.
1683.3.7 Design and execute special effects.
1683.3.8 Conduct market research.

Television Production Applications WVEIS Code 1685

This course will provide students with an entry-level understanding of the components of television broadcasting.

Standard 1: Operate television broadcast equipment. (1685.S.1)

Operate Television Broadcast Equipment Objectives

Students will:
1685.1.1 Take a level.
1685.1.2 Adjust camera control unit.
1685.1.3 Set up lights for production purposes.
1685.1.4 Operate a switcher, an audio board, a video recorder and a teleprompter.
1685.1.5 Switch studio lights on during broadcast following script or instructions from director.

Standard 2: Utilize proper television techniques to develop quality productions. (1685.S.2)

Quality Productions Objectives

Students will:
1685.2.1 Use various script formats.
1685.2.2 Set up equipment and conduct a one-person field interview.
1685.2.3 Perform a live interview.
1685.2.4 Assemble a videotape "package" (studio and field types).
1685.2.5 Assign staff personnel to operate and direct broadcasting activities.
1685.2.6 Apply ad-libbing techniques.
1685.2.7 Prepare and broadcast sports, news, commentaries, and editorials.
1685.2.8 Properly apply makeup for television broadcasting.
1685.2.9 Design and construct a set.
1685.2.10 Write and produce a newscast.

Standard 3: Demonstrate television production editing skills. (1685.S.3)

Editing Skills Objectives

Students will:
1685.3.1 Design and use electronic graphics.
1685.3.2 Operate a time base corrector (TBC)
1685.3.3 Perform electronic and manual edits.
1685.3.4 Read, edit and rewrite scripts.
1685.3.5 Time news reports correctly, and edit if necessary.
1685.3.6 Set up and make entries in an operating log and a program log.

Standard 4: Demonstrate television production troubleshooting skills and special techniques. (1685.S.4)

Skills and Special Techniques Objectives

Students will:
1685.4.1 Identify common symptoms of head clogs and tracking problems.
1685.4.2 Apply news judgment to field interviewing.

1685.4.3 Design and perform special effects.
1685.4.4 Prepare an instruction sheet or manual on video taping filed stories (both storyboard and script).

A+ Service Technician WVEIS Code 1701

This course will provide the knowledge and skills to identify, configure and upgrade microcomputer modeling and peripherals, safety and preventive maintenance procedures. Also included will be specific terminology, categories and principles of motherboard, procedures and memory in microcomputer systems. Diagnosing and troubleshooting common and system malfunctions and networking concepts will be included.

Standard 1: Perform installation, configurations, and upgrading of computers. (1701.S.1)

Computers Objectives

Students will:

1701.1.1 Identify basic terms, concepts, and functions of system modules, including how each module should work during normal operation and during the boot process.
1701.1.2 Identify basic procedures for adding and removing field replaceable modules for both desktop and portable systems.
1701.1.3 Identify available IRQ's, DMA's, and I/O addresses and procedures for device installation and configuration.
1701.1.4 Identify common peripheral ports, associated cabling, and their connectors.
1701.1.5 Identify proper procedures for installing and configuring IDE/EIDE devices.
1701.1.6 Identify proper procedures for installing and configuring SCSI devices.
1701.1.7 Identify proper procedures for installing and configuring peripheral devices.
1701.1.8 Identify hardware methods of upgrading system performance, procedures for replacing basic subsystem components, unique components and when to use them.

Standard 2: Demonstrate diagnosing and troubleshooting procedures. (1701.S.2)

Procedures Objectives

Students will:

1701.2.1 Identify common symptoms and problems associated with each module and how to troubleshot and isolate the problems.
1701.2.2 Identify basic troubleshooting procedures and how to elicit problem symptoms from customers.

Standard 3: Perform preventative maintenance procedures. (1701.S.3)

Preventative Maintenance Procedures Objectives

Students will:

1701.3.1 Identify common symptoms and problems associated with each module and how to troubleshoot and isolate the problems.
1701.3.2 Identify basic troubleshooting procedures and how to elicit problem symptoms from customers.

Standard 4: Identify the Motherboard/Processors/Memory parts of the computer. (1701.S.4)

Parts of the Computer Objectives

Students will:

1701.4.1 Distinguish between the popular CPU chips in their basic characteristics.
1701.4.2 Identify the categories of RAM (Random Access Memory) terminology, their locations, and physical characteristics.
1701.4.3 Identify the most popular type of motherboards, their components, and their architecture (bus structures and power supplies).
1701.4.4 Identify the purpose of CMOS (Complementary Metal-Oxide Semiconductor), what it contains and how to change its basic parameters.

Standard 5: Demonstrate knowledge of various printers. (1701.S.5)

Printers Objectives

Students will:
1701.5.1 Identify basic concepts, printer operations and printer components.
1701.5.2 Identify care and service techniques and common problems with primary printer types.

Standard 6: Demonstrate basic networking knowledge. (1701.S.6)

Basic Networking Objectives

Students will:
1701.6.1 Identify basic networking concepts, including how a network works and the ramifications of repairs on the network.

Computer Maintenance And Repair WVEIS Code 1703

This course will provide students with the necessary skills to detect and correct hardware and software faults in personal computers.

Standard 1: Demonstrate safe practices when working with electronic devices. (1703.S.1)

Safe Practices Objectives

Students will:

1703.1.1 Identify types of computer viruses and the methods of removing and protecting against them.
1703.1.2 Identify and demonstrate proper usage of the components of a basic technician's toolkit.
1703.1.3 Demonstrate proper use of a multimeter.

Standard 2: Identify and define hardware. (1703.S.2)

Hardware Objectives

Students will:

1703.2.1 Demonstrate knowledge of basic systems components.
1703.2.2 Use a block diagram to identify the ALU, control and memory components of the system unit and explain each.
1703.2.3 Describe the differences between RAM and ROM memory.
1703.2.4 Identify and explain the usage of several of the more common input devices.
1703.2.5 Identify several special-purpose output devices.
1703.2.6 Describe the differences between monochrome and color display screens.
1703.2.7 Identify and explain the difference between impact and non impact printers.
1703.2.8 Describe the need for auxiliary storage devices.
1703.2.9 Identify the various types and characteristics of auxiliary storage devices.
1703.2.10 Identify several of the more common magnetic disk devices, explain how they function, and describe how they are used.
1703.2.11 Identify optical storage devices, explain how they function, and describe how they are used.
1703.2.12 Identify magnetic tape devices, explain how they function, and are used.
1703.2.13 Identify and explain the difference between cathode ray tube (CRT) and liquid crystal display (LCD) technology.
1703.2.14 Identify and describe interactive processing and batch processing.

Standard 3: Troubleshoot system components. (1703.S.3)

System Components Objectives

Students will:

1703.3.1 Demonstrate correct system disassembly and reassembly.
1703.3.2 Identify and correct common faults in system unit components.
1703.3.3 Identify and correct common faults in I/O devices.
1703.3.4 Identify and correct common faults in operating system components and drives.
1703.3.5 Identify and correct common faults in applications.
1703.3.6 Utilize operating system components, diagnostic software and supplied documentation to detect and correct faults.
1703.3.7 Understand the proper procedure for contacting technical support services.

Standard 4: Demonstrate proper customer support procedures. (1703.S.4)

Proper Customer Support Objectives

Students will:

1703.4.1 Demonstrate proper telephone and personal etiquette.
1703.4.2 Discuss various questioning techniques.
1703.4.3 Perform after-call follow-up.
1703.4.4 Maintain logs.

Fundamentals of Computer Systems WVEIS Code 1705

This course will introduce students to the entry-level job skills related to the computer industry, as well as give them a solid foundation for college study in the computer sciences. Students will become familiar with computer operating systems, operational software, and networking of systems.

Standard 1: Identify, explore, and evaluate career opportunities related to computer systems. (1705.S.1)

Computer Systems Objectives

Students will:

1705.1.1 Describe a variety of careers related to computer systems, and the training necessary to be successful in those careers.
1705.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of computer systems.
1705.1.3 Identify sources of information about careers in computer systems.

Standard 2: Demonstrate a knowledge of information processing. (1705.S.2)

Information Processing Objectives

Students will:

1705.2.1 List the four elements of the information processing cycle and explain the purpose of each.
1705.2.2 Use a block diagram to identify the ALU, control and memory components of the system unit and explain each.
1705.2.3 Describe the difference between RAM and ROM memory.
1705.2.4 Identify and explain the usage of several of the more common input devices, and identify several special-purpose input devices.
1705.2.5 Identify and explain the usage of several of the more common output devices, and identify several special-purpose output devices.
1705.2.6 Identify and explain the difference between impact and non-impact printers.
1705.2.7 Identify the various types and characteristics of auxiliary storage devices, and the need for them.
1705.2.8 Identify several of the more common magnetic disk devices, explain how they function, and describe how they are used.
1705.2.9 Identify optical storage devices, explain how they function, and describe how they are used.
1705.2.10 Identify magnetic tape devices, explain how they function, and describe how they are used.
1705.2.11 Identify various displays available, and explain the difference between cathode ray tube (CRT) and liquid crystal display (LCD) technology.
1705.2.12 Identify and describe interactive processing and batch processing.

Standard 3: Demonstrate a knowledge of trends and issues in the computer industry. (1705.S.3)

Computer Industry Objectives

Students will:

1705.3.1 Discuss the ethical problems facing the computer industry.
1705.3.2 Demonstrate a knowledge of future uses of computer systems, using current literature.

Standard 4: Demonstrate a knowledge of data structure. (1705.S.4)

Data Structure Objectives

Students will:
1705.4.1 List the two most commonly used coding schemes.
1705.4.2 Define bits, bytes, fields, records and files.

Standard 5: Demonstrate a knowledge of data communications. (1705.S.5)

Data Communications Objectives

Students will:
1705.5.1 Describe the basic components of a data communications system.
1705.5.2 Discuss various methods and media of networking.

Standard 6: Utilize and define an operating system. (1705.S.6)

Operating System Objectives

Students will:
1705.6.1 Define the purpose and functions of an operating system.
1705.6.2 Compare and contrast the capabilities of single-user environments and multi-tasking environments.
1705.6.3 Describe some of the issues of operating system compatibility.
1705.6.4 Effectively use an operating system to view directories, format disks, and copy, rename, and delete files.
1705.6.5 Maintain operation logs.

Standard 7: Demonstrate the use of operational software for system troubleshooting. (1705.S.7)

Operational Software Objectives

Students will:
1705.7.1 Perform operator diagnostic troubleshooting on a microcomputer system.
1705.7.2 Correct faults identified by troubleshooting.

Systems Software WVEIS Code 1707

This course provides an overview of operating system concepts, the use of personal computer operating systems, data communications, networking concepts and utilization, and an introduction to the Internet.

Standard 1: Demonstrate knowledge of operating system components. (1707.S.1)

Operating System Components Objectives

Students will:
1707.1.1 Define operating system.
1707.1.2 Compare and contrast command-driven, menu-driven and icon-driven operating systems.
1707.1.3 Compare and contrast single-tasking versus multitasking operating system.
1707.1.4 Describe various personal computer operating systems in use today.

Standard 2: Utilize an operating system. (1707.S.2)

Operating System Objectives

Students will:
1707.2.1 Install and configure an operating system.
1707.2.2 Effectively use an operating system to complete a variety of operations.
1707.2.3 Use supplied documentation.

Standard 3: Demonstrate knowledge of data communications. (1707.S.3)

Data Communications Objectives

Students will:
1707.3.1 Define networking, and describe the basic components of a data communications system.
1707.3.2 Describe the difference between local and remote terminals.
1707.3.3 Define a Local Area Network (LAN) and a Wide Area Network (WAN).
1707.3.4 Compare and contrast various transmission methods and media.
1707.3.5 Compare and contrast peer-to-peer, client-server, host-based time sharing, and dedicated file servers.

Standard 4: Utilize a Network Operating System. (1707.S.4)

Network Operating System Objectives

Students will:
1707.4.1 Install and configure NOS on servers and clients.
1707.4.2 Utilize NOS to complete a variety of tasks.

Standard 5: Demonstrate knowledge of the Internet. (1707.S.5)

Knowledge of the Internet Objectives

Students will:
1707.5.1 Define the Internet and discuss its historical evolution.
1707.5.2 Utilize various components of the Internet including WWW, email, news groups, search engines, and FTP facilities.
1707.5.3 Utilize browsers to access www facilities.

Technical Computer Applications WVEIS Code 1709

This course will introduce students to the basic principles of computer programming, including program design and implementation. Students will obtain an in-depth understanding of computer software.

Standard 1: Demonstrate knowledge of word processing software. (1709.S.1)

Word Processing Software Objectives

Students will:
1709.1.1 Create a document with proper formatting.
1709.1.2 Modify a document, then print copies.

Standard 2: Demonstrate knowledge of an electronic spreadsheet. (1709.S.2)

Electronic Spreadsheet Objectives

Students will:
1709.2.1 Create, save and print a copy of a basic worksheet.
1709.2.2 Modify an existing worksheet.
1709.2.3 Create a worksheet graph.

Standard 3: Demonstrate knowledge of computer graphics. (1709.S.3)

Computer Graphics Objectives

Students will:
1709.3.1 Define computer graphics and list three uses of graphics software.
1709.3.2 Create a graphic with graphics software.

Standard 4: Demonstrate knowledge of presentation software. (1709.S.4)

Presentation Software Objectives

Students will:
1709.4.1 Plan and create a presentation using presentation software.
1709.4.2 Deliver a presentation, using proper speaking techniques and effectively use the computer generated presentation.

Standard 5: Demonstrate knowledge of database software. (1709.S.5)

Database Software Objectives

Students will:
1709.5.1 Create a database file and enter data into the database.
1709.5.2 Sort a database file and create a printed document of the information.
1709.5.3 Update a database file.

Standard 6: Demonstrate knowledge of other relevant technical computer applications as appropriate. (1709.6.1)

Other Computer Applications Objectives

Students will:

1709.6.1 Discuss and demonstrate the efficient use of other various types of software.

Standard 7: Demonstrate a fundamental knowledge of computer programming languages. (1709.S.7)

Computer Programming Languages Objectives

Students will:
1709.7.1 Define a computer program, and identify programs written in two different languages.
1709.7.2 List four of the most popular programming languages used today, and match each with its appropriate environment.

Standard 8: Demonstrate knowledge of program development. (1709.S.8)

Program Development Objectives

Students will:
1709.8.1 Define the basic steps in the programming cycle.
1709.8.2 Identify and describe the most common flowchart symbols.
1709.8.3 Describe the differences between a system flowchart and a program flowchart.
1709.8.4 Describe file organization and access for sequential files, indexed files, and relative (or direct) files.

Standard 9: Utilize a programming language. (1709.S.9)

Programming Language Objectives

Students will:
1709.9.1 Define a programming problem, and plan a solution to the problem.
1709.9.2 Code, test and debug the program you designed.
1709.9.3 Provide appropriate documentation for the program.

Web Development and Support WVEIS Code 1711

This course is an introduction to web site development and web server support.

Standard 1: Demonstrate knowledge of the structure and functions of the World Wide Web (WWW). (1711.S.1)

World Wide Web Objectives

Students will:
1711.1.1 Describe the structure of the www.
1711.1.2 Discuss the various types and uses of web pages.
1711.1.3 Discuss the development and uses of HTML.

Standard 2: Demonstrate knowledge of web publishing. (1711.S.2)

Web Publishing Objectives

Students will:
1711.2.1 Effectively utilize an HTML editor.
1711.2.2 Plan and code a site, then post it on the www.
1711.2.3 Register a site with a search engine.
1711.2.4 Discuss the purpose of a domain name, and the procedure for obtaining a domain name.

Standard 3: Discuss proper procedures for accessing the WWW. (1711.S.3)

WWW Objectives

Students will:
1711.3.1 Discuss the importance and implications of an Acceptable Use Policy.
1711.3.2 Demonstrate the use of appropriate screening software.
1711.3.3 Discuss the concepts of ethical behavior, security, and user privacy on the WWW.

Standard 4: Demonstrate knowledge of web support procedure. (1711.S.4)

Web Support Procedure Objectives

Students will:
1711.4.1 Define web server.
1711.4.2 Setup and configure a web server, and perform daily administrative and maintenance tasks on it.
1711.4.3 Maintain a log.

Drafting Specialization - Architectural WVEIS Code 1721

This course will provide students the opportunity to specialize in architectural drawing and design, including plumbing, electrical and HVAC systems. The student will choose one of these areas to do in-depth study during this course.

Standard 1: Demonstrate the ability to design and draw domestic and commercial piping systems. (1721.S.1)

Commercial Piping Systems Objectives

Students will:

1721.1.1 Demonstrate knowledge of domestic and commercial piping system terminology and materials.

1721.1.2 Demonstrate the ability to interpret and draw domestic and commercial piping schematic flow diagrams.

1721.1.3 Demonstrate the ability to use a CAD system to design and develop drawings for domestic and commercial piping.

Standard 2: Demonstrate the ability to design and draw electrical systems. (1721.S.2)

Electrical Systems Objectives

Students will:

1721.2.1 Demonstrate knowledge of electrical system terminology and materials.

1721.2.2 Demonstrate the ability to interpret and draw electrical diagrams.

1721.2.3 Demonstrate the ability to use a CAD system to design and develop drawings for electrical systems.

Standard 3: Demonstrate the ability to design and draw HVAC systems. (1721.S.3)

HVAC Systems Objectives

Students will:

1721.3.1 Demonstrate knowledge of HVAC system terminology and materials.

1721.3.2 Demonstrate the ability to interpret and draw HVAC diagrams.

1721.3.3 Demonstrate the ability to use a CAD system to design and develop drawings for HVAC systems.

Standard 4: Apply architectural techniques to design and draw building structures. (1721.S.4)

Building Structures Objectives

Students will:

1721.4.1 Demonstrate knowledge of building styles, material selection and price estimates and architectural terms.

1721.4.2 Demonstrate the ability and knowledge to determine structural design required for client needs and purposes.

1721.4.3 Draw and dimension all necessary drawings for the completion of the structure, including floor plan, elevations and exterior presentation (two point, three point, etc.), etc.

1721.4.4 Demonstrate the ability to use a CAD system to design and develop architectural drawings.

Drafting Specialization-Civil WVEIS Code 1723

This course will provide students the opportunity to specialize in civil drafting and design, including and introduction to mapping, cartography techniques, and elementary structural steel design.

Standard 1: Utilize civil drawing techniques and proper cartography to develop accurate maps and construction drawings. (1723.S.1)

Maps and Construction Drawings Objectives

Students will:

1723.1.1 Demonstrate a knowledge of common maps, earth directions (latitude, longitude, relationship to sea level), convert azimuth to bearings and reverse, plot traverses, contours, profiles and other math computations.

1723.1.2 Draw/plot land from legal descriptions and/or write legal descriptions from notes.

1723.1.3 Demonstrate understanding of structural design and of weight supports (bridge, tower, road designs).

Standard 2: Demonstrate the ability to design and draw structural steel fabrications. (1723.S.2)

Structural Steel Fabrications Objectives

Students will:

1723.2.1 Demonstrate knowledge of structural terms, symbols and materials (steel, concrete, etc.).

1723.2.2 Demonstrate familiarity with sheer moment, stress and methods to compute required structural size.

1723.2.3 Demonstrate ability to correctly design and draw structural members and connections.

1723.2.4 Draw plans of elevations and pictorials.

1723.2.5 Demonstrate the ability to use a CAD system to design and develop drawings for steel fabrications.

Standard 3: Utilize CAD and MAPP software to create drawings from field notes. (1723.S.3)

CAD and MAPP Software Objectives

Students will:

1723.3.1 Demonstrate knowledge of field surveying notes and their applications to plan drawings.

1723.3.2 Complete downloading and editing of raw data to achieve the appropriate format.

1723.3.3 Demonstrate knowledge of modeling and overlap using surveying data.

Drafting Specialization - Mechanical WVEIS Code 1725

This course will introduce students to mechanical drafting, including the application of dimensioning techniques, assembly and detail drawings, pictorial views and common threads and fasteners. This course will provide the training to apply these applications using a CAD system.

Standard 1: Demonstrate the proper use and knowledge of advanced dimensioning techniques. (1725.S.1)

Advanced Dimensioning Techniques Objectives

Students will:

1725.1.1 Demonstrate knowledge of advanced dimensioning terminology and basic principals of fit selection.

1725.1.2 Apply tolerance dimensions, positional and form tolerance symbols.

Standard 2: Construct various types of assembly and detail drawings. (1725.S.2)

Assembly and Detail Drawings Objectives

Students will:

1725.2.1 Identify types of assembly drawings, detail parts within, and dimension detailed assembly drawings.

1725.2.2 Draw title and revision blocks, make and record drawing revisions, specify shop notes, and draft the necessary bill of materials on a drawing.

1725.2.3 Draw sectional and detailed working assembly drawings.

Standard 3: Identify and draw common threads and fasteners. (1725.S.3)

Threads and Fasteners Objectives

Students will:

1725.3.1 Demonstrate knowledge of common threaded fasteners, thread forms, series and classification of fits.

1725.3.2 Specify keys, keyways and taper pins, etc.

1725.3.3 Draw threaded fasteners using detailed and schematic representations.

Standard 4: Use computer assisted drafting to produce drawings, demonstrating competency in using advanced CAD systems. (1725.S.4)

CAD Systems Objectives

Students will:

1725.4.1 Use advanced drawing and editing features within a CAD system.

1725.4.2 Obtain numerical and database information from a CAD system.

1725.4.3 Use operating system functions within the CAD program.

1725.4.4 Demonstrate the ability to efficiently print/plot specified drawings.

1725.4.5 Develop 3-D objects on a CAD system.

1725.4.6 Use specialized CAD software to design and develop mechanical drawings and models (Mechanical Desktop).

1725.4.7 Develop 3-D objects using CNC.

Drafting Techniques WVEIS Code 1727

This course will introduce students to techniques used in advanced orthographic projection, including dimensioning, sectioning, auxiliary views, revolutions, pattern development and advanced CAD.

Standard 1: Apply proper sectioning techniques to fully describe the interior of an object on a drawing. (1727.S.1)

Proper Sectioning Techniques Objectives

Students will:
1727.1.1 Describe the purpose of a cutting plane and cutting plane line, and properly draw them.
1727.1.2 Draw various ANSI standard section lines used for general sections, steel, concrete, etc.
1727.1.3 Describe the differences between a full, half, revolved, aligned, offset, removed and broken out sections, and use sectioning techniques to complete drawings.

Standard 2: Identify and construct pictorial views. (1727.S.2)

Pictorial Views Objectives

Students will:
1727.2.1 Construct oblique and isometric drawings, including exploded and sectional views.
1727.2.2 Apply standard, horizontal and reverse axes in isometric drawings.
1727.2.3 Draw non-isometric lines, circles arcs, and curved lines.

Standard 3: Draw primary and secondary auxiliary views and revolutions. (1727.S.3)

Auxiliary Views and Revolutions Objectives

Students will:
1727.3.1 Demonstrate knowledge of primary auxiliary views.
1727.3.2 Draw secondary auxiliary views and explain their use.
1727.3.3 Demonstrate knowledge of revolutions and their use.

Standard 4: Apply descriptive geometry techniques to solve graphical problems. (1727.S.4)

Geometry Techniques Objectives

Students will:
1727.4.1 Determine the true length of a line, true view of a plane and the true angle between two planes.
1727.4.2 Determine the intersection between lines, planes, and surfaces.

Standard 5: Use proper techniques to draw patterns and developments. (1727.S.5)

Patterns and Developments Objectives

Students will:
1727.5.1 Develop rectangular prisms, cylinders, pyramids and cones.
1727.5.2 Demonstrate knowledge of transition pieces.
1727.5.3 Apply development techniques to shop patterns.

Standard 6: Apply the rules of dimensioning to dimension drawings, using architectural, engineering and metric measurements. (1727.S.6)

Rules of Dimensioning Objectives

Students will:

1727.6.1 Layout, measure and construct lines with the architectural, engineering and metric scales.
1727.6.2 Describe and apply unidirectional and aligned systems of dimensioning.
1727.6.3 Apply standard dimensioning techniques for a hole, countersink, counter bore and knurling.
1727.6.4 Properly dimension axonometric drawings.

Standard 7: Use computer assisted drafting to produce drawings, demonstrating the ability to customize a CAD system. (1727.S.7)

Computer Assisted Drafting Objectives

Students will:

1727.7.1 Create and use various prototype drawings using custom developed line types, hatch patterns and text styles.
1727.7.2 Modify CAD menu to perform additional and/or new operations.
1727.7.3 Demonstrate the ability to modify operating system files to facilitate CAD operations and load and run a lisp routine.

Fundamentals Of Drafting — WVEIS Code 1729

This course will introduce students to the basic fundamentals of drafting and geometric construction. Students will become familiar with drafting equipment and methodology used in industry. This course will provide basic understanding of drafting techniques necessary to allow students to progress to CAD.

Standard 1: Identify, explore, and evaluate career opportunities related to drafting and design. (1729.S.1)

Drafting and Design Objectives

Students will:

1729.1.1 Describe a variety of careers related to drafting and design, and the training necessary to be successful in those careers.

1729.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of drafting and design.

1729.1.3 Identify sources of information about careers in drafting.

Standard 2: Identify and properly use a variety of basic drafting equipment and materials. (1729.S.2)

Basic Drafting Equipment and Materials Objectives

Students will:

1729.2.1 Describe and properly use standard drafting tools and machines such as triangles, protractors, scales, erasing shield, pencils, pens, erasers, compass and dividers.

1729.2.2 List the standard size sheets for drawing, and describe the difference between tracing paper, vellum and drafting film.

Standard 3: Apply mathematical skills related to drafting and design. (1729.S.3)

Mathematical Skills Objectives

Students will:

1729.3.1 Perform mathematical computations as they relate to creating accurate drawings.

1729.3.2 Interpret various charts and graphs used to display numerical data.

1729.3.3 Layout, measure and construct lines with the architectural scales.

Standard 4: Demonstrate proper drafting techniques when solving a variety of drafting problems.(1729.S.4)

Drafting Objectives

Students will:

1729.4.1 Identify and draw the various standard ANSI lines, borders and title blocks used in the drafting/design industry.

1729.4.2 Properly draw basic geometric shapes using equipment, and layout basic geometric constructions to demonstrate bisection, perpendicular, parallel, tangent, division, etc.

1729.4.3 Demonstrate proper techniques for lettering freehand and with mechanical lettering devices.

Standard 5: Demonstrate proper techniques to develop multi-view drawings using orthographic projection. (1729.S.5)

Multi-View Drawings Objectives

Students will:

1729.5.1 Apply proper isometric sketching techniques to aid in visualization of orthographic drawings.

1729.5.2 Arrange and layout the three principle views of an object on a standard ANSI sheet, using proper centering techniques.

1729.5.3 Select the proper views necessary to completely describe an object, and complete technical drawings using these views.

Standard 6: Apply general rules to dimension drawings, using architectural measurements.(1729.S.6)

Dimension Drawings Objective

Students will:

1729.6.1 List and draw basic dimensions lines such as extension, dimension and leader lines.

Standard 7: Use computer assisted drafting to produce drawings, demonstrating basic functions of CAD. (1729.S.7)

CAD Objectives

Students will:

1729.7.1 Properly use software to create drawings using basic commands.

1729.7.2 Dimension the drawing, using appropriate commands.

1729.7.3 Properly save and plot a drawing.

Cosmetology Science WVEIS Code 1731

This course will provide the student with information on human anatomy and the effects of the chemistry of products used in cosmetology.

Standard 1: Demonstrate knowledge of anatomy. (1731.S.1)

Anatomy Objectives

Students will:

1731.1.1 Match terms associated with body systems to the correct definitions.
1731.1.2 Match the body systems to the correct functions.
1731.1.3 Plot the cell divisions and their functions.
1731.1.4 Match types of tissues to their correct functions.
1731.1.5 Select from a list the major body organs.
1731.1.6 Distinguish between anabolism and catabolism.
1731.1.7 Distinguish between cartilage and ligament.
1731.1.8 Match the parts of a bone to the correct descriptions.
1731.1.9 Discriminate the function of the bones.
1731.1.10 Identify bones of the face and head.
1731.1.11 Identify bones of the arm and hand.
1731.1.12 Match types of joints to the correct locations.
1731.1.13 Match types of muscles to their correct descriptions.
1731.1.14 Match the parts of a muscle to their correct descriptions.
1731.1.15 Identify muscles of the face and head.
1731.1.16 Match muscles of the face and head to the correct functions.
1731.1.17 Identify types of nerve.
1731.1.18 Distinguish between sensory and motor nerves.

Standard 2: Demonstrate a knowledge of the composition of various products used in cosmetology. (1731.S.2)

Cosmetology Objectives

Students will:

1731.2.1 Match terms associated with product chemistry to the correct definitions.
1731.2.2 Identify symbols of various elements.
1731.2.3 Distinguish between acids and bases.
1731.2.4 Interpret the basic characteristics of pH scale.
1731.2.5 Recall the chemistry of water.
1731.2.6 Distinguish between organic and inorganic chemistry.
1731.2.7 Distinguish between physical and chemical changes.
1731.2.8 Distinguish between elements and compounds.
1731.2.9 Define solution.
1731.2.10 Distinguish between a suspension and an emulsion.
1731.2.11 Match products used for sterilization and sanitation in the salon to their proper functions.
1731.2.12 Select from a list the basic facts about shampoo.
1731.2.13 Describe the chemical reaction of hair relaxers and permanent waves.
1731.2.14 State the chemical reaction of various hair color products.
1731.2.15 Match various products used in cosmetology to the correct chemical make-up.

Fundamentals of Business Management WVEIS Code 1733

This course will provide the knowledge and skills to operate and manage a cosmetology salon.

Standard 1: Demonstrate knowledge and skills needed for opening a salon. (1733.S.1)

Salon Objectives

Students will:

1733.1.1 Match terms associated with site planning to the correct definitions.
1733.1.2 Repeat the characteristics of various types of salons.
1733.1.3 Match types of ownerships to the correct descriptions.
1733.1.4 Distinguish between lease and rent.
1733.1.5 Name clauses that may be included in a complex lease.
1733.1.6 Describe a tentative contract.
1733.1.7 Identify factors to consider before owning, leasing, or renting a business.
1733.1.8 State permits, licenses, and public utilities necessary for opening a salon.
1733.1.9 Select from a list sources available for financing a business.
1733.1.10 Plan a salon site.

Standard 2: Demonstrate knowledge of salon management. (1733.S.2)

Salon Management Objectives

Students will:

1733.2.1 Match terms associated with salon planning and management to the correct definitions.
1733.2.2 Cite factors to consider when selecting the salon name.
1733.2.3 Select from a list basic implements and equipment needed for the salon.
1733.2.4 Select from a list color schemes appropriate for a salon.
1733.2.5 Choose basic rules for preparing window displays.
1733.2.6 Explain decorating the reception area.
1733.2.7 Formulate the styling area arrangements.
1733.2.8 List items to consider when setting up a dispensary (supply room).
1733.2.9 Tally items to include in a salon operating budget.
1733.2.10 Match types of insurance available to the correct definitions.
1733.2.11 Describe taxes and laws pertaining to a salon.
1733.2.12 Match various salary alternatives to the proper definitions.
1733.2.13 Name supplies which should be purchased.
1733.2.14 Describe methods of advertising.
1733.2.15 Design a salon.

Fundamentals of Hairstyling WVEIS Code 1735

This course will provide the knowledge and skills for working with hair and scalp, scalp treatment, shampoo and rinse, facial shapes, hair styles, wiggery, hair relaxer and hair coloring.

Standard 1: Demonstrate knowledge and skill in structure of hair and scalp. (1735.S.1)

Hair and Scalp Objectives

Students will:

1735.1.1 Match terms associated with scalp and hair analysis to the correct definitions.
1735.1.2 Discuss the composition of hair.
1735.1.3 Identify the layers of hair root shaft.
1735.1.4 Identify parts of the hair root area.
1735.1.5 Match parts of the hair root area to the correct functions.
1735.1.6 Match types of hair texture to their characteristics.
1735.1.7 Distinguish between hair porosity and hair elasticity.
1735.1.8 Identify sterilization and sanitation rules to observe during scalp and hair analysis.
1735.1.9 Identify scalp disorders.
1735.1.10 Match scalp disorders to the proper treatments.
1735.1.11 Identify scalp disorders that should not be treated in a salon.
1735.1.12 Name conditions that affect hair growth.
1735.1.13 Prescribe treatments for scalp and hair problems.

Standard 2: Display knowledge and skill in scalp treatment. (1735.S.2)

Scalp Treatment Objectives

Students will:

1735.2.1 Match terms associated with brushing and scalp treatment to the correct definitions.
1735.2.2 Select from a list types of scalp treatments.
1735.2.3 Identify scalp conditions that can be treated by a cosmetologist.
1735.2.4 Match scalp problems to the necessary treatments.
1735.2.5 Identify equipment needed for scalp treatments.
1735.2.6 Select from a list general safety precautions to observe while performing scalp treatments.
1735.2.7 Develop safety precautions to observe while using high-frequency current.
1735.2.8 Distinguish between methods of applying high-frequency current for scalp treatment.
1735.2.9 Distinguish between the use of the ultra-violet ray and the infra-red ray.
1735.2.10 Prescribe treatment for scalp problems.
1735.2.11 Drape a patron.
1735.2.12 Brush hair for a scalp treatment.
1735.2.13 Perform scalp manipulations.
1735.2.14 Apply direct and indirect high-frequency current treatments to scalp.
1735.2.15 Apply therapeutic rays to scalp.
1735.2.16 Apply heat cap scalp treatment.

Standard 3: Demonstrate the ability to give a shampoo and apply rinse. (1735.S.3)

Shampoo and Apply Rinse Objectives

Students will:

1735.3.1 Match terms associated with shampoos and rinses to the correct definitions.
1735.3.2 Itemize types of shampoos.

1735.3.3 Match types of shampoos to the correct functions.
1735.3.4 Identify types of rinses.
1735.3.5 Match types of rinses to the correct functions.
1735.3.6 State safety precautions to observe during a shampoo.
1735.3.7 Identify parts of the pH scale.
1735.3.8 Give a shampoo.
1735.3.9 Apply acid rinse.
1735.3.10 Apply crème rinse.
1735.3.11 Apply instant color rinse.

Standard 4: Coordinate facial shapes with hair types. (1735.S.4)

Facial Shapes With Hair Types Objectives

Students will:
1735.4.1 Match terms associated with facial shapes and body structures to the correct definitions.
1735.4.2 Identify facial shapes.
1735.4.3 Match facial shapes to the correct characteristics.
1735.4.4 Identify facial profiles.
1735.4.5 Match facial profile shapes to the correct characteristics.
1735.4.6 Identify body structures that are used to determine hairstyles.
1735.4.7 Match facial shapes to the appropriate hairstyles.
1735.4.8 Match facial profile shapes to appropriate hairstyles.
1735.4.9 Match body structures to the appropriate hairstyles.
1735.4.10 Label the major sections of the head.
1735.4.11 Indicate proportions of the ideal face.
1735.4.12 Measure facial features.

Standard 5: Demonstrate how to make a shaping and wave. (1735.S.5)

Shaping and Wave Objectives

Students will:
1735.5.1 Match terms associated with shaping to the correct definitions.
1735.5.2 Identify the styling section of the head.
1735.5.3 Match styling sections of the head to the correct functions.
1735.5.4 State the purpose of a shaping.
1735.5.5 Identify geometric lines used in hair shaping.
1735.5.6 Identify open and closed ends of a shaping.
1735.5.7 Arrange in order the steps for establishing a natural part in hair.
1735.5.8 Arrange in order the steps to finding natural hair growth direction.
1735.5.9 Select from a list rules to observe when making shaping.
1735.5.10 Section head into five styling sections.
1735.5.11 Make a shaping.
1735.5.12 Make a wave.
1735.5.13 Make a C-shape.

Standard 6: Demonstrate the ability to form pin curls. (1735.S.6)

Pin Curls Objectives

Students will:
1735.6.1 Match terms associated with pin curls to the correct definitions.
1735.6.2 Identify parts of a pin curl.
1735.6.3 Match parts of a pin curl to the correct functions.

1735.6.4 Identify types of pin curl stems.
1735.6.5 Match types of pin curl stems to the correct functions.
1735.6.6 Compare pin curl stems in relation to the pick-up line.
1735.6.7 Identify types of pin curls.
1735.6.8 Match types of pin curls to the correct functions.
1735.6.9 Identify bases used in forming a pin curl.
1735.6.10 Match bases used in forming a pin curl to the correct functions.
1735.6.11 Identify implements used to form a pin curl.
1735.6.12 Match implements used to form a pin curl to the correct functions.
1735.6.13 Select from a list rules to observe while forming a pin curl.
1735.6.14 Place sculpture curls in a shaping.
1735.6.15 Place stand up curls for volume.
1735.6.16 Form flare curls.
1735.6.17 Place ridge curls in set.
1735.6.18 Place curved or C-based curls in a shaping.
1735.6.19 Form a skip wave.
1735.6.20 Complete a basic set using various types of pin curls.

Standard 7: Demonstrate the ability to set hair using various roller techniques. (1735.S.7)

Roller Techniques Objectives

Students will:
1735.7.1 Match terms associated with roller sets to the correct definitions.
1735.7.2 Identify implements used in roller sets.
1735.7.3 Match implements used in roller sets to the correct functions.
1735.7.4 Identify parts of a roller curl.
1735.7.5 Match parts of a roller curl to the correct descriptions.
1735.7.6 Locate roller bases.
1735.7.7 Match roller diameters to the correct descriptions.
1735.7.8 Distinguish between volume and indentation.
1735.7.9 Identify various hair partings.
1735.7.10 Match various hair partings.
1735.7.11 Discuss various roller placements.
1735.7.12 Name products used in roller sets.
1735.7.13 State sanitary measures to observe during roller sets.
1735.7.14 State rules to observe during roller sets.
1735.7.15 Place rollers for a half-bang.
1735.7.16 Place rollers for a forward side.
1735.7.17 Place rollers for a wave side.
1735.7.18 Place rollers in back for basic set.
1735.7.19 Place vertical rollers in back to create design and wave pattern.

Standard 8: Apply the knowledge and skill of finger waving principles. (1735.S.8)

Finger Waving Principles Objectives

Students will:
1735.8.1 Match terms associated with finger waving to the correct definitions.
1735.8.2 Identify equipment and materials used in finger waving.
1735.8.3 Explain hair growth directions.
1735.8.4 Select from a list rules to observe during finger waving.
1735.8.5 Indicate the main characteristics of good finger waves.
1735.8.6 Demonstrate the ability to finger wave a full head of hair using a side part.

Standard 9: Demonstrate the ability to backcomb into a desired style. (1735.S.9)

Backcomb Objectives

Students will:

1735.9.1 Match terms associated with comb-outs to the correct definition.
1735.9.2 Identify equipment used in comb-outs.
1735.9.3 Match hairdressing fundamentals to the correct applications.
1735.9.4 Specify backcombing techniques.
1735.9.5 Describe sectional teasing.
1735.9.6 Detail common problems found when backcombing.
1735.9.7 Apply basic comb-out techniques.
1735.9.8 Backcomb hair.
1735.9.9 Lace hair.
1735.9.10 Back brush hair.
1735.9.11 Stretch a wave.

Standard 10: Demonstrate the ability to style hair using the thermal method. (1735.S.10)

Thermal Method Objectives

Students will:

1735.10.1 Match terms associated with thermal hairstyling to the correct definitions.
1735.10.2 Distinguish between soft press and hard press.
1735.10.3 Define hair texture.
1735.10.4 Distinguish between elasticity and porosity.
1735.10.5 Match types of scalps to the problems that might occur during thermal hairstyling.
1735.10.6 Match equipment used in thermal work to the correct functions.
1735.10.7 Arrange in order the steps to follow when tempering thermal irons.
1735.10.8 State factors to consider when determining the degree of heat to be used when thermal hairstyling.
1735.10.9 Recall how to clean the thermal irons.
1735.10.10 Match types of hair presses to the correct definitions.
1735.10.11 Match types of thermal curling to the proper characteristics.
1735.10.12 Select from a list problem areas to observe while thermal hairstyling.
1735.10.13 Select from a list safety precautions to observe while thermal hairstyling.
1735.10.14 Give a soft perm.
1735.10.15 Thermal curl hair.
1735.10.16 Thermal wave hair.
1735.10.17 Make side flare, sculpture, spiral (poker), and flip curls using the thermal method.

Standard 11: Demonstrate the knowledge needed to air wave hair. (1735.S.11)

Air wave Hair Objectives

Students will:

1735.11.1 Match terms associated with air waving to the correct definitions.
1735.11.2 Identify implements and equipment used in air waving.
1735.11.3 Match implements and equipment used in air waving to the correct functions.
1735.11.4 Note products used in air waving.
1735.11.5 Arrange in order the steps to air wave hair.
1735.11.6 Recall safety precautions to observe while air waving hair.
1735.11.7 Air wave hair using blow dryer and round brush.
1735.11.8 Use curling iron to style hair.
1735.11.9 Use hot comb to style hair.

1735.11.10 Curl hair using spring-control curling iron.

Standard 12: Apply knowledge and skill of hair shaping. (1735.S.12)

Hair Shaping Objectives

Students will:
1735.12.1 Match terms associated with haircutting and shaping to the correct definitions.
1735.12.2 Identify implements and equipment needed to give a haircut or shaping.
1735.12.3 Match implements and equipment needed to give a haircut or shaping to the proper functions.
1735.12.4 Identify the parts of a pair of scissors.
1735.12.5 Identify the parts of a razor.
1735.12.6 Identify the parts of a pair of thinning shears.
1735.12.7 Match the common names for head shapes to the technical names.
1735.12.8 Compare hair texture as it relates to haircutting and shaping.
1735.12.9 Distinguish between low and high elevation haircutting and shaping.
1735.12.10 Select from a list purposes for sectioning hair for a haircut or shaping.
1735.12.11 Distinguish between length and perimeter in haircutting and shaping.
1735.12.12 Distinguish between tapering and thinning the hair.
1735.12.13 Recall in order, steps for cutting and shaping hair to the bond structure.
1735.12.14 Distinguish between beveling with a razor and tapering shears.
1735.12.15 Identify various elevations used in haircutting and shaping.

Standard 13: Demonstrate knowledge and skill in wiggery. (1735.S.13)

Wiggery Objectives

Students will:
1735.13.1 Match terms associated with hairpieces to the correct definitions.
1735.13.2 Match types of wig materials to the correct descriptions.
1735.13.3 Repeat federal government requirements for labeling hairpieces.
1735.13.4 Identify types of hairpieces.
1735.13.5 Match hairpieces to the correct method of construction.
1735.13.6 Identify implements and equipment used for styling hairpieces.
1735.13.7 List the steps in measuring the head to fit a wig.
1735.13.8 Recall methods of sizing and blocking a wig.
1735.13.9 Distinguish between products for cleaning hairpieces.
1735.13.10 Arrange in order the steps for cleaning a hairpiece.
1735.13.11 Style a wiglet.
1735.13.12 Style a wig.

Standard 14: Apply the principles of permanent waving. (1735.S.14)

Permanent Weaving Objectives

Students will:
1735.14.1 Examine and analyze clients hair and scalp.
1735.14.2 Identify clients preparation prior to perm.
1735.14.3 Demonstrate a shaping on client.
1735.14.4 Section and block the head in a straight back pattern.
1735.14.5 Section and block the head in a double halo pattern.
1735.14.6 Section and block the head in a dropped crown position.
1735.14.7 Select rods, section and subsection head, wrap off-base curls.
1735.14.8 Select rods, section and subsection head, wrap off-base curls.

1735.14.9 Select rods, section and subsection head, wrap half-base curls.
1735.14.10 Wrap hair with single end paper.
1735.14.11 Wrap hair with double end paper.
1735.14.12 Wrap hair with book end paper.
1735.14.13 Identify choice of waving lotion and apply.
1735.14.14 Develop test curls.
1735.14.15 Application of neutralizer-direct method.
1735.14.16 Application of neutralizer-splash on method.
1735.14.17 Develop piggyback wrap for long hair.
1735.14.18 Develop a body permanent.
1735.14.19 Give acid-balanced permanent wave using preheated dryer.

Standard 15: Demonstrate the ability to give a chemical hair relaxer. (1735.S.15)

Chemical Hair Relaxer Objectives

Students will:
1735.15.1 Match terms associated with chemical relaxing to the correct definitions.
1735.15.2 Distinguish between hair density and hair texture.
1735.15.3 Distinguish between elasticity and porosity.
1735.15.4 Identify the structure of the hair.
1735.15.5 Describe the parts of the hair structure.
1735.15.6 Match products used in the chemical relaxing process to their correct descriptions.
1735.15.7 Recall methods of applying chemical relaxer to the hair.
1735.15.8 Itemize implements used for chemical relaxing.
1735.15.9 Arrange in order the steps for taking a strand test.
1735.15.10 Select from a list safety precautions to observe during the chemical relaxing process.
1735.15.11 Arrange in order the steps for a chemical relaxer.
1735.15.12 Arrange in order the steps for a relaxer retouch.
1735.15.13 Arrange in order the steps for a chemical blow-out.
1735.15.14 Complete a record chart.
1735.15.15 Determine the proper chemical relaxer and procedure to follow when given a specific situation.
1735.15.16 Section hair for a chemical relaxer.
1735.15.17 Straighten hair using a thio chemical relaxer.
1735.15.18 Straighten hair using a sodium hydroxide (caustic) relaxer.

Standard 16: Demonstrate knowledge and skill in hair coloring. (1735.S.16)

Hair Coloring Objectives

Students will:
1735.16.1 Match terms associated with hair coloring to the correct definitions.
1735.16.2 Describe hair structure as it relates to hair coloring.
1735.16.3 List types of hair coloring products.
1735.16.4 Match hair coloring products to the general coloring characteristics.
1735.16.5 Arrange in order the steps in performing a predisposition test.
1735.16.6 List the primary and secondary colors.
1735.16.7 Distinguish between warm and cool colors.
1735.16.8 Distinguish between single application and double application services.
1735.16.9 Distinguish between shades and stages of hair coloring.
1735.16.10 Describe nonprofessional hair color products.
1735.16.11 Distinguish between henna and soap cap.
1735.16.12 Demonstrate different methods to apply color fillers.
1735.16.13 Demonstrate pre-softening of hair.

1735.16.14 Describe the effect of oxidation in hair coloring.
1735.16.15 Select from a list information included on a hair color chart.
1735.16.16 Label hair care products used after coloring.
1735.16.17 Select from a list corrective measures for hair color problems.
1735.16.18 Formulate information necessary for completing a record card.
1735.16.19 Recall safety precautions to observe during hair coloring.
1735.16.20 Correct hair color problems.
1735.16.21 Apply a virgin tint darker than natural hair color.
1735.16.22 Apply a tint retouch.
1735.16.23 Apply color for lighter shade (single application).
1735.16.24 Apply instant temporary color.
1735.16.25 Apply semi-permanent color.

Standard 17: Demonstrate knowledge of skill of hair lightening. (1735.S.17)

Hair Lightening Objectives

Students will:
1735.17.1 Match terms associated with lightening and toning to the correct definitions.
1735.17.2 Match hair structures as they relate to lightening and toning to the correct descriptions.
1735.17.3 Define hair porosity.
1735.17.4 Match lightening and toning products to the general lightening characteristics.
1735.17.5 Repeat the stages of hair lightening.
1735.17.6 Distinguish between shades and stages of hair coloring.
1735.17.7 Recall primary and secondary colors.
1735.17.8 Select from a list color rules to observe during lightening and toning.
1735.17.9 Distinguish between warm and cool colors.
1735.17.10 Connect hydrogen peroxide as a developer for tints and lighteners.
1735.17.11 Distinguish between a virgin lightener and a lightener retouch.
1735.17.12 Select from a list the proper ways of selecting a toner color.
1735.17.13 Indicate the chemical composition of penetrating products used in lightening and toning.
1735.17.14 Distinguish between color lifting and color grabbing.
1735.17.15 Arrange in order the steps for giving a predisposition test.

Orientation to Cosmetology WVEIS Code 1737

This course will provide the student with information about the future of the cosmetology field, sanitation practices and salon equipment.

Standard 1: Summarize the occupational outlook of cosmetology. (1737.S.1)

Cosmetology Objectives

Students will:

1737.1.1 Match terms associated with orientation to the correct definitions.
1737.1.2 Discuss facts concerning the occupational outlook of cosmetology.
1737.1.3 Identify various types of occupations that can be acquired through cosmetology training.
1737.1.4 Select from a list specific areas involved in cosmetology lab work.
1737.1.5 Select from a list student requirements for the cosmetology program.

Standard 2: Identify general implements and equipment used in a salon. (1737.S.2)

Salon Objectives

Students will:

1737.2.1 Match terms associated with implements and equipment to the correct definitions.
1737.2.2 Identify types of combs.
1737.2.3 Identify types of brushes.
1737.2.4 Identify types of rollers
1737.2.5 Identify types of clips.
1737.2.6 Identify air-waving equipment (quick service).
1737.2.7 Identify haircutting implements.
1737.2.8 Identify equipment used for facials and scalp treatments.
1737.2.9 Identify implements used in thermal waving.
1737.2.10 Identify implements used in permanent waving.
1737.2.11 Identify implements used in hair lightening and hair coloring.
1737.2.12 Identify manicure and pedicure implements.
1737.2.13 Identify implements used in styling hairpieces.
1737.2.14 Identify implements and equipment used shampooing.
1737.2.15 Identify drying equipment.
1737.2.16 Identify implements and equipment used in hairstyling.
1737.2.17 Distinguish between wet and dry sanitizers.

Standard 3: Demonstrate knowledge of rules concerning sanitation and safety. (1737.S.3)

Sanitation and Safety Objectives

Students will:

1737.3.1 Match terms associated with safety to the correct definitions.
1737.3.2 Match the colors of the safety color code with their correct use.
1737.3.3 Identify rules for personal safety.
1737.3.4 Select from a list sanitation and sterilization rules that can prevent some personal safety hazards.
1737.3.5 Select physical and chemical methods of sterilization.
1737.3.6 Arrange in order steps for using a wet sanitizer.
1737.3.7 Identify how bacteria can become a personal health hazard.

1737.3.8 Distinguish between pathogenic and nonpathogenic bacteria.
1737.3.9 Match types of pathogenic bacteria to diseases they cause.
1737.3.10 Select rules for general shop safety.
1737.3.11 Label the components of the fire triangle.
1737.3.12 Match the classes of fire to the correct definitions.
1737.3.13 Match types of fire extinguishers to the class of fire each is best suited to extinguish.
1737.3.14 Complete a safety pledge form.
1737.3.15 Complete a safety inspection checklist.
1737.3.16 State general shop safety rules.
1737.3.17 Recall sanitation rules.

Professional Practices – Skin and Nails WVEIS Code 1739

This course will provide the student with the knowledge and skills to be able to provide manicures, pedicures, massage, facials, apply full makeup and various methods of hair removal.

Standard 1: Demonstrate knowledge of manicuring and pedicuring. (1739.S.1)

Manicuring and Pedicuring Objectives

Students will:
1739.1.1 Match terms associated with manicuring and pedicuring to the correct definitions.
1739.1.2 Identify the most common shapes for manicuring women's nails.
1739.1.3 Identify the most common shapes for manicuring men's nails.
1739.1.4 Match supplies used in manicuring and pedicuring with the correct functions.
1739.1.5 Identify equipment and implements used in manicuring and pedicuring.
1739.1.6 Match implements and equipment to their correct functions.
1739.1.7 Distinguish between a regular manicure and a man's manicure.
1739.1.8 Describe hot oil manicuring.
1739.1.9 Identify disorders of the nail.
1739.1.10 Match disorders of the nail to the correct cause.
1739.1.11 Identify diseases of the nail.
1739.1.12 Match diseases with their symptoms and causes.
1739.1.13 Select from a list the safety precautions to observe while giving a manicure or pedicure.
1739.1.14 Name sanitary measures to observe while giving a manicure and pedicure.
1739.1.15 Arrange implements and materials for a manicure and pedicure.
1739.1.16 Give a regular manicure.
1739.1.17 Apply liquid polish.
1739.1.18 Give a hot oil manicure.
1739.1.19 Give a pedicure.
1739.1.20 Repair split or broken nails.
1739.1.21 Apply plastic nails.
1739.1.22 Apply sculpture nails.
1739.1.23 Apply brush-on nails.
1739.1.24 Give a man's manicure.

Standard 2: Identify various structures and functions of the nail. (1739.S.2)

Nail Objectives

Students will:
1739.2.1 Match terms associated with nail structure to the correct definitions.
1739.2.2 Identify parts of the nail.
1739.2.3 Match parts of the nail to the correct functions.
1739.2.4 Identify various shapes of nail growth.
1739.2.5 Name characteristics of nail growth.

Standard 3: Illustrate knowledge of massage. (1739.S.3)

Massage Objectives

Students will:
1739.3.1 Match terms associated with massage manipulations to the correct definitions.
1739.3.2 Signify the effects of massage.

1739.3.3 Identify various types of massage.
1739.3.4 Match types of massage manipulations to the correct characteristics.
1739.3.5 Explain safety precautions to observe while applying massage manipulations.

Standard 4: Demonstrate the ability to give a facial. (1739.S.4)

Facial Objectives

Students will:
1739.4.1 Match terms associated with facials to their correct definitions.
1739.4.2 Match the structures of the skin to the correct functions.
1739.4.3 Identify muscle and nerve motor points of the face.
1739.4.4 Develop reasons for giving facials.
1739.4.5 Match skin disorders and diseases to the correct descriptions.
1739.4.6 Match types of primary lesions to the correct descriptions.
1739.4.7 Match types of secondary lesions to the correct descriptions.
1739.4.8 Match the products used in giving a facial to the correct definitions.
1739.4.9 Distinguish between facial packs and facial masks.
1739.4.10 Identify implements and equipment used in giving a facial.
1739.4.11 Match implements and equipment used in giving a facial to the correct functions.
1739.4.12 State the types of skin problems that require a facial.
1739.4.13 Select proper treatment for skin conditions that require a facial.
1739.4.14 Arrange in order the steps in giving a plain facial.
1739.4.15 Mark sanitary measures to observe while giving a facial.
1739.4.16 State safety precautions to observe while giving a facial.
1739.4.17 Complete a safety precaution checklist.
1739.4.18 Drape patron for a facial.
1739.4.19 Give a plain facial.
1739.4.20 Apply facial mask and pack.
1739.4.21 Give facial manipulations.
1739.4.22 Arch the eyebrows.

Standard 5: Demonstrate the ability to apply full makeup. (1739.S.5)

Makeup Objectives

Students will:
1739.5.1 Match terms associated with makeup to the correct definitions.
1739.5.2 Match cosmetics used in applying makeup to the correct characteristics.
1739.5.3 Identify facial shape.
1739.5.4 Identify facial problems.
1739.5.5 Proportion a face.
1739.5.6 Differentiate fair, dark, and oriental skin tones.
1739.5.7 Distinguish between daytime and evening makeup.
1739.5.8 Match facial shapes and features to problem areas needing correctional makeup.
1739.5.9 Note procedures needed to correct various facial problem areas.
1739.5.10 Arrange in order the steps to applying daytime makeup.
1739.5.11 Distinguish between strip lashes and individual lashes.
1739.5.12 Arrange in order the steps for cleaning strip lashes.
1739.5.13 Select from a list sanitary measures to observe while applying makeup.
1739.5.14 Find safety precautions to observe while applying makeup.
1739.5.15 Apply daytime makeup.
1739.5.16 Apply evening makeup.
1739.5.17 Apply corrective makeup.
1739.5.18 Apply strip lashes.

1739.5.19 Apply individual lashes.

Standard 6: Demonstrate knowledge of various methods of hair removal. (1739.S.6)

Hair Removal Objectives

Students will:
1739.6.1 Match terms associated with hair removal to the correct definitions.
1739.6.2 Describe the types of hair removal.
1739.6.3 Choose methods of permanent hair removal.
1739.6.4 Itemize methods of temporary hair removal.
1739.6.5 Identify implements used in temporary hair removal.
1739.6.6 Match products and implements to the correct functions.
1739.6.7 Select from a list safety precautions to observe while temporarily removing hair.
1739.6.8 Tweeze eyebrow hair.
1739.6.9 Apply wax depilatory.
1739.6.10 Apply chemical depilatory.

Diesel Engine Components WVEIS Code 1741

This course will introduce students to the fundamentals of engine components used in diesel equipment technology.

Standard 1: Demonstrate knowledge of cylinder head components and service. (1741.S.1)

Cylinder Head Components and Service Objectives

Students will:
1741.1.1 Define terms and major parts associated with a cylinder head assembly.
1741.1.2 Disassemble, service and assemble a cylinder head and components.

Standard 2: Demonstrate knowledge of piston and connecting rod assemblies. (1741.S.2)

Piston and Connecting Rod Assemblies Objectives

Students will:
1741.2.1 Define terms and major parts associated with piston and connecting rod assemblies.
1741.2.2 Identify types of pistons and piston rings, and list their functions.
1741.2.3 Disassemble, service, measure for wear and assemble piston and connecting assembly.

Standard 3: Demonstrate knowledge and skill in the operation of timing gears. (1741.S.3)

Timing Gears Objectives

Students will:
1741.3.1 Define terms and major parts associated with camshafts, gears and the valve train.
1741.3.2 Explain valve timing on a two-cycle and four-cycle engine.
1741.3.3 Describe gears found in a typical gear train and identify those that are marked to insure correct valve timing.
1741.3.4 Remove, service and install a camshaft.

Standard 4: Demonstrate knowledge of cylinder blocks. (1741.S.4)

Cylinder Blocks Objectives

Students will:
1741.4.1 Define terms and major parts associated with cylinder blocks and a typical frame design.
1741.4.2 Identify advantages of a removable liner over an integral cylinder bore.
1741.4.3 Remove, inspect and install a cylinder liner.
1741.4.4 Clean, inspect, pressure test, service, repair and replace components of an engine block.

Standard 5: Demonstrate knowledge of crankshafts. (1741.S.5)

Crankshafts Objectives

Students will:
1741.5.1 Define terms and major parts associated with crankshafts and bearings.
1741.5.2 Describe the effects of the arrangement of crankshaft throws, and how the arrangement of throws relates to the number of cylinders in the engine.

1741.5.3 Identify ways crankshaft balance is maintained.
1741.5.4 Clean, inspect, service and repair crankshafts, oil passages; passage plugs, and journal.

Standard 6: Demonstrate knowledge of common types of bearings and seals. (1741.S.6)

Bearings and Seals Objectives

Students will:
1741.6.1 Define terms and major parts associated with bearings and seals.
1741.6.2 Discuss the advantages and disadvantages of various types of bearings.
1741.6.3 Identify common methods of lubricating bearings, and causes of bearing failure.
1741.6.4 Identify types of anti-friction, ball, roller, and needle bearings.
1741.6.5 Remove and install a plain bearing and an anti-friction bearing; check and reload bearing setting, using spring scale methods.
1741.6.6 Identify places where dynamic seals are used.

Diesel Engine Tune Up and Troubleshooting WVEIS Code 1743

This course will introduce students to the fundamentals of tune up and troubleshooting used in diesel equipment technology.

Standard 1: Diagnose engine problems and prepare for engine testing. (1743.S.1)

Engine Objectives

Students will:
1743.1.1 Define terms associated with operation and maintenance.
1743.1.2 List inspections to include in a checklist during normal operation.
1743.1.3 List factors to include in the procedure for stopping a diesel engine.
1743.1.4 Match the causes of an engine misfiring with the corrective actions.
1743.1.5 Identify causes of engine knock.
1743.1.6 Identify causes of an overheated engine.
1743.1.7 Identify four causes of smoky exhaust.

Standard 2: Demonstrate knowledge of tune-up/adjustment of a diesel engine. (1743.S.2)

Tune-up/Adjustment of A Diesel Engine Objectives

Students will:
1743.2.1 Define terms associated with tune-up and adjustment.
1743.2.2 Identify major items to include in a visual inspection checklist.
1743.2.3 Tune-up a Cummins diesel engine.
1743.2.4 Tune-up a Detroit diesel engine.
1743.2.5 Tune-up a 3400 series Caterpillar diesel engine.

Standard 3: Demonstrate knowledge of troubleshooting a diesel engine. (1743.S.3)

Diesel Engine Objectives

Students will:
1743.3.1 Match terms associated with diagnosis and testing of engines with the correct definitions.
1743.3.2 Arrange in order the steps in diagnosing and testing an engine.
1743.3.3 Identify major checkpoints when inspecting a diesel engine.
1743.3.4 Complete a list of major checks to make when operating an engine.
1743.3.5 Identify factors necessary for an engine to produce horsepower.
1743.3.6 Select the possible causes of a diesel engine being hard to start or not starting.
1743.3.7 Select the possible causes of a diesel engine starting but not running.
1743.3.8 Identify items which cause a diesel engine to misfire.
1743.3.9 Select items which cause a diesel engine to knock.
1743.3.10 Select the items which cause a diesel engine to overheat.
1743.3.11 Identify items which cause a diesel engine to have lack of power.
1743.3.12 Select the items which cause a diesel engine to use too much oil.
1743.3.13 Identify causes of high oil pressure.
1743.3.14 List causes of low oil pressure.

Diesel Preventative Maintenance and Inspection WVEIS Code 1745

This course will introduce students to the fundamentals of medium and heavy truck preventative maintenance & inspection used in diesel equipment technology.

Standard 1: Demonstrate knowledge of the engine systems maintenance. (1745.S.1)

Engine Systems Objectives

Students will:
1745.1.1 Check engine components
1745.1.2 Check engine operation
1745.1.3 Inspect the fuel system
1745.1.4 Inspect air induction and exhaust system
1745.1.5 Inspect cooling system
1745.1.6 Inspect the lubrication system

Standard 2: Demonstrate knowledge of under hood and cab maintenance. (1745.S.2)

Hood and Cab Maintenance Objectives

Students will:
1745.2.1 Inspect instruments and controls
1745.2.2 Inspect safety equipment
1745.2.3 Inspect hardware
1745.2.4 Inspect heating and AC system

Standard 3: Demonstrate knowledge of electrical/electronic systems. (1745.S.3)

Electrical/Electronic Systems Objectives

Students will:
1745.3.1 Inspect battery and starting system
1745.3.2 Inspect charging system
1745.3.3 Inspect lighting system

Standard 4: Demonstrate knowledge of frame and chassis maintenance. (1745.S.4)

Frame and Chassis Maintenance Objectives

Students will:
1745.4.1 Inspect air brake system
1745.4.2 Inspect drive train
1745.4.3 Inspect steering and suspension system
1745.4.4 Inspect tires and wheels
1745.4.5 Inspect frame and 5^{th} wheel

Diesel Support Systems WVEIS Code 1747

This course will introduce students to the fundamentals of support systems used in diesel equipment technology.

Standard 1: Demonstrate knowledge of lubrication and cooling systems. (1747.S.1)

Lubrication and Cooling Systems Objectives

Students will:

1747.1.1 Match terms associated with the cooling system with the correct definitions.
1747.1.2 Identify two functions of the cooling system and the effects of an engine running too hot or too cold.
1747.1.3 Identify the parts in an air cooling system.
1747.1.4 Identify types of radiators and functions of the radiator cap.
1747.1.5 Identify three types of fans used in cooling systems and types of gauges.
1747.1.6 Identify purpose for using coolant filter or conditioner in a cooling system.
1747.1.7 Select function of the thermostat.
1747.1.8 Identify the primary parts of a water pump and fan.
1747.1.9 Match terms associated with the lubrication system with the correct definitions.
1747.1.10 Identify types of lubrication systems and their components.
1747.1.11 Identify two types of oil filters and sources of oil contamination.
1747.1.12 Identify types of oil pumps.
1747.1.13 Identify purposes of lubricating valves.
1747.1.14 Distinguish between internally and externally mounted oil coolers.

Standard 2: Demonstrate knowledge of air intake and exhaust systems. (1747.S.2)

Air Intake and Exhaust Systems Objectives

Students will:

1747.2.1 Match terms and definitions of an air intake and exhaust system and name the parts of each system.
1747.2.2 Match types of air cleaners with their processes.
1747.2.3 Identify methods of scavenging the cylinders on a two-stroke cycle engine.
1747.2.4 Identify advantages of a turbo charged engine.
1747.2.5 Test an engine for air flow restriction.
1747.2.6 Inspect a turbo charger for satisfactory operation.

Standard 3: Demonstrate knowledge of starting and charging systems. (1747.S.3)

Starting and Charging Systems Objectives

Students will:

1747.3.1 Match terms and definitions of a starting system and identify major types of systems.
1747.3.2 Name components of an electric starting system.
1747.3.3 List low temperature starting aids.
1747.3.4 Match terms associated with charging system and name it's components.
1747.3.5 Test output of alternators on and off of vehicle.

Standard 4: Demonstrate knowledge of engine retarders. (1747.S.4)

Engine Retarders Objectives

Students will:
1747.4.1 Match terms related to engine brakes and retarders with the correct definitions.
1747.4.2 Identify advantages of the Jacobs engine brake.

Standard 5: Demonstrate knowledge of fuel system components. (1747.S.5)

Fuel System Objectives

Students will:
1747.5.1 Match terms related to fuel injection systems with their correct definitions.
1747.5.2 Identify types and major functions of fuel injection systems.
1747.5.3 Match terms and definitions related to fuel system components and the parts of a fuel system with their functions.
1747.5.4 Identify fuel tank maintenance problems.
1747.5.5 Match types of fuel lines with their purposes.
1747.5.6 Identify the purpose of a fuel transfer pump.
1747.5.7 Identify types and characteristics of fuel filters and separators used for a fuel filtration system.

Standard 6: Demonstrate knowledge of governor. (1747.S.6)

Governor Objectives

Students will:
1747.6.1 Match terms related to governors with their correct definitions and the purposes of a governor.
1747.6.2 Identify basic types of governors using flyweights.

Diesel Truck Chassis Concepts — WVEIS Code 1749

This course will introduce students to the fundamentals of heavy truck chassis used in diesel equipment technology.

Standard 1: Demonstrate knowledge of transmissions, clutches and drive lines. (1749.S.1)

Transmissions, Clutches and Drive Lines Objectives

Students will:

1749.1.1 Remove and replace automatic and manual transmissions.
1749.1.2 Remove and replace single-plate and two-plate clutch (transmission removed).
1749.1.3 Replace flywheel drive lugs for two-plate clutch.
1749.1.4 Align engine flywheel housing.
1749.1.5 Inspect pressure plate for reuse, remove and replace clutch release bearing and replace pilot bearing.
1749.1.6 Rebuild 4 or 5 speed manual transmission for medium-duty truck.
1749.1.7 Remove and replace transmission for air shift mechanisms and rebuild air shift mechanism.
1749.1.8 Overhaul twin counter shaft and three counter shaft transmissions.
1749.1.9 Replace transmission input shaft separate from transmission overhaul.
1749.1.10 Replace speedometer drive gear separate from transmission overhaul.
1749.1.11 Remove and replace shift lever housing from transmission separate from transmission overhaul.
1749.1.12 Rebuild shift lever housing.
1749.1.13 Remove and reinstall driveline.
1749.1.14 Set and replace universal joints.
1749.1.15 Remove and replace yoke (driveline removed).
1749.1.16 Remove and replace driveline center bearings.
1749.1.17 Remove, rebuild and replace rear differential carrier assembly in tandem.
1749.1.18 Remove, rebuild and reinstall front differential carrier assembly in tandem.
1749.1.19 Remove, rebuild and reinstall interaxle differential.
1749.1.20 Replace pinion seal separate from carrier overhaul.
1749.1.21 Remove and reinstall two-speed shift unit.

Standard 2: Demonstrate knowledge of steering, suspensions, tires/wheels. (1749.S.2)

Steering, Suspensions, Tires/Wheels Objectives

Students will:

1749.2.1 Lubricate steering and suspension components.
1749.2.2 Check and correct power steering belt tension and correct power steering fluid level.
1749.2.3 Replace tie rod ends.
1749.2.4 Replace center link and idler cam.
1749.2.5 Diagnose steering and suspension problems.
1749.2.6 Set toe-in to manufacturer specifications.
1749.2.7 Remove and replace king pin and bushings.
1749.2.8 Service wheel bearings and seals.
1749.2.9 Repair or rebuild spring assembly and shackles, hangers, and pads.
1749.2.10 Remove and replace torque arm bushing.
1749.2.11 Inspect tires, identify tire, rim, type, and size and match new tire for replacement.
1749.2.12 Recognize causes and remedies of abnormal tire wear.

1749.2.13 Inspect and replace wheel assembly, measure run out, out of roundness, and inspect for flaws.
1749.2.14 Diagnose tire and wheel malfunction.

Standard 3: Demonstrate knowledge of the air brake system. (1749.S.3)

Air Brake Systems Objectives

Students will:
1749.3.1 Inspect brake lines for condition and leaks.
1749.3.2 Service drums, calipers, and rotors.
1749.3.3 Test and diagnose air brake system.
1749.3.4 Remove and replace various air system components.
1749.3.5 Service air brake system plumbing.
1749.3.6 Remove and replace service brake chamber diaphragm.
1749.3.7 Adjust brakes.
1749.3.8 Remove and replace brake shoes.
1749.3.9 Remove and replace spring brake chambers.
1749.3.10 Remove, replace, and adjust air governor.
1749.3.11 Repair, replace, or adjust air pressure relief valve.
1749.3.12 Rebuild air compressors and governors.

Fundamentals of Diesel Equipment Technology WVEIS Code 1751

This course will introduce students to the fundamentals of diesel equipment technology. Students will become familiar with the proper use of hand and power tools, precision measurement, and basic oxyacetylene welding and electric welding; identify, tear down, clean, inspect and rebuild various components of an engine.

Standard 1: Identify, explore, and evaluate career opportunities related to diesel equipment technology. (1751.S.1)

Diesel Equipment Technology Objectives

Students will:

1751.1.1 Describe a variety of careers related to diesel equipment technology, and the training necessary to be successful in those careers.
1751.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of diesel equipment technology.
1751.1.3 Identify sources of information about careers in diesel equipment technology.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to diesel equipment technology. (1751.S.2)

Basic Safety Rules and Equipment Objectives

Students will:

1751.2.1 Recognize and follow general safety guidelines, including the selection and use of protective equipment and fire extinguishers.
1751.2.2 Describe safety precautions necessary when using hazardous materials.
1751.2.3 Describe the precautions to be taken when welding in confined areas.

Standard 3: Identify basic hand tools used in diesel equipment technology and perform various operations. (1751.S.3)

Basic Hand Tools Objectives

Students will:

1751.3.1 Choose the proper hand tools for given applications and describe the proper care and maintenance of each.
1751.3.2 Demonstrate adjustments necessary with each tool.
1751.3.3 Drill holes with a drill press.
1751.3.4 Read micrometer and venire micrometer settings.
1751.3.5 Select tools used to restore external and internal threads.

Standard 4: Demonstrate knowledge of fasteners. (1751.S.4)

Fasteners Objective

Students will:

1751.4.1 Identify typical fasteners, including washers, devices for locking nuts or bolts, and common types of snap rings and use them in given applications.

Standard 5: Demonstrate knowledge of basic diesel test equipment. (1751.S.5)

Basic Diesel Test Equipment Objective

Students will:
1751.5.1 Identify and use various types of test equipment and service tools.

Standard 6: Demonstrate knowledge of the principles of two and four stroke cycle engine operation. (1751.S.6)

Cycle Engine Operation Objectives

Students will:
1751.6.1 Review the operation of a two stroke and four stroke engine.
1751.6.2 Identify basic parts of a diesel engine.

Standard 7: Demonstrate knowledge of diesel fuel, engine lubricating oils, and coolants. (1751.S.7)

Diesel Fuel, Engine Lubricating Oils, and Coolants Objectives

Students will:
1751.7.1 Define terms and grades associated with diesel fuels, lubricants and coolants meeting ASTM standards.
1751.7.2 List four functions of engine oil and engine oil additives.
1751.7.3 Identify oil contaminants.
1751.7.4 Identify types of cooling systems used on modern engines.
1751.7.5 Explain the function of the parts of a liquid cooling system.
1751.7.6 Identify requirements of a good antifreeze.

Basic Electronics WVEIS Code 1761

This course will introduce students to the analysis of basic AC and DC circuits, electronic devices, and basic electronic circuits.

Standard 1: Analyze basic DC and AC circuits. (1761.S.1)

DC and AC Circuits Objectives

Students will:
1761.1.1 Explain the purpose of resistors and resistive circuits.
1761.1.2 Solve electronic problems using Ohm's Law and power formulas.
1761.1.3 Construct and analyze series, parallel, and combination resistive circuits.
1761.1.4 Demonstrate knowledge of voltage and current dividers.
1761.1.5 Demonstrate AC and DC test equipment usage.
1761.1.6 Utilize Kirchoff's Laws to solve multi-source circuits.
1761.1.7 Demonstrate knowledge of network theorems.
1761.1.8 Demonstrate knowledge of magnetism, magnetic units, and electro-magnetic induction.
1761.1.9 Construct and analyze AC and DC circuits.
1761.1.10 Solve for inductance and inductive reactance.
1761.1.11 Solve for capacitance and capacitive reactance.
1761.1.12 Construct timing circuits and solve for time constants.
1761.1.13 Solve for resonance and resonant circuit parameters.
1761.1.14 Construct various filter circuits.

Standard 2: Identify and use electronic devices. (1761.S.2)

Electronic Devices Objectives

Students will:
1761.2.1 Describe semiconductor materials.
1761.2.2 Explain the PN junction.
1761.2.3 Explain semiconductor diode construction and operation.
1761.2.4 Describe PNP and NPN transistor operation.
1761.2.5 Explain Field-Effect Transistor (FET) operation.
1761.2.6 Use thyristors for voltage control devices.
1761.2.7 Cross-reference semiconductor type numbers and case styles.
1761.2.8 Use special purpose diodes and analyze their operation.
1761.2.9 Explain visual character displays.
1761.2.10 Demonstrate testing of diodes, transistors, and thyristors.

Standard 3: Construct electronic circuits. (1761.S.3)

Electronic Circuits Objectives

Students will:
1761.3.1 Illustrate analog and digital signals.
1761.3.2 Calculate amplifier gains.
1761.3.3 List and explain characteristics of amplifier circuits.
1761.3.4 Construct amplifiers and observe their outputs.
1761.3.5 Construct oscillators and observe their outputs.
1761.3.6 Construct multivibrators and observe their outputs.
1761.3.7 Explain modulation of amplitude, frequency, and pulse-code.

1761.3.8 Construct diode and I.C. rectifiers and compare them to I.C. rectifiers.
1761.3.9 Troubleshoot power supplies.
1761.3.10 Describe circuit configuration for various amplifier systems.
1761.3.11 Explain class A, B and C operation of amplifier.
1761.3.12 Give analysis of the Common-Emitter (CE) amplifier configuration.
1761.3.13 Explain types of output distortion.
1761.3.14 Troubleshoot amplifier circuit inputs and outputs.
1761.3.15 Analyze inputs and outputs of OP-Amps.

Standard 4: Apply digital fundamentals to electronic circuits. (1761.S.4)

Electronic Circuits Objectives

Students will:
1761.4.1 Demonstrate knowledge of binary numbers and arithmetic.
1761.4.2 Demonstrate knowledge of octal numbers and arithmetic.
1761.4.3 Convert between numbering systems.
1761.4.4 Interpret logic diagrams.
1761.4.5 Draw symbols for basic logic gates.
1761.4.6 Construct basic logic gates from discrete components and I.C's and monitor their outputs.
1761.4.7 Construct and analyze basic logic circuits.

Fundamentals of Electricity — WVEIS Code 1763

This course will introduce students to the fundamental skills related to electricity. Students will become familiar with the use of meters and other equipment used in the field of electricity, and learn how to construct a variety of circuits.

Standard 1: Identify, explore/evaluate career opportunities related to electricity. (1763.S.1)

Electricity Objectives

Students will:

1763.1.1 Describe a variety of careers related to electricity, and the training necessary to be successful in those careers.
1763.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of electricity.
1763.1.3 Identify sources of information about careers in electricity.

Standard 2: Demonstrate knowledge of electrical safety. (1763.S.2)

Electrical Safety Objectives

Students will:

1763.2.1 Describe the effect of current on the human body.
1763.2.2 List general safety precautions when working with electricity.
1763.2.3 Identify various types of safety devices used with electricity.
1763.2.4 Describe typical electrical shock hazards in industry, and explain what to do for victims of electrical shock.
1763.2.5 List and describe the safe use of basic hand and power tools used in the field of electricity.

Standard 3: Interpret blueprints, schematics and technical orders. (1763.S.3)

Blueprints, Schematics and Technical Orders Objectives

Students will:

1763.3.1 Demonstrate knowledge of blueprint reading.
1763.3.2 Demonstrate knowledge of schematic reading.
1763.3.3 Explain the reasons for building plans and specifications.

Standard 4: Apply electrical math concepts. (1763.S.4)

Electrical Math Concepts Objectives

Students will:

1763.4.1 Demonstrate knowledge of Ohm's law and power formulas.
1763.4.2 Calculate branch circuit loads.

Standard 5: Demonstrate the proper use and care of electrical meters. (1763.S.5)

Electrical Meters Objective

Students will:

1763.5.1 Demonstrate the use and care of an ammeter, ohmmeter, and voltmeter.

Standard 6: Construct and analyze basic circuits.

Basic Circuits Objectives

Students will:

1763.6.1 Describe the electrical classification of conductors, insulators, and semi-conductors.
1763.6.2 Describe electrical current and differentiate between the different kinds of current.
1763.6.3 Define voltage, current, resistance, and power.
1763.6.4 List, and schematically represent the components that make up a basic electrical circuit.
1763.6.5 Connect dry cells into various series and parallel arrangements and measure and record voltage readings across each battery configuration.
1763.6.6 Conduct experiments that demonstrate the production of an electromotive force, obtaining voltage readings from experiments.
1763.6.7 Construct, solve and troubleshoot series, parallel and complex circuits.

Standard 7: Demonstrate proper techniques in making connections/wire splices. (1763.S.7)

Connections/Wire Splices Objectives

Students will:

1763.7.1 Properly remove insulation and make tap, pigtail and western union splices.
1763.7.2 Apply solderless terminals, wire nuts, and insulating tape to the ends of various sized wires.

Standard 8: Perform basic soldering techniques.

Basic Soldering Objectives

Students will:

1763.8.1 Demonstrate proper use and care for soldering tools and equipment.
1763.8.2 Demonstrate correct stripping, tinning, and soldering procedures.
1763.8.3 Identify characteristics of a good solder connection.

Industrial and Commercial Wiring — WVEIS Code 1765

This course will introduce students to the special installation and characteristics of industrial and commercial wiring according to the National Electrical Code.

Standard 1: Install conduit and raceways. (1765.S.1)

Conduit and Raceways Objectives

Students will:
1765.1.1 List various types of conduit and their uses.
1765.1.2 List NEC code requirements for installation and construction of various conduit and raceway systems.

Standard 2: Maintain lighting and receptacle outlets. (1765.S.2)

Lighting and Receptacle Outlets Objectives

Students will:
1765.2.1 Explain and install emergency lighting systems.
1765.2.2 Diagnose and repair various lighting, receptacle and outlet problems.

Standard 3: Demonstrate knowledge of industrial grounding methods. (1765.S.3)

Industrial Grounding Method Objective

Students will:
1765.3.1 Explain grounding of single-phase and three-phase systems.

Standard 4: Demonstrate knowledge and skills associated with transformers. (1765.S.4)

Transformers Objectives

Students will:
1765.4.1 List safety procedures used when working with transformers.
1765.4.2 Describe construction and operating characteristics of transformers.
1765.4.3 Illustrate various types of transformer connections and discuss the results of these connections.
1765.4.4 Connect dual-voltage transformers for high and low voltage operation.

National Electrical Code WVEIS Code 1767

This course will introduce students to the National Electrical Code, and prepare them for the state license testing.

Standard 1: Demonstrate skills in the use of the National Electrical Code (NEC) Handbook. (1767.S.1)

National Electrical Code (NEC) Handbook Objectives

Students will:

1767.1.1 Explain history and purpose of the CODE (Article 90).
1767.1.2 Explain chapter layout of the NEC handbook.
1767.1.3 List installations that the NEC covers and those not covered.
1767.1.4 List sequence of organizational components of the NEC.
1767.1.5 List steps for finding information in the NEC handbook.
1767.1.6 Demonstrate knowledge of how to read and understand the NEC.
1767.1.7 Explain and interpret tables from the NEC handbook.

Standard 2: Apply calculations to assure that NEC standards are met. (1767.S.2)

NEC Standards Objectives

Students will:

1767.2.1 Calculate conductor size and ampacity, overcurrent protection, grounding, bonding, and grounded conductor size.
1767.2.2 Calculate service entrance for single-family and multi-family dwelling units.
1767.2.3 Calculate service entrance for a commercial building.
1767.2.4 Calculate conduit and box conductor fill.

Residential Wiring WVEIS Code 1769

This course will introduce students to basic circuits, devices, and wiring techniques used in residential dwellings.

Standard 1: Interpret wiring data. (1769.S.1)

Wiring Data Objectives

Students will:
1769.1.1 Draw an electrical layout of a floor plan to meet minimum NEC specifications.
1769.1.2 Draw a cable layout of floor plan.

Standard 2: Install service entrance equipment and material. (1769.S.2)

Equipment and Material Objectives

Students will:
1769.2.1 List components of and calculate minimum size of service entrance needed.
1769.2.2 Indicate clearances for service drop per NEC regulations.
1769.2.3 Describe installations of underground (lateral) service entrance.

Standard 3: Install lighting and receptacle outlets. (1769.S.3)

Lighting and Receptacle Outlets Objectives

Students will:
1769.3.1 Replace existing fixtures, switches, and receptacles.
1769.3.2 Install and troubleshoot single-pole, three-way, and four-way switching circuits.
1769.3.3 Install split-wired receptacle circuits.

Standard 4: Install protective devices. (1769.S.4)

Protective Devices Objectives

Students will:
1769.4.1 Explain differences between overload, overcurrent, and short circuit.
1769.4.2 Install ground fault circuit breakers and GFCI receptacle outlets.
1769.4.3 Describe the operations of fuses and circuit breakers.

Standard 5: Install appliances and special circuits. (1769.S.5)

Appliances and Special Circuits Objectives

Students will:
1769.5.1 Discuss NEC requirements for appliances and special circuits.
1769.5.2 Install baseboard and wall mounted heating units, with controls.
1769.5.3 Install various fans.
1769.5.4 Install and troubleshoot water heating units.

Standard 6: Install low-voltage systems. (1769.S.6)

Low-Voltage Systems Objectives

Students will:

1769.6.1 Install and troubleshoot door bell and chime systems.
1769.6.2 Install low-voltage thermostats for heat control.
1769.6.3 Install and/or explain low-voltage landscape lighting systems.

Rotating Devices and Control Circuitry WVEIS Code 1771

This course will introduce students to basic control circuits, pilot devices, motor controls, relays, motor braking circuits, alternators and generators and how to troubleshoot AC and DC motors.

Standard 1: Demonstrate safe work habits. (1771.S.1)

Safe Work Habits Objectives

Students will:
1771.1.1 List and explain personal and electrical safety rules applicable to rotating equipment.
1771.1.2 List and explain hand and tool safety rules applicable to rotating equipment.

Standard 2: Interpret blueprints, schematics, and block diagrams for control circuitry. (1771.S.2)

Control Circuitry Objectives

Students will:
1771.2.1 Draw a block diagram of a motor control system.
1771.2.2 Demonstrate knowledge of elementary wiring diagrams and ladder logic.
1771.2.3 Install motor control centers and systems, using wiring diagrams.
1771.2.4 List and identify motor and motor control symbols.

Standard 3: Demonstrate knowledge and skills applicable to pilot devices. (1771.S.3)

Pilot Devices Objectives

Students will:
1771.3.1 Explain purpose and uses of pilot devices.
1771.3.2 Explain and list various types of electronic and mechanical sensors and pilot devices.
1771.3.3 Explain counter circuits.
1771.3.4 Install and troubleshoot various pilot devices and their circuits.

Standard 4: Demonstrate knowledge and skills related to motor controls. (1771.S.4)

Motor Controls Objectives

Students will:
1771.4.1 Explain the difference between manual and automatic circuits.
1771.4.2 List the equipment and parts needed for automatic circuits.
1771.4.3 Identify basic motor control circuits.
1771.4.4 Connect basic AC and DC circuits for automatic and manual control.
1771.4.5 Explain and demonstrate basic troubleshooting of control circuits.
1771.4.6 Install jogging and plugging circuits.
1771.4.7 Install reversing circuits.
1771.4.8 Demonstrate the use of a phase rotation meter.

Standard 5: Apply knowledge and skills to relays. (1771.S.5)

Relays Objectives

Students will:
1771.5.1 Describe and explain relays and relay circuits.

1771.5.2 Identify and install overload relays in control circuits.
1771.5.3 Identify and install potential-type relays in control circuits.
1771.5.4 Explain the difference between relay and magnetic starters.
1771.5.5 Explain troubleshooting techniques of relay and magnetic starters.
1771.5.6 Check various relays for faults or defects.
1771.5.7 Explain, check, and adjust various types of time delay relays.

Standard 6: Differentiate between the different types of motor braking circuits. (1771.S.6)

Motor Braking Circuits Objectives

Students will:
1771.6.1 Explain the various types of braking circuits for AC and DC motors.
1771.6.2 Describe dynamic braking circuits for AC and DC motors.

Standard 7: Troubleshoot AC and DC motors. (1771.S.7)

AC and DC Motors Objectives

Students will:
1771.7.1 Describe the various types of single-phase and three-phase AC motors and DC motors.
1771.7.2 Install, check, and troubleshoot various types of single-phase and three-phase motors in a circuit.
1771.7.3 Install, check, and troubleshoot various types of DC motors in a circuit.

Standard 8: Demonstrate knowledge and skills related to alternators and generators. (1771.S.8)

Alternators and Generators Objectives

Students will:
1771.8.1 List the major parts of an alternator and a generator and explain the function of each part.
1771.8.2 List and describe the different types of alternators and generators.
1771.8.3 Check alternators and generators for faults and defects.

Special Applications In Electronics WVEIS Code 1773

This is a special course for more advanced students to introduce them to the basic theory and operation of programmable logic controllers, fiber optics, and lasers.

Standard 1: Demonstrate a working knowledge of programmable logic controllers (P.L.C.'s). (1773.S.1)

Programmable Logic Controllers Objectives

Students will:
1773.1.1 Define terms associated with PLC's.
1773.1.2 Illustrate special symbols associated with PLC's.
1773.1.3 Demonstrate programming basics.
1773.1.4 Program relay, timer, counter and sequencer instructions.
1773.1.5 Edit a program.
1773.1.6 Utilize the EEPROM memory module.

Standard 2: Demonstrate a working knowledge of fiber optics. (1773.S.2)

Fiber Optics Objectives

Students will:
1773.2.1 Define terms and special schematic symbols associated with fiber optics.
1773.2.2 Construct fiber optic circuitry.
1773.2.3 Use test equipment to analyze inputs and outputs of fiber optic circuits.
1773.2.4 Splice fibers and apply fiber optic connectors.

Standard 3: Demonstrate a working knowledge of lasers. (1773.S.3)

Lasers Objectives

Students will:
1773.3.1 Demonstrate safe work habits with lasers.
1773.3.2 Define terms and special schematic symbols associated with laser equipment and laser circuitry.
1773.3.3 Demonstrate knowledge of laser and light physics.
1773.3.4 Troubleshoot laser power supplies.
1773.3.5 Construct laser circuits.
1773.3.6 Perform laser experiments.
1773.3.7 Analyze findings from tests and measurements taken on laser circuits.
1773.3.8 Troubleshoot laser circuitry.

Analog Circuits — WVEIS Code 1781

This course will introduce students to the skills and technology involved in analog circuits and their use in the modern electronics field.

Standard 1: Construct basic analog circuits and use a variety of test equipment to analyze and troubleshoot them. (1781.S.1)

Analog Circuits Objectives

Students will:

1781.1.1 Describe the chemical bonding in semiconductor devices.
1781.1.2 Graphically illustrate characteristic curves for diodes and transistors used in analog circuitry.
1781.1.3 Match light characteristics and properties for various opto-electronic devices.
1781.1.4 Utilize solid state testing equipment to determine the usability of diodes and transistors.
1781.1.5 Use oscilloscopes to determine the proper operation and gain of various amplifiers.
1781.1.6 Interpret parts manuals for ordering components.
1781.1.7 Write reports on troubleshooting methods, providing steps taken to locate and replace faulty components and sub-systems.

Standard 2: Construct amplifier circuits and predict results. (1781.S.2)

Amplifier Objectives

Students will:

1781.2.1 Experiment with amplifier biasing methods used to obtain different classes of operations.
1781.2.2 Experiment with various coupling methods between stages of amplification.
1781.2.3 Determine gains of different types of amplifier circuits.

Standard 3: Troubleshoot systems and sub-systems to locate and correct faults. (1781.S.3)

Systems and Sub-systems Objectives

Students will:

1781.3.1 Define an electronic sub-system, an electronic system, and electronic input, process, and output.
1781.3.2 Apply critical thinking skills to sub-system level troubleshooting of electronic systems.
1781.3.3 Illustrate a block diagram of an electronic system.
1781.3.4 Use sub-system input and output measurement data to determine if a system has a fault.
1781.3.5 Write technical reports on the findings of sub-system measurements and evaluation.

Basic AC Circuits — WVEIS Code 1783

This course will introduce students to the skills and technology involved in AC circuits and their use in the modern electronics field.

Standard 1: Evaluate components used with alternating current. (1783.S.1)

Alternating Current Objectives

Students will:

1783.1.1 Define capacitance, explain the purpose for capacitors in electronic circuits, and how a capacitor stores electrical energy.
1783.1.2 Explain the construction of a capacitor and how the value and voltage ratings relate to size and types.
1783.1.3 Measure the charge and discharge time of various capacitors.
1783.1.4 Define inductance and describe the application of inductive components to electronics.
1783.1.5 Use an L-C analyzer to check the value and condition of various capacitors and inductors.
1783.1.6 Draw the schematic symbols for capacitors, inductors, and transformers.
1783.1.7 Describe basic operation of a transformer.

Standard 2: Utilize basic test equipment to evaluate circuits. (1783.S.2)

Evaluate Circuits Objectives

Students will:

1783.2.1 Use an oscilloscope to observe function generator outputs.
1783.2.2 Measure peak to peak voltages with an oscilloscope.
1783.2.3 Use a meter to measure voltage and current.
1783.2.4 Use a frequency counter to measure frequency.
1783.2.5 Convert voltages between peak to peak and R.M.S. valves.

Standard 3: Evaluate magnetic and electromagnetic properties. (1783.S.3)

Magnetic and Electromagnetic Objectives

Students will:

1783.3.1 Identify, select, handle, and properly store magnetic devices and ferromagnetic materials.
1783.3.2 Construct a simple relay and use it as a control device in a basic electrical circuit.
1783.3.3 Analyze transformer voltage readings for loaded and unloaded conditions.
1783.3.4 Solve mathematical problems related to the use of transformers and transformer turns ratios.
1783.3.5 Perform graphing and graphical analysis of various measured data.

Standard 4: Construct AC circuits and use a variety of test equipment to analyze them. (1783.S.4)

AC Circuits Objectives

Students will:

1783.4.1 Use logarithmic, exponential, and trigonometric functions related to AC circuit analysis.
1783.4.2 Use a magnet to identify various ferrous and non-ferrous materials.
1783.4.3 Identify, select, handle, and properly store magnetic devices and ferromagnetic materials.
1783.4.4 Use oscilloscopes, frequency counters, DMM's and function generators to observe and record voltage, phase, and frequency data for a variety of LR, RC, and RLC circuits.
1783.4.5 Use an L-C analyzer to check the value and condition of various capacitors and inductors.

1783.4.6 Test and determine usability of transformers, inductors, capacitors, and resistors (both fixed value and variable).
1783.4.7 Test and determine usability of relays, solenoids, and other magnetic devices.
1783.4.8 Use computer software to analyze AC circuits.

Basic Solid State Devices and Circuits WVEIS Code 1785

This course will introduce students to the skills and technology involved in basic solid state devices and circuits and their use in the modern electronics field.

Standard 1: Demonstrate a fundamental knowledge and practical understanding of analog devices and basic circuits. (1785.S.1)

Analog Devices and Basic Circuits Objectives

Students will:
1785.1.1 Identify different types of diodes and transistors.
1785.1.2 Use diodes to construct half-wave, full-wave, and bridge rectifier circuits.
1785.1.3 Identify anodes and cathodes of diodes and LEDs.
1785.1.4 Identify basic anodes and cathodes of transistors (PNP and NVN).
1785.1.5 Construct and analyze basic transistor amplifiers (CB, CC, and CE).
1785.1.6 Analyze the output waveforms of various filtered and non-filtered power supplies.
1785.1.7 Select, and properly handle, diodes and transistors for various applications in circuits.
1785.1.8 Use cross-reference guides to determine appropriate substitutes for solid-state components.
1785.1.9 Use test instruments to check the static condition of various solid-state components/devices.
1785.1.10 Use an oscilloscope to observe the operation of an amplifier.
1785.1.11 Use proper troubleshooting procedures to find faults in amplifiers.

Standard 2: Demonstrate a fundamental knowledge and practical understanding of digital devices and basic circuits. (1785.S.2)

Digital Devices and Basic Circuits Objectives

Students will:
1785.2.1 Analyze basic logic gates operation with truth table.
1785.2.2 Identify basic logic gates schematic symbols.
1785.2.3 Use logic probe to observe logic gate operation.
1785.2.4 Use oscilloscope to observe logic gate operation.
1785.2.5 Identify pin locations on various I.C. packages.

DC Circuits and Electron Physics — WVEIS Code 1787

This course will introduce students to the skills and technology in DC circuits and electron physics.

Standard 1: Describe electron physics as it relates to voltage, current and resistance. (1787.S.1)

Electron Physics Objectives

Students will:
1787.1.1 Demonstrate the law of electrical/electrostatic charges (Coulombs Law)
1787.1.2 State the law of magnetism.
1787.1.3 Use a magnet to identify various ferrous and non-ferrous materials.

Standard 2: Analyze D.C. circuits mathematically. (1787.S.2)

D.C. Circuits Objectives

Students will:
1787.2.1 Use calculators to solve algebraic equations for series, parallel, and complex DC circuits.
1787.2.2 Interpret and convert units of measurement for DC circuits.
1787.2.3 Perform calculations for meter and circuit loading effect.
1787.2.4 Use Ohm's Law to analyze circuits.
1787.2.5 Use Kirchoff's Law, Therening's Law, and Norton's Law to analyze circuits.

Standard 3: Demonstrate knowledge of basic safety rules and equipment as it relates to electronics technology. (1787.S.3)

Safety Rules and Equipment Objectives

Students will:
1787.3.1 Follow all safety precautions when working with electricity.
1787.3.2 Explain and demonstrate the proper use and care of tools, machines, and equipment in the
1787.3.3 electronics laboratory.
1787.3.4 Identify, demonstrate proper use and care of, all basic personal safety devices and
1787.3.5 equipment.

Standard 4: Construct DC circuits and analyze them by making various static and dynamic measurements. (1787.S.4)

DC Circuits Objectives

Students will:
1787.4.1 Identify, select, and properly handle resistors, fuses and other protective devices, control
1787.4.2 devices, and EMF producing devices.
1787.4.3 Lay out electronic components with which to construct circuits and sub-systems.
1787.4.4 Use an EMF, conductors, various control devices, protective devices, and various types of loads to construct, observe, and record results of basic electrical circuits.
1787.4.5 Construct and analyze voltage and current divider networks.
1787.4.6 Locate and replace faulty components in series, parallel, and complex DC circuits.
1787.4.7 Locate and repair continuity problems in DC circuits.
1787.4.8 Use an ammeter to measure the current flowing in opened and closed circuits.

1787.4.9 Use power supplies and VOM's/ DMM's to obtain active DC circuit measurements.
1787.4.10 Use an oscilloscope to analyze DC circuitry.
1787.4.11 Use computer software to analyze DC circuits.

Digital Circuits WVEIS Code 1789

This course will introduce students to the skills and technology involved in digital circuits and their
use in the modern electronics field.

Standard 1: Perform math skills related to digital circuitry. (1789.S.1)

Digital Circuitry Objectives

Students will:
1789.1.1 Apply boolean algebra to solve logic functions.
1789.1.2 Perform binary, octal, decimal, and hexadecimal conversions and calculations.
1789.1.3 Use Kavanaugh maps to simplify logic functions.

Standard 2: Analyze digital circuits mathematically and theoretically. (1789.S.2)

Analyze Digital Circuits Objectives

Students will:
1789.2.1 Operate a transistor as a digital switch.
1789.2.2 Construct and analyze the basic logic gates.
1789.2.3 Assemble and analyze adder circuits.
1789.2.4 Assemble converter circuits and use a seven-segment display to observe their output and operation.
1789.2.5 Construct and analyze combinational logic circuits.
1789.2.6 Explore the digital applications of various families of integrated circuits (TTL, CMOS, etc.).
1789.2.7 Convert AND/OR logic circuits to NAND/NOR logic circuits.

Standard 3: Construct digital circuits and use test equipment to analyze and troubleshoot them. (1789.S.3)

Construct Digital Circuits Objectives

Students will:
1789.3.1 Use logic probes and pulsers to observe the behavior of various digital devices.
1789.3.2 Use oscilloscopes to analyze output waveforms of timing circuits.
1789.3.3 Locate and correct faults in basic logic circuits.

Electronics Specializations WVEIS Code 1791

This course will introduce students to the skills and technology involved in the various specializations in the modern electronics field.

Standard 1: Troubleshoot AC and DC circuits. (1791.S.1)

AC and DC Circuits Objectives

Students will:

1791.1.1 Solve simultaneous linear equations for circuit analysis.
1791.1.2 Apply network analysis to solve for unknown variables in DC circuits with multiple voltage sources.
1791.1.3 Perform calculations for internal resistance of voltage sources and maximum power transfer.
1791.1.4 Construct and analyze analog meter circuitry.
1791.1.5 Interpret and determine accuracy of measurements in DC circuits.
1791.1.6 Construct and obtain resistance, voltage, and current readings in passive and active parallel DC circuits.
1791.1.7 Construct and obtain resistance, voltage, and current readings in passive and active complex DC circuits
1791.1.8 Construct and analyze DC circuits that contain multiple voltage sources.
1791.1.9 Construct and obtain resistance, voltage, and current readings in passive and active series DC circuits.
1791.1.10 Solve for unknown values resulting from the use of inductors and capacitors in circuits.
1791.1.11 Restore faulty AC circuits to proper operating conditions.

Standard 2: Troubleshoot active devices and analog circuits. (1791.S.2)

Active Devices and Analog Circuits Objectives

Students will:

1791.2.1 Construct single stage amplifier circuits (common base, common collector, and common emitter).
1791.2.2 Analyze both static and dynamic operating characteristics of various single stage amplifiers.
1791.2.3 Construct and analyze multistage discrete component power amplifiers.
1791.2.4 Explain the applications for field effect transistors and test for usability.
1791.2.5 Identify and test thyristor devices.
1791.2.6 Construct and analyze thyristor circuitry.
1791.2.7 Construct and perform operational tests on oscillator circuits.
1791.2.8 Interpret manuals to determine maintenance procedures.
1791.2.9 Maintain technical logs.
1791.2.10 Construct and analyze voltage and current regulator circuits.
1791.2.11 Locate and correct faults in both regulated and non-regulated power supplies.
1791.2.12 Locate and correct faults in various types of amplifier circuits and systems.

Standard 3: Troubleshoot digital and microprocessor circuits. (1791.S.3)

Digital and Microprocessor Circuits Objectives

Students will:

1791.3.1 Locate and correct faults in oscillator and timer circuits.
1791.3.2 Interpret schematics and block diagrams to determine primary circuits functions.
1791.3.3 Assemble and analyze IC RAM, ROM, and EPROM circuits.

1791.3.4 Examine the operation of microprocessor devices.
1791.3.5 Construct JFET and MOSFET circuits and perform waveform analysis of inputs and outputs.
1791.3.6 Construct and analyze operational and linear IC amplifier circuits.
1791.3.7 Differentiate between, and identify pin arrangements of, various integrated circuits such as; operational amplifiers, linear IC amps, oscillators, timers, and voltage regulators.
1791.3.8 Construct and analyze active diode circuits, to include comparators.
1791.3.9 Construct and observe outputs of counter circuits driven by timers.
1791.3.10 Construct and analyze a stable, monostable, and bistable multivibrator circuits.
1791.3.11 Assemble and analyze encoders and decoders.
1791.3.12 Locate and correct faults in multivibrator circuits.
1791.3.13 Troubleshoot and repair advanced digital circuitry.
1791.3.14 Analyze digital systems to determine faulty subsystem assemblies.
1791.3.15 Locate and repair faulty interfacing of microprocessor systems.
1791.3.16 Analyze specification/data sheets for digital components.
1791.3.17 Assemble and analyze multiplexers and demultiplers.
1791.3.18 Construct and observe the operation of shift-registers.
1791.3.19 Load and execute basic programs in microprocessors.

Standard 4: Prepare reports on status of systems and sub-system. (1791.S.4)

Systems And Sub-System Objectives

Students will:
1791.4.1 Identify a problem related to an electronic system, and form a hypothesis.
1791.4.2 State the need to research the problem, list the procedures for carrying out the research, and conduct the research in accordance with the listed procedures.
1791.4.3 Present the finding to a group of peers, stating conclusions based upon the research findings.
1791.4.4 Prepare defect, failure, and equipment evaluation reports.

Standard 5: Evaluate systems and sub-systems. (1791.S.5)

Evaluate Systems and Sub-Systems Objectives

Students will:
1791.5.1 Identify input and output waveforms of various analog and digital sub-systems and systems.
1791.5.2 Illustrate input and output signals of various electronic power supplies and analog sub-systems.
1791.5.3 Use block diagrams of different kinds of systems and networks to describe the function of each block.
1791.5.4 Define and describe systems that operate in biomedical, communications, computer, and electromechanical networks.
1791.5.5 Obtain a signal output from a function generator and display this signal on an oscilloscope.
1791.5.6 Utilize electronic test instruments to observe and record input and output data of various electronic sub-systems, then write a technical report on the findings and determine if a system has a fault.
1791.5.7 Apply critical thinking skills to sub-system level troubleshooting of electronic power supplies and analog systems.
1791.5.8 Replace faulty sub-systems and test the overall systems for proper operation.
1791.5.9 Write reports on troubleshooting methods, providing steps taken to locate and replace faulty components and sub-systems.
1791.5.10 Construct sub-system assemblies to produce various electronics systems.
1791.5.11 Lay out electronic components with which to construct circuits and sub-systems.

Fundamentals of Electricity WVEIS Code 1793

This course will introduce students to the fundamental skills related to electricity. Students will become familiar with the use of meters and other equipment used in the field of electricity, and learn how to construct a variety of circuits.

Standard 1: Identify, explore/evaluate career opportunities related to electricity. (1793.S.1)

Electricity Objectives

Students will:

1793.1.1 Describe a variety of careers related to electricity, and the training necessary to be successful in those careers.
1793.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of electricity.
1793.1.3 Identify sources of information about careers in electricity.

Standard 2: Demonstrate knowledge of electrical safety. (1793.S.2)

Electrical Safety Objectives

Students will:

1793.2.1 Describe the effect of current on the human body.
1793.2.2 List general safety precautions when working with electricity.
1793.2.3 Identify various types of safety devices used with electricity.
1793.2.4 Describe typical electrical shock hazards in industry, and explain what to do for victims of electrical shock.
1793.2.5 List and describe the safe use of basic hand and power tools used in the field of electricity.

Standard 3: Interpret blueprints, schematics and technical orders. (1793.S.3)

Blueprint Objectives

Students will:

1793.3.1 Demonstrate knowledge of blueprint reading.
1793.3.2 Demonstrate knowledge of schematic reading.
1793.3.3 Explain the reasons for building plans and specifications.

Standard 4: Apply electrical math concepts. (1793.S.4)

Electrical Math Concepts Objectives

Students will:

1793.4.1 Demonstrate knowledge of Ohm's law and power formulas.
1793.4.2 Calculate branch circuit loads.

Standard 5: Demonstrate the proper use and care of electrical meters. (1793.S.5)

Electrical Meters Objective

Students will:

1793.5.1 Demonstrate the use and care of an ammeter, ohmmeter, and voltmeter.

Standard 6: Construct and analyze basic circuits. (1793.S.6)

Basic Circuits Objectives

Students will:

1793.6.1 Describe the electrical classification of conductors, insulators, and semi-conductors.
1793.6.2 Describe electrical current and differentiate between the different kinds of current.
1793.6.3 Define voltage, current, resistance, and power.
1793.6.4 List, and schematically represent the components that make up a basic electrical circuit.
1793.6.5 Connect dry cells into various series and parallel arrangements and measure and record voltage readings across each battery configuration.
1793.6.6 Conduct experiments that demonstrate the production of an electromotive force, obtaining voltage readings from experiments.
1793.6.7 Construct, solve and troubleshoot series, parallel and complex circuits.

Standard 7: Demonstrate proper techniques in making connections/wire splices. (1793.S.7)

Connections/Wire Splices Objectives

Students will:

1793.7.1 Properly remove insulation and make tap, pigtail and western union splices.
1793.7.2 Apply solderless terminals, wire nuts, and insulating tape to the ends of various sized wires.

Standard 8: Perform basic soldering techniques. (1793.S.8)

Soldering Objectives

Students will:

1793.8.1 Demonstrate proper use and care for soldering tools and equipment.
1793.8.2 Demonstrate correct stripping, tinning, and soldering procedures.
1793.8.3 Identify characteristics of a good solder connection.

Wiring and Soldering

WVEIS Code 1795

This course will introduce students to the skills and technology involved in the wiring and soldering of modern components and circuit boards, etc.

Standard 1: Soldering techniques. (1795.S.1)

Soldering Techniques Objectives

Students will:

1795.1.1 Remove and replace components on printed circuit boards, repairing any damage to the boards.
1795.1.2 Identify and use heat sinks when soldering heat sensitive components to circuits boards.
1795.1.3 Prepare wires, terminals, components, and printed circuit boards for soldering.
1795.1.4 Solder wires and components to terminals and printed boards.
1795.1.5 Solder and desolder single sided boards, multilayered boards, and surface mounted devices.

Standard 2: Demonstrate proper procedures when handling, maintaining, and constructing printed circuit boards. (1795.S.2)

Circuit Boards Objectives

Students will:

1795.2.1 Use computer software to generate printed circuit board design.
1795.2.2 Lay out printed circuit boards for etching.
1795.2.3 Use different methods to produce printed circuit boards, including applying basic chemistry principles to produce printed circuits on copper-clad boards.
1795.2.4 Demonstrate proper safety procedures when working with P.C. boards.
1795.2.5 Use parts diagrams and schematics to properly place and solder components to printed circuit boards.
1795.2.6 Test completed circuit boards for proper circuit operation.

Basic Masonry and Landscaping — WVEIS Code 1801

This course will introduce students to basic skills in masonry and landscape maintenance; including safety, and tools, equipment and processes.

Standard 1: Demonstrate knowledge of basic masonry skills. (1801.S.1)

Basic Masonry Skills Objectives

Students will:

1801.1.1 Identify and describe common terms, tools and equipment used in the masonry field.
1801.1.2 Demonstrate proper safety skills associated with masonry work.
1801.1.3 Repair various types of masonry surfaces using proper materials; including filling expansion joints, repairing structural cracks, installing fasteners, and replacing bricks and blocks.
1801.1.4 Construct forms for masonry repair.
1801.1.5 Mix, float, edge and joint concrete and mortar.
1801.1.6 Waterproof masonry wall.

Standard 2: Demonstrate knowledge of basic landscape maintenance skills. (1801.S.2)

Landscape Maintenance Skills Objectives

Students will:

1801.2.1 Identify and describe common terms, tools, equipment, and materials associated with lands maintenance.
1801.2.2 Demonstrate proper safety skills associated with land maintenance.
1801.2.3 Demonstrate proper methods to repair and maintain lawns, including fill, grade, seed, mow, edge and trim turf.
1801.2.4 Select and apply herbicides, pesticides, and fertilizers for landscape planting.
1801.2.5 Plant trees, shrubs, and flowers, and maintain them by pruning trees and shrubs and maintaining flowerbeds.
1801.2.6 Properly use tools and materials for removal of snow and ice.
1801.2.7 Perform maintenance on landscape tools and equipment.

Basic Plumbing and Electricity — WVEIS Code 1803

This course will introduce students to basic skills in basic plumbing and electricity; including safety, and tools, equipment and processes.

Standard 1: Demonstrate knowledge of basic plumbing skills. (1803.S.1)

Basic Plumbing Skills Objectives

Students will:

1803.1.1 Identify terms, tools, materials and fixtures common to plumbing repair.
1803.1.2 Demonstrate proper safety skills associated with plumbing work.
1803.1.3 Measure, cut, join and apply fittings to galvanized, black iron, copper, and plastic pipe and tubing.
1803.1.4 Demonstrate the ability to open clogged lines, using chemicals, a plunger, and a snake or auger.
1803.1.5 Demonstrate ability to winterize water supply lines, traps and drains.

Standard 2: Demonstrate skills related to advanced plumbing repair. (1803.S.2)

Advanced Plumbing Repair Objectives

Students will:

1803.2.1 Perform tests to detect leaks on water pipes and repair leaking faucets and pipes.
1803.2.2 Clean gas furnace burner chamber and thermocouple, ventilate vapor from confined area and test for leaks.
1803.2.3 Properly maintain water heaters and furnaces, including: installation of pressure safety valve, adjustment of temperature, and lighting of pilot lights.

Standard 3: Demonstrate knowledge of basic electrical skills. (1803.S.3)

Basic Electrical Skills Objectives

Students will:

1803.3.1 Identify terms, tools, materials and fixtures common to electrical repair.
1803.3.2 Perform safety skills associated with electrical work.
1803.3.3 Replace defective electrical fixtures, such as: receptacles, switches, sockets, cords and plugs.
1803.3.4 Replace fluorescent and incandescent bulbs and fuses.
1803.3.5 Remove and replace faulty burners and oven heating elements in electric ranges.

Standard 4: Demonstrate skills related to advanced electrical maintenance. (1803.S.4)

Advanced Electrical Maintenance Objectives

Students will:

1803.4.1 Identify and explain the uses of basic electrical hardware items such as: switches, outlets, work boxes, and wiring.
1803.4.2 Test electrical circuits for power.
1803.4.3 Remove, replace, and adjust thermostats, and ballast and starters in fluorescent fixtures.

Fundamentals of Facilities Maintenance WVEIS Code 1805

This course will introduce students to the basic skills in preventive and corrective facilities maintenance. Students will become familiar with general basic tools, materials and processes necessary for facility and landscape maintenance.

Standard 1: Identify, explore, and evaluate career opportunities related to facilities maintenance. (1805.S.1)

Facilities Maintenance Objectives

Students will:

1805.1.1 Describe a variety of careers related to facilities maintenance, and the training necessary to be successful in those careers.
1805.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of facilities maintenance.
1805.1.3 Identify sources of information about careers in facilities maintenance.

Standard 2: Demonstrate knowledge of basic safety as it relates to maintaining facilities and landscapes. (1805.S.2)

Basic Safety Objectives

Students will:

1805.2.1 Recognize and follow general shop safety guidelines.
1805.2.3 Select and wear appropriate protective equipment.
1805.2.3 Demonstrate proper lifting techniques.
1805.2.4 Identify basic types of ladders and scaffolds and safely erect both using proper placement and angle.
1805.2.5 Demonstrate proper use and handling of fundamental job related chemicals, including mixing, applying, storing and disposing of chemicals.
1805.2.6 Demonstrate the proper selection and use of fire extinguishers.

Standard 3: Demonstrate knowledge of basic blueprint reading. (1805.S.3)

Basic Blueprint Reading Objectives

Students will:

1805.3.1 Interpret scale drawings.
1805.3.2 Identify and define common architectural drawings symbols.
1805.3.3 Demonstrate knowledge of specifications and codes.

Standard 4: Demonstrate the ability to read and follow technical instructions. (1805.S.4)

Read and Follow Technical Instructions Objectives

Students will:

1805.4.1 Read and complete work orders.
1805.4.2 Read and follow technical instructions in manuals, texts, specifications and codes.

Standard 5: Demonstrate knowledge of basic carpentry skills. (1805.S.5)

Basic Carpentry Skills Objectives

Students will:

1805.5.1 Review proper use of a variety of common carpentry tools and equipment to measure, cut and fasten stock.
1805.5.2 Select appropriate carpentry materials for a specific job.
1805.5.3 Perform maintenance on carpentry tools.
1805.5.4 Construct simple wall, floor and roof frames.

Standard 6: Repair or refinish a variety of facility components. (1805.S.6)

Facility Components Objectives

Students will:

1805.6.1 Repair a variety of flooring, including repairing vinyl flooring and replacing ceramic floor tile.
1805.6.2 Remove and apply new finish to a variety of surfaces using multiple methods and materials.
1805.6.3 Properly prepare a wall and hang wallpaper.
1805.6.4 Repair window glass by removing glass, measuring and cutting new glass and installing and glazing new window.
1805.6.5 Remove and replace damaged window screen.
1805.6.6 Repair stair components by removing treads and risers, cutting a new stringer, and replacing treads and risers.
1805.6.7 Repair, replace hardware, and install doors.
1805.6.8 Properly cut angles and coped joints on molding and install trim, filling nail holes.

Standard 7: Demonstrate the ability to weatherize structures. (1805.S.7)

Weatherize Structures Objectives

Students will:

1805.7.1 Caulk windows and doors.
1805.7.2 Install weather stripping.

Standard 8: Maintain gutters and down spouts. (1805.S.8)

Gutters And Down Spouts Objectives

Students will:

1805.8.1 Join, level and apply caulk to gutters and down spouts.
1805.8.2 Clean gutters and down spouts and install leaf guards.

Forestry I — WVEIS Code 1811

This area of study is designed to provide students with basic knowledge and skills in forestry and related occupations. Major instructional concepts included in this area of study are: safety principles in forestry, tree identification, forest protection, basic forest measurement and silvicultural practices.

Standard 1: Practice safety principles in forestry. (1811.S.1)

Forestry Objectives

Students will:
1811.1.1 Wear appropriate safety gear.
1811.1.2 Maintain a safe working environment.
1811.1.3 Identify safety hazards of fire line construction and mop-up.

Standard 2: Identify economic trees in West Virginia. (1811.S.2)

Trees in West Virginia Objectives

Students will:
1811.2.1 Identify the following trees: Red Oak, White Ash, White Oak, Basswood, Chestnut Oak, Walnut, Black Oak, Hickory, Scarlet Oak, White Pine, Red Maple, Spruce, Sugar Maple, Hemlock, Black Cherry, Black Locust, Black Birch, Cucumber, Yellow Poplar, Virginia Pine
1811.2.2 Identify by leaves.
1811.2.3 Identify by bark.
1811.2.4 Identify by taste and smell.
1811.2.5 Identify by twigs.
1811.2.6 Identify by fruit.
1811.2.7 Explain tree morphology.

Standard 3: Demonstrate forest fire fighting procedures. (1801.S.3)

Forest Fire Fighting Procedures Objectives

Students will:
1811.3.1 Construct fire line using hand tools.
1811.3.2 Describe the proper use of fire rake, shovel, drip torch, Pulaski and backpack pump.
1811.3.3 Extinguish remaining fire spots after main fire is contained (mop-up).
1811.3.4 Determine direction for fire line construction.
1811.3.5 Repair and service equipment after fire is extinguished.
1811.3.6 Use backpack pump to fight fire directly.

Standard 4: Perform forest measurement techniques. (1801.S.4)

Forest Measurement Techniques Objectives

Students will:
1811.4.1 Set up instrument for surveying.
1811.4.2 Use compass to maintain direction.
1811.4.3 Make linear measurements using surveyor's chain with compass.
1811.4.4 Make linear measurements by pacing with compass.
1811.4.5 Calculate the number of acres in a timber tract.
1811.4.6 Use hand/staff compass to determine bearing or Azimuth.

1811.4.7 Identify units of measurement (mile, rod, chain and acre).

Standard 5: Utilize silviculture treatment for timber stand improvement. (1811.S.5)

Silviculture Treatment Objectives

Students will:
1811.5.1 Determine major forest type and primary uses.
1811.5.2 Determine proper spacing using D+6 rule.
1811.5.3 Use increment borer to determine age and growth rate.
1811.5.4 Select and utilize pruning and thinning methods for a timber stand.
1811.5.5 Fell and limb trees.

Standard 6: Demonstrate laboratory investigations and hands-on learning.

Laboratory Investigations Objectives

Students will:
1811.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
1811.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
1811.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
1811.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations and research.

Forestry II — WVEIS Code 1812

Major instructional concepts included in this area of study are: leadership development, chainsaw operation and safety, timber cruising skills and integration of wildlife habitat management in forestry.

Standard 1: Utilize chainsaw safety. (1812.S.1)

Chainsaw Safety Objectives

Students will:
1812.1.1 Identify and use safety clothing and equipment.
1812.1.2 Use proper starting techniques.
1812.1.3 Identify proper safety rules with 100% accuracy.
1812.1.4 Identify and correct hazardous operational conditions.

Standard 2: Perform chainsaw maintenance. (1812.S.2)

Chainsaw Maintenance Objectives

Students will:
1812.2.1 Properly sharpen chain.
1812.2.2 Determine and adjust chain for proper tension.
1812.2.3 Demonstrate proper cleaning and storage of chainsaw.
1812.2.4 Replace sprocket on chainsaw.
1812.2.5 Replace bar on chainsaw.
1812.2.6 Replace broken chain link.
1812.2.7 Clean and service carburetor and air cleaner.
1812.2.8 Replace chain clutch as needed.
1812.2.9 Adjust carburetor for maximum efficiency.
1812.2.10 Mix fuel and oil in proper proportions.

Standard 3: Determine Volume of Standing Timber. (1812.S.3)

Standing Timber Objectives

Students will:
1812.3.1 Define and calculate board foot and cord wood volumes.
1812.3.2 Measure standing trees at diameter breast height using tree stick and diameter tape.
1812.3.3 Determine number of logs per tree using tree stick or clinometers.
1812.3.4 Record volume number of individual trees using tally sheet method.
1812.3.5 Calculate volume of saw logs using Doyle, Scribner and International 1/4" rule.
1812.3.6 Calculate volume of pulpwood by cords.

Standard 4: Perform wildlife habitat management. (1812.S.4)

Wildlife Habitat Management Objectives

Students will:
1812.4.1 Monitor and improve water quality.
1812.4.2 Improve habitat for bird, fish and game.
1812.4.3 Understand the importance of the forest, field and edge.
1812.4.4 Identify potential den and mast trees.

Standard 5: Perform laboratory investigations. (1812.S.5)

Laboratory Investigations Objectives

Students will:

1812.5.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

1812.5.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

1812.5.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

1812.5.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 6: Apply technology the forestry industry. (1812.S.6)

Forestry Industry Objectives

Students will:

1812.6.1 Use computers and the World Wide Web (WWW) to solve problems related to work-based experience programs in forestry, locate, evaluate, and collect information from a variety of sources related to forestry, develop positive attitudes toward technology that supports lifelong learning, collaboration, personal pursuits, and productivity.

1812.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

1812.6.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.

1812.6.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry III WVEIS Code 1813

This area of study provides instructional concepts in the following areas: personal leadership development, advanced dendrology, safety training, operation and maintenance of forestry equipment and silvicultural applications.

Standard 1: Demonstrate personal leadership skills. (1813.S.1)

Personal Leadership Skills Objectives

Students will:
1813.1.1 Describe the parts of a good speech.
1813.1.2 Explain how to present a desirable speech.
1813.1.3 Correctly conduct research in topics concerning forestry.
1813.1.4 Deliver a speech on a forestry topic.

Standard 2: Perform advanced dendrology skills. (1813.S.2)

Dendrology Skills Objectives

Students will:
1813.2.1 Identify by flowers.
1813.2.2 Identify by growth characteristics.
1813.2.3 Identify by site conditions.
1813.2.4 Identify by distribution.

Standard 3: Perform forestry safety skills. (1813.S.3)

Forestry Safety Skills Objectives

Students will:
1813.3.1 Demonstrate safety with hand tools.
1813.3.2 Demonstrate safety with chainsaws.
1813.3.3 Demonstrate safety with tractors.
1813.3.4 Demonstrate safety on the fire line.

Standard 4: Operate and maintain forestry equipment. (1813.S.4)

Forestry Equipment Objectives

Students will:
1813.4.1 Demonstrate the proper use and maintenance of hand tools.
1813.4.2 Demonstrate the proper use and maintenance of chainsaws.
1813.4.3 Demonstrate the proper use and maintenance of tractors.
1813.4.4 Lubricate all grease fittings using proper grease at periodic intervals with appropriate equipment.

Standard 5: Apply silvicultural practices for timber stands. (1813.S.5)

Timber Stands Objectives

Students will:
1813.5.1 Demonstrate forest reproduction techniques.
1813.5.2 Demonstrate the technique of girdling in the process of removing undesirable trees.

1813.5.3 Define clear-cut.

Standard 6: Perform laboratory investigations. (1813.S.6)

Laboratory Investigations Objectives

Students will:

1813.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

1813.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

1813.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

1813.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Apply technology to the forestry industry. (1813.S.7)

Forestry Industry Objectives

Students will:

1813.7.1 Use computers and the World Wide Web (WWW).

1813.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

1813.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.

1813.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry IV WVEIS Code 1814

Forestry IV provides instructional concepts in the following areas: parliamentary procedure, advanced leadership skills, safety in fire fighting, forest surveying and wood product utilization.

Standard 1: Demonstrate parliamentary procedure. (1814.S.1)

Parliamentary Procedure Objectives

Students will:
1814.1.1 Identify proper procedures for conducting a meeting.
1814.1.2 Write and present a committee report.
1814.1.3 Identify components of a program of activities.

Standard 2: Apply safety procedures of fire line construction. (1814.S.2)

Fire Line Construction Objectives

Students will:
1814.2.1 Explain fire line safety.
1814.2.2 Explain fire line construction.
1814.2.3 Explain forest fire mop-up.
1814.2.4 Explain the use of topographic maps in locating access roads and trails.
1814.2.5 Explain the use of topographic maps in fire location.
1814.2.6 Repair, service and store equipment.

Standard 3: Use forest surveying equipment. (1814.S.3)

Forest Surveying Equipment Objectives

Students will:
1814.3.1 Interpret surface features using aerial photography and topographic maps.
1814.3.2 Conduct a boundary survey using a hand compass and pacing.
1814.3.3 Visit a courthouse and conduct a title search.
1814.3.4 Plot bearings from deeds.
1814.3.5 Calculate percent slope using a clinometer.
1814.3.6 Orientate topographic map using hand compass.
1814.3.7 Utilize a GPS receiver to locate and mark points of reference.

Standard 4: Use best management practices in forest road construction. (1814.S.4)

Forest Road Construction Objectives

Students will:
1814.4.1 Lay out roads in compliance with West Virginia forest standards.
1814.4.2 Describe maintenance procedures for drainage systems (culverts, ditches, etc.) in controlling soil erosion.
1814.4.3 Explain the importance of installing culverts, water breaks and Awoods@ bridges.
1814.4.4 Design skid roads.
1814.4.5 Monitor water quality.
1814.4.6 Reseed skid trails and log landings.

Standard 5: Process, measure and market wood products. (1814.S.5)

Wood Products Objectives

Students will:

1814.5.1 Demonstrate competency in felling, bucking and skidding selected trees.
1814.5.2 Scale logs and lumber.
1814.5.3 Explore and explain various marketing opportunities for forest products.

Standard 6: Conduct laboratory investigations. (1814.S.6)

Laboratory Investigations Objectives

Students will:

1814.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
1814.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
1814.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
1814.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Apply technology to real world forestry problems. (1814.S.7)

Forestry Problems Objectives

Students will:

1814.7.1 Use computers and the World Wide Web (WWW) to solve problems, locate, evaluate, and collect information from a variety of sources, develop positive attitudes toward technology, personal pursuits, and productivity.
1814.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
1814.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.
1814.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Forestry V — WVEIS Code 1815

This course provides instruction in the following areas: forestry equipment use, timber cruising systems and application of best management practices to forestry.

Standard 1: Identify and use forestry equipment. (1815.S.1)

Forestry Equipment Objective

Students will:

1815.1.1 Identify and use the following: tree scale stick, increment bore, drip torch, fire rake, clinometers, hand compass, soil tube, jacobs staff, staff compass, chaps, hard hat/face, shield, pulaski, tree marking gun, wedge prism, stereoscope, log rule, data recorder, plastic flagging, chainsaw, ear protection, dot grid, and a dibble or tree planter.

Standard 2: Conduct a timber cruise. (1815.S.2)

Timber Cruise Objectives

Students will:

1815.2.1 Mark boundaries and corners of tract.
1815.2.2 Use compass to direct cruising operation.
1815.2.3 Measure distance between plot center (by pacing).
1815.2.4 Record trees using tally sheet method.
1815.2.5 Use wedge prism (BAF 10 or BAF 20).
1815.2.6 Calculate board foot volumes using double log scale.

Standard 3: Apply best management practices in a forestry setting. (1815.S.3)

Forestry Setting Objectives

Students will:

1815.3.1 Lay out roads in compliance with West Virginia forest standards.
1815.3.2 Describe maintenance procedures for drainage systems (culverts, ditches, etc.) in controlling soil erosion.
1815.3.3 Understand the importance of installing culverts, water breaks and "woods" bridges.
1815.3.4 Design skid roads.
1815.3.5 Demonstrate competency in felling, bucking and skidding selected trees.
1815.3.6 Scale logs and lumber.
1815.3.7 Monitor water quality.
1815.3.8 Reseed skid trails and log landings.

Standard 4: Conduct safe laboratory investigations. (1815.S.4)

Laboratory Investigations Objectives

Students will:

1815.4.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
1815.4.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
1815.4.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
1815.4.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 5: Apply technology to forestry industry. (1815.S.5)

Forestry Industry Objectives

Students will:

1815.5.1 Use computers and the World Wide Web (WWW) to solve problems related to forestry, locate, evaluate, and collect information related to forestry, develop positive attitudes toward technology, support lifelong learning, collaboration, personal pursuits, and productivity.

1815.5.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

1815.5.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to forestry.

1815.5.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of forestry.

Standard 6: Demonstrate process/workplace skills used in forestry. (1815.S.6)

Process/Workplace Skills Objectives

Students will:

1815.6.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

1815.6.2 Explore careers available in forestry.

1815.6.3 Use a variety of sources to investigate the educational requirements of various careers in forestry.

1815.6.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

1815.6.5 Demonstrate correct language usage in all oral and written work.

1815.6.6 Perform effectively in both leadership and non-leadership roles.

1815.6.7 Evaluate information for reliability, completeness, and applicability to various assignments.

1815.6.8 Participate as a team member to complete a variety of assignments.

Outdoor Recreation WVEIS Code 1816

This area of study is designed to provide students with knowledge and skills in outdoor recreation that will be useful in various occupations in the field. Major emphasis will be on careers, public relations and teamwork.

Standard 1: Research career development in outdoor recreation. (1816.S.1)

Outdoor Recreation Objectives

Students will:

1816 .1.1 Identify regional career opportunities in outdoor recreation including, park ranger, recreation manager, instructor, conservation officer, first aid/safety expert, entertainment manager, business manager, outdoor guide, youth camp operator, campground owner, riding stable owner and lifeguard.
1816.1.2 Profile outdoor recreation specialists.
1816.1.3 Develop teamwork skills and activities.
1816.1.4 Develop public relation skills.

Standard 2: Participate in outdoor safety activities. (1816.S.2)

Outdoor Safety Activities Objectives

Students will:

1816.2.1 Obtain Red Cross first aid certificate.
1816.2.2 Obtain Red Cross adult CPR certificate.
1816.2.3 Identify potential outdoor safety hazards.
1816.2.4 Identify poisonous plants.
1816.2.5 Identify poisonous insects.
1816.2.6 Identify poisonous animals.
1816.2.7 Identify safety inspection procedures for outdoor recreation equipment.

Standard 3: Identify natural resource and recreation areas. (1816.S.3)

Natural Resource and Recreation Areas Objectives

Students will:

1816.3.1 Describe geological formations.
1816.3.2 Recognize services required for recreational areas.
1816.3.3 Recognize facilities required for recreational areas.
1816.3.4 Identify endangered species of plants and animals.
1816.3.5 Identify wetlands and riparian zones.
1816.3.6 Describe local, state and federal laws related to recreational enterprises.

Standard 4: Recognize business opportunities and promotions in outdoor recreation. (1816.S.4)

Business Opportunities and Promotions Objectives

Students will:

1816.4.1 Recognize income potential from various types of recreational enterprises.
1816.4.2 Identify business procedures required of recreational enterprises.
1816.4.3 Design advertising media to promote a recreational area effectively.

Standard 5: Safely conduct laboratory investigations. (1816.S.5)

Laboratory Investigations Objectives

Students will:

1816.5.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.

1816.5.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).

1816.5.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.

1816.5.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 6: Apply technology to real world problems. (1816.S.6)

Real World Objectives

Students will:

1816.6.1 Use computers and the World Wide Web (WWW) to solve problems related programs in outdoor recreation, locate, evaluate, and collect information from a variety of sources related to outdoor recreation, develop positive attitudes toward technology, support lifelong learning, collaboration, personal pursuits, and productivity.

1816.6.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.

1816.6.3 Use cameras and/or camcorders to record activities and progress of special projects in the area of outdoor recreation.

Standard 7: Demonstrate process/work place skills used in outdoor recreation. (1816.S.7)

Process/Work Place Skills Objectives

Students will:

1816.7.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

1816.7.2 Explore careers available in outdoor recreation.

1816.7.3 Use a variety of sources to investigate the educational requirements of various careers in biotechnology and related sciences.

1816.7.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

1816.7.5 Demonstrate correct language usage in all oral and written work.

1816.7.6 Perform effectively in both leadership and non-leadership roles.

1816.7.7 Evaluate information for reliability, completeness, and applicability to various assignments.

1816.7.8 Participate as a team member to complete a variety of assignments.

Wildlife Management WVEIS Code 1817

This course provides instruction and training in leadership, history of fish and wildlife, wildlife management concepts, water and water quality, habitat management, life history and wildlife values as a natural resource.

Standard 1: Study the history of wildlife management. (1817.S.1)

History of Wildlife Management Objectives

Students will:
1817.1.1 Define and describe wildlife trends and their impact on management.
1817.1.2 Identify wildlife legalities and ethics.
1817.1.3 Define natural resources conservation.

Standard 2: Describe the concepts of wildlife management. (1817.S.2)

Concepts of Wildlife Management Objectives

Students will:
1817.2.1 Define succession stages related to wildlife management.
1817.2.2 Describe carrying capacity as related to wildlife.
1817.2.3 Define horizontal and vertical structuring.
1817.2.4 Explain ecological principles and their application to wildlife management.

Standard 3: Determine wildlife habitat management practices. (1817.S.3)

Wildlife Habitat Management Practices Objectives

Students will:
1817.3.1 Explain ecological principles applied to fish and wildlife.
1817.3.2 Design a wildlife management plan.
1817.3.3 Identify forest management practices for improving habitat.
1817.3.4 Identify agricultural management practices for improvement of habitat.
1817.3.5 Define and describe wetlands and their use.
1817.3.6 Identify government assistance available for habitat improvement.
1817.3.7 Construct and erect wildlife feeders/nest boxes.

Standard 4: Use technology to identify animal life histories. (1817.S.4)

Animal Life Histories Objectives

Students will:
1817.4.1 Identify life cycles of wildlife species.
1817.4.2 Describe interrelationship of wildlife species.
1817.4.3 Identify common relationships between humans and wildlife.
1817.4.4 Search the Internet to secure wildlife information.

Standard 5: Determine water and water quality relationships for conservation. (1817.S.5)

Water Quality Relationships Objectives

Students will:
1817.5.1 Identify sources of water and water pollutants.

1817.5.2 Explain the effects to water pollution on the ecosystem.
1817.5.3 Identify point and non-point source pollution and describe possible controls.
1817.5.4 Describe wetlands, their use, importance and preservation.
1817.5.5 Explain methods of protecting water sources.

Standard 6: Describe wildlife values as a resource to society. (1817.S.6)

Wildlife Values Objectives

Students will:
1817.6.1 Identify commercial value of fish and wildlife resources and economic benefit to people.
1817.6.2 Define recreational values of fish and wildlife.
1817.6.3 Describe social values of fish and wildlife.
1817.6.4 Identify esthetic values of fish and wildlife resources.
1817.6.5 Describe scientific and educational values of fish and wildlife.
1817.6.6 Evaluate negative impact of wild animals on humans.

Concrete Finishing

WVEIS Code 1821

This course will apply the concepts, applications, and techniques necessary for various phases of concrete construction.

Standard 1: Understand concrete construction and finishing concepts. (1821.S.1)

Concrete Finishing Objectives

Students will:
1821.1.1 Define terms associated with concrete construction.
1821.1.2 Identify the composition and characteristics of concrete.
1821.1.3 Identify the uses of concrete as a building material.
1821.1.4 Identify the effect of craftsmanship on finished concrete.
1821.1.5 Explain the concrete construction process.
1821.1.6 Identify site operation work requirements.
1821.1.7 Explain the career potentials in concrete construction and finishing.

Standard 2: Understand and apply safety used in concrete construction. (1821.S.2)

Concrete Construction Objectives

Students will:
1821.2.1 Describe and wear different types of safety gear for the work site.
1821.2.2 State the guidelines for dressing appropriately for concrete work.
1821.2.3 Describe how to safely handle concrete when forming, placing, curing, and finishing.
1821.2.4 Describe safety precautions to follow when working in extreme heat and cold.
1821.2.5 Describe safety precautions to follow when working with hazardous materials.
1821.2.6 Describe proper procedures for handling and maintaining concrete construction tools safely.

Standard 3: Analyze the properties of concrete. (1821.S.3)

Properties of Concrete Objectives

Students will:
1821.3.1 Describe the properties of concrete.
1821.3.2 Explain how the properties of concrete are used in construction.
1821.3.3 Determine how the ingredients of concrete influence mix, placement, finishing, durability, and performance.
1821.3.4 Describe quality-control tests on concrete ingredients, fresh concrete, and hardened concrete.
1821.3.5 Mix a test batch of concrete.
1821.3.6 Perform a slump test.

Standard 4: Identify tools and equipment used in concrete construction. (1821.S.4)

Tools and Equipment Objectives

Students will:
1821.4.1 Name the tools used in placing and finishing concrete.
1821.4.2 Name the power equipment used in placing and finishing concrete.
1821.4.3 Describe how each tool is use.
1821.4.4 Describe how the power equipment is used.
1821.4.5 Associate trade terms with the appropriate tools and equipment.

Standard 5: Prepare worksite for concrete placement. (1821.S.5)

Worksite Objectives

Students will:
1821.5.1 Describe basic site layout using levels and measuring tools.
1821.5.2 Properly locate, grade, and build forms for horizontal placement.
1821.5.3 Perform compaction activities on subgrades.
1821.5.4 Describe various joints and where to locate them.
1821.5.5 Describe various reinforcements and how to place them.
1821.5.6 Describe information needed when ordering concrete.

Standard 6: Placing concrete. (1821.S.6)

Placing Concrete Objectives

Students will:
1821.6.1 Describe how concrete is conveyed and placed.
1821.6.2 Draw up a pre-placement checklist.
1821.6.3 Demonstrate the use of equipment and tools for placing concrete.
1821.6.4 Demonstrate the process of depositing, spreading, consolidating, and striking off concrete in a form.
1821.6.5 Associate trade names with the appropriate processes and equipment.

Standard 7: Apply basic concrete finishing techniques. (1821.S.7)

Finishing Techniques Objectives

Students will:
1821.7.1 Describe the basic finishing process.
1821.7.2 Use the following finishing hand tool: float, edger, groover, and trowel.
1821.7.3 Mark and cut joints with a saw.
1821.7.4 Apply a broom finish.
1821.7.5 Apply a rubbing finish.
1821.7.6 Associate trade terms with the appropriate processes and equipment.

Standard 8: Curing and protecting concrete. (1821.S.8)

Curing and Protecting Objectives

Students will:
1821.8.1 Describe the process of curing concrete.
1821.8.2 Identify methods of curing concrete.
1821.8.3 Describe how each method is applied.
1821.8.4 Identify when each method is used.
1821.8.5 Associate trade terms with the appropriate processes and equipment.

Standard 9: Troubleshooting basic concrete construction problems. (1821.S.9)

Construction Problems Objectives

Students will:
1821.9.1 Describe a basic troubleshooting methodology that can be used to identify a variety of concrete construction problems and their causes.
1821.9.2 Identify problems with fresh concrete and describe ways to prevent them.
1821.9.3 Identify different concrete defects such as crazing, cracking, dusting, scaling, popouts, and

efflorescence, and describe ways to prevent them.

Finishing Carpentry — WVEIS Code 1823

This course will introduce students to safe, efficient and acceptable practices involved in estimating for and installing interior and exterior wall, ceiling and floor coverings.

Standard 1: Estimate and install insulation and vapor barriers in walls, ceilings and floors. (1823.S.1)

Finish Carpentry Objectives

Students will:
1823.1.1 Install insulation in walls, ceiling, and floors.
1823.1.2 Explain the necessity for vapor barriers and properly install them.

Standard 2: Cover interior walls. (1823. S.2)

Interior Walls Objectives

Students will:
1823.2.1 Estimate and hang dry wall on interior walls and ceiling.
1823.2.2 Properly finish dry wall (nail holes, seams, corners).
1823.2.3 Prime and paint interior walls.
1823.2.4 Properly install paneling and appropriate trim.

Standard 3: Finish interior of a construction project. (1823.S.3)

Finish Interior Objectives

Students will:
1823.3.1 Install interior doors, door locksets, and windows.
1823.3.2 Cut and install baseboards, and door and window casings.
1823.3.3 Install various wall covering materials.
1823.3.4 Cut and install various floor coverings.
1823.3.5 Install cabinets.

Standard 4: Finish exterior of a construction project. (1823.S.4)

Finish Exterior Objectives

Students will:
1823.4.1 Estimate and install fascia and soffit on eaves and rake.
1823.4.2 Install attic ventilation.
1823.4.3 Properly install exterior siding.
1823.4.4 Paint exterior surfaces.

Foundations and Framing — WVEIS Code 1825

This course will introduce students to safe, efficient and acceptable practices involved in estimating for and constructing building foundations and rough framing.

Standard 1: Estimate and construct foundation. (1825.S.1)

Foundation Objectives

Students will:

1825.1.1 Use transit to turn and square corners, read and mark elevations and excavation lines and to set grade stakes.
1825.1.2 Estimate and install batter boards.
1825.1.3 Estimate and install foundation footer forms and expansion joints in preparation for concrete pour.
1825.1.4 Build stair forms for concrete steps.
1825.1.5 Estimate concrete yardage, pour and finish concrete.

Standard 2: Estimate and construct floor framing. (1825.S.2)

Floor Framing Objectives

Students will:

1825.2.1 Estimate, lay out and install a built up wood girder, termite protection, and sill plate.
1825.2.2 Estimate, lay out and install a floor frame, including: band boards, floor joists, cross bridging, openings and sub-floor.

Standard 3: Estimate and construct wall framing. (1825.S.3)

Wall Framing Objectives

Students will:

1825.3.1 Layout, erect and align exterior walls.
1825.3.2 Layout, erect and align interior partitions.
1825.3.3 Construct rough opening headers.
1825.3.4 Install second top plates to walls and partitions.
1825.3.5 Install backing for fixtures, cabinets, and bulkhead.
1825.3.6 Install sheathing on exterior walls.
1825.3.7 Install windows and doors in exterior wall rough openings.
1825.3.8 Layout and install ceiling joists.
1825.3.9 Cut and assemble stringers, risers, and treads for a basic set of stairs.

Standard 4: Estimate and construct roof framing. (1825.S.4)

Roof Framing Objectives

Students will:

1825.4.1 Layout, cut and install king posts and ridge boards.
1825.4.2 Layout, cut and install roof rafters.
1825.4.3 Layout, cut and install rough fascia, gable end studs, and collar beams.
1825.4.4 Install roof sheathing, drip edge, asphalt or fiberglass shingles, and ridge vents.

Fundamentals of Building Construction WVDE Code 1827

This course will introduce students to basic knowledge of building plans and materials and safe work habits used in general building construction occupations.

Standard 1: Identify, explore, and evaluate career opportunities related to building construction. (1827.S.1)

Career Opportunities Objectives

Students will:

1827.1.1 Describe a variety of careers related to building construction, and the training necessary to be successful in those careers.

1827.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of building construction.

1827.1.3 Identify sources of information about careers in building construction.

Standard 2: Identify and demonstrate proper personal safety practices. (1827.S.2)

Safety Practices Objectives

Students will:

1827.2.1 Review and follow general construction safety guidelines.

1827.2.2 Demonstrate proper lifting techniques.

1827.2.3 Identify and demonstrate proper use and care of all basic personal safety equipment including hearing and eye protection, hard hats and shoes.

Standard 3: Identify basic hand tools and demonstrate safe and appropriate use. (1827.S.3)

Hand Tools Objectives

Students will:

1827.3.1 Choose the proper hand tools for given applications, and describe the proper care and maintenance of each.

1827.3.2 Demonstrate adjustments possible with each tool.

Standard 4: Identify basic power tools (portable and stationary) and demonstrate safe and appropriate use. (1827.S.4)

Power Tools Objectives

Students will:

1827.4.1 Choose proper power tool for a given application.

1827.4.2 Recognize and identify appropriate blade or bit for given situation, and demonstrate the ability to change blades and bits on cutting tools.

1827.4.3 Demonstrate possible adjustments to power tools.

1827.4.4 Describe proper care and maintenance of power tools and machinery.

Standard 5: Demonstrate proper and safe use of ladders and scaffolds. (1827.S.5)

Ladders and Scaffolds Objective

Students will:

1827.5.1 Identify basic types of ladders and scaffolds and safely erect both using proper placement and angle.

Standard 6: Demonstrate the ability to interpret blueprints. (1827.S.6)

Blueprints Objectives

Students will:

1827.6.1 Review the basic information found in foundation and floor plans, including dimensions, symbols and scale.
1827.6.2 Prepare a written cost estimate for a construction project.
1827.6.3 Identify information on window and door schedules.
1827.6.4 Interpret blueprints for plumbing and wiring specifications.
1827.6.5 Determine fixtures needed for a construction project.

Standard 7: Identify and properly use a variety of framing materials. (1827.S.7)

Framing Materials Objectives

Students will:

1827.7.1 Identify basic framing materials, including solid lumber, plywood, and various fasteners.
1827.7.2 Perform various forming, separating, and combining processes on construction materials.

Masonry and Plumbing — WVEIS Code 1829

This course will introduce students to safe, efficient and acceptable practices involved in estimating for and constructing masonry and plumbing systems.

Standard 1: Estimate, layout and prepare masonry materials for a foundation. (1829.S.1)

Foundation Objectives

Students will:

1829.1.1 Demonstrate safe work habits while working with masonry materials and equipment.
1829.1.2 Lay out and square a foundation using a transit and the 6-8-10 method.
1829.1.3 Discuss the size of footings for various widths of block, and pour a footer.
1829.1.4 Properly mix and spread mortar, build corners and foundation, install stretcher blocks and sill anchors.
1829.1.5 Properly install waterproofing and ventilation in a foundation.

Standard 2: Rough in a plumbing drain system. (1829.S.2)

Plumbing Drain System Objectives

Students will:

1829.2.1 Install drain lines according to code.
1829.2.2 Cut copper and plastic tubing for water supply.
1829.2.3 Apply appropriate fittings and fastening techniques to copper and plastic tubing.

Standard 3: Install finishing plumbing. (1829.S.3)

Finishing Plumbing Objectives

Students will:

1829.3.1 Properly install various plumbing fixtures (commode, lavatory, bath tub and/or shower).
1829.3.2 Install shut-off valves, faucets and screw-on fittings.
1829.3.3 Install hot water tank.

Basic Darkroom Procedures — WVEIS Code 1831

This course will introduce students to the basic fundamentals of darkroom procedures, photographing and developing line and halftone negatives, and process color printing.

Standard 1: Demonstrate proper darkroom procedures. (1831.S.1)

Darkroom Procedures Objectives

Students will:
1831.1.1 Identify different types of process cameras, and list the basic parts of the camera.
1831.1.2 Identify and prepare film developing trays.
1831.1.3 Identify various safe lights and select proper safelight for different films.
1831.1.4 Determine base and emulsion sides of film.
1831.1.5 Name three (3) methods of developing film.
1831.1.6 Select best F-stop, temperature and percentage for developing film.

Standard 2: Demonstrate safe work habits while working with graphic arts materials and equipment. (1831.S.2)

Safe Work Habits Objectives

Students will:
1831.2.1 Identify and practice safety rules used in the darkroom.
1831.2.2 Describe safe use and disposal of toxic and/or flammable substances and chemicals.

Standard 3: Demonstrate the ability to photograph and develop line negatives. (1831.S.3)

Line Negatives Objectives

Students will:
1831.3.1 Identify various types of film used in a process camera, and handle film properly.
1831.3.2 Describe camera operator's sensitivity guide.
1831.3.3 Prepare camera for basic exposure.
1831.3.4 Produce and evaluate line negatives.

Standard 4: Produce halftone negatives. (1831.S.4)

Halftone Negatives Objectives

Students will:
1831.4.1 Compute main and flash exposures.
1831.4.2 Describe the proper care of contact screens.
1831.4.3 Expose and develop a halftone negative.
1831.4.4 Identify three (3) areas of halftone negatives.
1831.4.5 List three (3) exposures for halftone negatives.
1831.4.6 Identify and evaluate halftone dots.
1831.4.7 Describe a duotone.

Standard 5: Identify the basic principles of process color printing. (1831.S.5)

Color Printing Objectives

Students will:

1831.5.1 Describe flat and process color printing.
1831.5.2 Describe the difference between additive and subtractive colors, and name the four process color inks.
1831.5.3 List two methods of process color separation.
1831.5.4 Identify proper filters for process color negatives.
1831.5.5 Describe screen angle for process color negatives.
1831.5.6 Select proper film for process color separations.
1831.5.7 Identify color separation negatives.

Electronic Imaging WVEIS Code 1833

This course will introduce students to desktop publishing, including basic typesetting, image designs, proofreading, and computer scanning operations.

Standard 1: Perform basic typesetting procedures in desktop publishing images. (1833.S.1)

Typesetting Procedures Objectives

Students will:
1833.1.1 Identify and describe basic desktop publishing tools, equipment, and materials.
1833.1.2 Identify and properly use desktop publishing menus, toolboxes, and options.
1833.1.3 Design proper page layout and size, indicating guidelines, fold lines, and margins.
1833.1.4 Select font and point sizes.
1833.1.5 Perform copy fitting techniques.
1833.1.6 Setup printer for copy and make a print.

Standard 2: Identify appropriate proofreading knowledge and use. (1833.S.2)

Proofreading Objectives

Students will:
1833.2.1 Identify proofreading marks.
1833.2.2 Make corrections on galley proofs.
1833.2.3 Perform proper proofreading techniques by marking up copy for production of a printed piece.

Standard 3: Perform scanning operations. (1833.S.3)

Scanning Operations Objectives

Students will:
1833.3.1 Identify scanner hardware and software and describe its basic components, operations and limitations.
1833.3.2 Demonstrate appropriate scanner/program operations for line and continuous tone work.
1833.3.3 Place scanned graphics and /or photos into existing page layouts.

Standard 4: Operate digital cameras and software available for digital printing. (1833.S.4)

Digital Printing Objectives

Students will:
1833.4.1 Identify features of different types of digital cameras and printing equipment.
1833.4.2 Take pictures and transfer images to the computer using different types of digital cameras.
1833.4.3 Manipulate and organize images transferred from digital cameras.
1833.4.4 Utilize digital printing processes.

Fundamentals of Graphic Design and Production WVEIS Code 1835

This course will introduce students to the basic fundamentals of the graphic communications industry. Students will become familiar with safety in the graphic arts lab and basic techniques in drawing and illustration.

Standard 1: Demonstrate knowledge of career opportunities in graphic design and production. (1835.S.1)

Career Opportunities Objectives

Students will:

1835.1.1 Describe a variety of careers related to graphic design and production, and the training necessary to be successful in those careers.

1835.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of graphic design and production.

1835.1.3 Identify sources of information about careers in graphic design and production.

Standard 2: Identify a variety of basic graphic design equipment and materials. (1835.S.2)

Equipment and Materials Objectives

Students will:

1835.2.1 Identify and describe a variety of major printing processes.

1835.2.2 Name types of materials on which printing is done.

1835.2.3 Identify basic tools used in the graphic arts lab.

Standard 3: Demonstrate safe work habits in the graphic arts lab. (1835.S.3)

Safe Work Habits Objectives

Students will:

1835.3.1 Demonstrate job-related safety precautions and procedures regarding use of materials and equipment in the graphic arts lab.

1835.3.2 Describe proper precautions when handling toxic or flammable chemicals.

Standard 4: Identify legal restrictions regarding copy limitations. (1835.S.4)

Copy Limitations Objectives

Students will:

1835.4.1 Name three (3) elements of a copyright notice.

1835.4.2 Identify items that may and may not be copyrighted, and describe procedures to obtain permission to reproduce copyrighted materials.

Standard 5: Introduce design elements and principles to graphic applications. (1835.S.5)

Graphic Applications Objectives

Students will:

1835.5.1 Incorporate the design principles of balance, eye travel, contrast, repetition, focal point, and unity when developing illustrations.

1835.5.2 Differentiate between line, value, texture, depth, color, shape and rhythm.

1835.5.3 Using desktop publishing software, develop a three-panel brochure using appropriate layout, type, and clip art.

Standard 6: Demonstrate the principles of job planning and layout when producing layouts to customer specifications. (1835.S.6)

Customer Specifications Objectives

Students will:

1835.6.I Identify the elements for layouts, including: headline, subhead, copy-block, illustrations/photos, negative space, etc.
1835.6.2 Produce thumbnail sketches that reflect client expectations.
1835.6.3 Apply the inch/point/pica scales during layout through the mechanical preparation process.
1835.6.4 Identify and apply a variety of font styles, typefaces, and hand lettering.
1835.6.5 Incorporate hand and computer generated artwork and screen tints into layouts.
1835.6.6 Use a variety of layout tools, including: compasses, triangles, t-squares, templates, and French curves into layout and finished art preparation processes.
1835.6.7 Develop rough layouts.
1835.6.8 Choose paper stock, other medium, and ink colors for layouts.
1835.6.9 Develop a comprehensive layout, both hand and computer generated.

Graphic Communications WVEIS Code 1837

This course will introduce students to diffusion transfer principles, electrostatic platemaking, offset troubleshooting, multicolor press operations, advanced darkroom and developing procedures and preparations, and job ticket orders.

Standard 1: Demonstrate knowledge of diffusion transfer principles. (1837.S.1)

Diffusion Transfer Principles Objectives

Students will:
1837.1.1 Identify basic diffusion transfer processing equipment and materials for making line prints.
1837.1.2 Make a diffusion transfer halftone print.

Standard 2: Identify and produce an electrostatic plate. (1837.S.2)

Electrostatic Plate Objectives

Students will:
1837.2.1 Identify electrostatic platemaking materials and equipment.
1837.2.2 Prepare, process and evaluate an electrostatic plate.

Standard 3: Perform basic offset troubleshooting and preventive maintenance. (1837.S.3)

Maintenance Objectives

Students will:
1837.3.1 List conditions associated with paper stock feeding problems, adjust double-sheet detector, pile height, and pull-out rollers, and adjust feeder system for various paper weights.
1837.3.2 Change blanket and dampening roller covers.
1837.3.3 Deglaze press ink rollers.
1837.3.4 Adjust plate to blanket pressure and blanket to impressive cylinder pressure.
1837.3.5 Adjust dampening roller and press ink form roller pressure.
1837.3.6 Check press for register.
1837.3.7 Perform monthly lubrication routine.
1837.3.8 Check feed roller pressure.

Standard 4: Perform basic press operation to produce multicolor printed material. (1837.S.4)

Basic Press Operation Objectives

Students will:
1837.4.1 Print a duotone and a four-color process job.
1837.4.2 Perform basic press wash-up procedures.
1837.4.3 Print a multicolor job two-sided.
1837.4.4 Identify printed order of process color inks.
1837.4.5 Identify ink-water problems.

Standard 5: Demonstrate advanced darkroom and film developing procedures. (1837.S.5)

Darkroom and Film Developing Procedures Objectives

Students will:
1837.5.1 Describe standard exposure tests for line photography.
1837.5.2 Conduct exposure tests for contact screens.
1837.5.3 Select proper filter for color separation negatives.
1837.5.4 Identify and calculate exposures for color separation negatives.
1837.5.5 Set exposure computer for halftone density range for highlight and shadow areas.
1837.5.6 Describe a bump exposure.

Standard 6: Calculate and prepare job ticket orders. (1837.S.6)

Job Ticket Orders Objectives

Students will:
1837.6.1 Describe the production work-flow of a job.
1837.6.2 Prepare a production information job ticket/jacket.
1837.6.3 Determine the most feasible method of production and calculate production costs.

Image Assembly and Platemaking — WVEIS Code 1839

This course will introduce students to the fundamentals of image assembly and platemaking, including: film masking, platemaking, principles of offset platemaking, and copy paste-up principles and procedures.

Standard 1: Perform copy paste-up principles and procedures. (1839.S.1)

Copy Paste-Up Objectives

Students will:
1839.1.1 Identify various types of camera copy.
1839.1.2 Identify and properly use a variety of paste-up tools, materials and equipment.
1839.1.3 Calculate reductions and enlargements.
1839.1.4 Indicate guidelines on a paste-up, and center copy.
1839.1.5 Crop photographs.
1839.1.6 Describe screen tints.
1839.1.7 Identify a combination paste-up.
1839.1.8 Prepare a complete layout for camera-ready copy.

Standard 2: Demonstrate knowledge of film masking and assembly by properly preparing a flat. (1839.S.2)

Preparing a Flat Objectives

Students will:
1839.2.1 Identify basic tools, materials and equipment used in film masking.
1839.2.2 Identify parts of a flat.
1839.2.3 Position and tape both line and halftone negatives to masking sheet, then cut windows in flat.
1839.2.4 Prepare an un-ruled masking sheet.
1839.2.5 Prepare and opaque negatives.
1839.2.6 Identify register marks.
1839.2.7 Prepare flats for a step-and-repeat exposure and a double-burn exposure.
1839.2.8 Select appropriate screen tint and percentage.

Standard 3: Perform the basic techniques and principles of offset platemaking. (1839.S.3)

Platemaking Objectives

Students will:
1839.3.1 Identify various types of plate ends.
1839.3.2 Identify the basic areas of an offset plate.
1839.3.3 List types of plate materials, and describe their proper care.
1839.3.4 Identify plate exposure equipment and determine the correct plate exposure for a given situation.
1839.3.5 Describe a ten-step exposure guide.
1839.3.6 Expose a step-and-repeat plate and a double-burn plate.
1839.3.7 Develop a plate using a two-step method.
1839.3.8 Develop a subtractive plate.
1839.3.9 Prepare gum-arabic solution, gum and store plates.
1839.3.10 Describe a pin register system.

Offset Press and Binding Process — WVEIS Code 1841

This course will introduce students to the fundamentals of operating an offset press, knowledge of papers, and cutting and binding operations.

Standard 1: Demonstrate knowledge of offset press fundamentals. (1841.S.1)

Offset Press Objectives

Students will:
1841.1.1 Explain the principle behind offset printing.
1841.1.2 Identify the basic systems of a sheet-fed press.
1841.1.3 Determine pH of fountain solution and properly mix fountain solution.
1841.1.4 List basic press operation and wash-up procedures.

Standard 2: Identify components of typical offset press system. (1841.S.2)

Components of Offset Press Objectives

Students will:
1841.2.1 Name the three main cylinders of an offset press.
1841.2.2 Identify components of the inking system, dampening system, feeder system, register board, and delivery system.
1841.2.3 Identify operator control features.

Standard 3: Operate an offset press. (1841.S.3)

Operate Offset Press Objectives

Students will:
1841.3.1 Read production information on job ticket.
1841.3.2 Describe and perform proper safety precautions during press operations.
1841.3.3 Prepare fountain concentrate and dampening system.
1841.3.4 Select color of ink and prepare the inking system.
1841.3.5 Install offset plate.
1841.3.6 Setup feeder system.
1841.3.7 Select proper paper size and weight.
1841.3.8 Prepare register board and paper delivery system.
1841.3.9 Print a single color job.
1841.3.10 Print a job on NCR stock.
1841.3.11 Print a multicolor job.
1841.3.12 Print a job work and tumble.
1841.3.13 Print a job work and turn.
1841.3.14 Setup and print a job on cover stock.
1841.3.15 Perform press wash-up procedures.
1841.3.16 Adjust night latch.
1841.3.17 Setup and print envelopes.

Standard 4: Identify and demonstrate knowledge of papers used in the printing industry. (1841.S.4)

Paper Objectives

Students will:

1841.4.1 Define common paper terms.
1841.4.2 Identify a watermark.
1841.4.3 Identify and describe the two sides of a sheet.
1841.4.4 Test for grain direction of paper stock.
1841.4.5 Identify various kinds of paper and match kinds of paper with their use.
1841.4.6 Select standard weights for various kinds of paper.

Standard 5: Calculate and perform paper-cutting operations. (1841.S.5)

Paper-cutting Operations Objectives

Students will:
1841.5.1 Read production information on job ticket.
1841.5.2 Calculate number of cuts from stock, identifying combination cuts.
1841.5.3 Describe and perform proper safety precautions during paper cutting operations.

Standard 6: Identify and perform bindery operations. (1841.S.6)

Bindery Operations Objectives

Students will:
1841.6.1 List operations performed in the bindery areas.
1841.6.2 Name two (2) types of stitches.
1841.6.3 Pad # 20 paper stock and carbonless paper stock.
1841.6.4 Drill stock for 3-ring binders.
1841.6.5 Perform spiral binding operations.
1841.6.6 Perform folding operations.
1841.6.7 Gather and collate a multi-page booklet.

Basic Illustration — WVEIS Code 1851

This course will introduce students to the basic fundamentals of safety, design elements, medium and art tool exploration, perspective, shading techniques, and various printing methods.

Standard 1: Demonstrate safe work habits in the commercial art studio. (1851.S.1)

Safe Work Habits Objectives

Students will:
1851.1.1 Properly and safely use a variety of cutting tools (cutting board, Xacto knife, scissors, etc.).
1851.1.2 Properly and safely use toxic and/or flammable substances (permanent markers, rubber cement, fixative, etc.).

Standard 2: Execute a variety of media applications. (1851.S.2)

Media Applications Objectives

Students will:
1851.2.1 Apply line, value, texture, depth, color, shape and rhythm to designs.
1851.2.2 Draw using pen and ink.
1851.2.3 Draw using marker.
1851.2.4 Draw using various graphite and colored pencils.
1851.2.5 Draw using charcoal/pastels.
1851.2.6 Illustrate using a variety of paints: watercolor, oil, tempera, etc.

Standard 3: Draw using various perspective methods. (1851.S.3)

Draw Objectives

Students will:
1851.3.1 Draw using one-point, two-point, and three-point perspective at various eye levels.
1851.3.2 Draw using elliptical perspective horizontally and vertically, at various eye levels.
1851.3.3 Draw cast shadows using perspective techniques.

Standard 4: Draw and paint using various techniques. (1851.S.4)

Draw and Paint Objectives

Students will:
1851.4.1 Draw using soft pencil pressure techniques.
1851.4.2 Draw using pointillism/ stippling techniques.
1851.4.3 Draw using wash techniques.
1851.4.4 Draw using crosshatching techniques.
1851.4.5 Draw using airbrush techniques.

Standard 5: Explore various printing methods. (1851.S.5)

Printing Objectives

Students will:
1851.5.1 Create various relief prints using different media (cardboard, woodcuts, embossing, etc.)
1851.5.2 Create a screen print.

Computer Graphics WVEIS Code 1853

This course encompasses more advanced vector graphics software applications and faster graphic software applications.

Standard 1: Demonstrate proficiency with prepress concepts and graphic design production skills. (1853.S.1)

Production Skills Objectives

Students will:

1853.1.1 Incorporate photography into graphic design using 35 mm and /or digital photographic techniques.
1853.1.2 Scan and import images into graphic designs.
1853.1.3 Experiment with various input devices (keyboard, mouse, light pen, digitizing tablet).
1853.1.4 Develop awareness of Optical Character Recognition, external storage devices (Zip, Jazz drives, etc.), PDF format, and Pre-Flight software.
1853.1.5 Demonstrate understanding of the necessity for trapping.
1853.1.6 Produce and print out color separations for both spot and process color (CMVK) design projects.

Standard 2: Demonstrate your design proficiency through various advance design projects. (1853.S.2)

Design Projects Objectives

Students will:

1853.2.1 Layout a sign, design a billboard layout, design a logo and prepare it for reproduction
1853.2.2 Convert numerical data to effective visual representations: pie graphs, bar graphs, line graphs, etc.
1853.2.3 Develop a decorative design, such as borders, wallpaper design, wrapping paper design, etc.
1853.2.4 Layout/construct a package design and prepare for printing.
1853.2.5 Design/construct point-of-purchase display (easel); prepare for printing.
1853.2.6 Retouch photographs using imaging software (i.e., PhotoShop, PhotoPAINT, etc.).
1853.2.7 Use merge imaging software.

Standard 3: Solve a variety of complex graphic problems and prepare each design for reproduction. (1853.S.3)

Graphic Problems Objective

Students will:

1853.3.1 Design a multi-page printed piece that incorporates signatures and conforms to printing limitations.

Standard 4: Explore various intermediate processes used in design production. (1853.S.4)

Intermediate Processes Objectives

Students will:

1853.4.1 Operate a camera using various accessory equipment: lenses, tripods, cable release, strobe/flash, etc.

1853.4.2 Select film based on an understanding of how ASA relates to printed image, grain, light, etc.
1853.4.3 Apply depth of field, focus, competition, exposure, (spot and average metering), aperture/ shutter speed relationship to photographic assignments.
1853.4.4 Operate enlarger incorporating dodging and burning techniques.
1853.4.5 Mix chemistries for black and white photographic development per product instructions.
1853.4.6 Paint, fix and dry prints per product instructions.
1853.4.7 Layout a design and print it using silk-screen techniques (hand-cut or photographic).
1853.4.8 Disassemble and assemble airbrush.
1853.4.9 Set compressor gauges to proper pressure.
1853.4.10 Prepare media for airbrush (ink, watercolor, oil-based paint, etc.)
1853.4.11 Experiment with various frisketing methods: prepared, liquid, etc.
1853.4.12 Render a drawing/painting or retouch a photograph with airbrush.

Standard 5: Develop a portfolio with which to seek employment (or college acceptance) in the field of commercial art. (1853.S.5)

Portfolio Objectives

Students will:
1853.5.1 Complete the development of the portfolio started in previous course.
1853.5.2 Write a resume and a letter of introduction to accompany the portfolio.
1853.5.3 Complete a job application that references the portfolio.
1853.5.4 Participate in a real or a mock job interview.

Standard 6: Operate digital cameras. (1853.S.6)

Digital Cameras Objectives

Students will:
1853.6.1 Identify features of different types of digital cameras.
1853.6.2 Take pictures and transfer images to the computer using different types of digital cameras.
1853.6.3 Manipulate and organize images transferred from digital cameras.

Standard 7: Create animations using available software. (1853.S.7)

Animations Objectives

Students will:
1853.7.1 Identify animation software.
1853.7.2 Place images to create animations.
1853.7.3 Create frames from images to animate.
1853.7.4 Create and enhance multimedia animations.

Desktop Publishing WVEIS Code 1855

This course emphasizes page layout and desktop publishing skills using programs such as Adobe PageMaker, Quark Express, or Corel Ventura.

Standard 1: Demonstrate proficiency with prepress concepts and graphic design production skills. (1855.S.1)

Productions Skills Objectives

Students will:
1855.1.1 Format text (apply style, point size, leading, alignment, tabs, indents etc.).
1855.1.2 Scan and import illustrative and photographic images.
1855.1.3 Output layouts and color separations using inkjet and laser printers.
1855.1.4 Understand the advantages of Postscript Level III output.

Standard 2: Design a variety of page layout projects. (1855.S.2)

Page Layout Objectives

Students will:
1855.2.1 Design a newspaper ad and prepare it for reproduction.
1855.2.2 Design a magazine ad and prepare it for printing.
1855.2.3 Design a multi-panel brochure.
1855.2.4 Design a multi-page printed piece that incorporates signatures and conforms to printing limitations.
1855.2.5 Design a masthead and prepare a 4-page newsletter for reproduction.
1855.2.6 Import text originating from a word processing program.

Standard 3: Complete the development of a portfolio for the purpose of seeking employment (or college acceptance) in the field of commercial art/graphic design. (1855.S.3)

Portfolio Objectives

Students will:
1855.3.1 Complete development of a portfolio.
1855.3.2 Write a resume and a letter of introduction to accompany the portfolio.
1855.3.3 Complete a job application that references the portfolio.
1855.3.4 Participate in a real or a mock job interview.

Fundamentals of Graphic Design and Production WVEIS Code 1857

This course will introduce students to the basic fundamentals of the graphic communications industry. Students will become familiar with safety in the graphic arts lab and basic techniques in drawing and illustration.

Standard 1: Demonstrate knowledge of career opportunities in graphic design and production. (1857.S.1)

Career Opportunities Objectives

Students will:

1857.1.1 Describe a variety of careers related to graphic design and production, and the training necessary to be successful in those careers.

1857.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of graphic design and production.

1857.1.3 Identify sources of information about careers in graphic design and production.

Standard 2: Identify a variety of basic graphic design equipment and materials. (1857.S.2)

Equipment and Materials Objectives

Students will:

1857.2.1 Identify and describe a variety of major printing processes.

1857.2.2 Name types of materials on which printing is done.

1857.2.3 Identify basic tools used in the graphic arts lab.

Standard 3: Demonstrate safe work habits in the graphic arts lab. (1857.S.3)

Safe Work Habits Objectives

Students will:

1857.3.1 Demonstrate job-related safety precautions and procedures regarding use of materials and equipment in the graphic arts lab.

1857.3.2 Describe proper precautions when handling toxic or flammable chemicals.

Standard 4: Identify legal restrictions regarding copy limitations. (1857.S.4)

Copy Limitations Objectives

Students will:

1857.4.1 Name three (3) elements of a copyright notice.

1857.4.2 Identify items that may and may not be copyrighted, and describe procedures to obtain permission to reproduce copyrighted materials.

Standard 5: Introduce design elements and principles to graphic applications. (1857.S.5)

Graphic Applications Objectives

Students will:

1857.5.1 Incorporate the design principles of balance, eye travel, contrast, repetition, focal point, and unity when developing illustrations.

1857.5.2 Differentiate between line, value, texture, depth, color, shape and rhythm.

1857.5.3 Using desktop publishing software, develop a three panel brochure using appropriate layout, type, and clip art.

Standard 6: Demonstrate the principles of job planning and layout when producing layouts to customer specifications. (1857.S.6)

Customer Specifications Objectives

Students will:

1857.6.1 Identify the elements for layouts, including: headline, subhead, copy-block, illustrations/photos, negative space, etc.
1857.6.2 Produce thumbnail sketches that reflect client expectations.
1857.6.3 Apply the inch/point/pica scales during layout through the mechanical preparation process.
1857.6.4 Identify and apply a variety of font styles, typefaces, and hand lettering.
1857.6.5 Incorporate hand and computer generated artwork and screen tints into layouts.
1857.6.6 Use a variety of layout tools, including: compasses, triangles, t-squares, templates, and French curves into layout and finished art preparation processes.
1857.6.7 Develop rough layouts.
1857.6.8 Choose paper stock, other medium, and ink colors for layouts.
1857.6.9 Develop a comprehensive layout, both hand and computer generated.

Graphic Design WVEIS 1859

This course will introduce students to basic advertising concepts, and hand and computer generated layout procedures and paste-up/mechanical production.

Standard 1: Establish demographics for various target markets and develop market research skills. (1859.S.1)

Establish demographics for various target markets and develop market research skills objectives.

The student will:

1859.1.1 Make graphic design decisions regarding type, style, color and illustrative choices based on data such as age, sex, education level and occupation.

1859.1.2 Study client, product/service that is being promoted, potential customer and purpose of document being designed.

Standard 2: Execute correct hand generated paste-up/mechanical preparation skills. (1859.S.2)

Execute correct hand generated paste-up/mechanical preparation skills objectives.

The student will:

1859.2.1 Secure all elements for Paste-up/mechanical/camera-ready art/keyline.

1859.2.2 Scale art using grids, transfers, projections, and proportion wheels. Cut amberlith/rubylith for overlay color separation.

1859.2.3 Execute finished art for spot color printing.

1859.2.4 Specify type/mark up all copy.

1859.2.5 Set type via desktop publishing software program that conforms to industry standards (Pagemaker, Quark Express, etc.).

1859.2.6 Crop, size (scale), and key photographs.

1859.2.7 Assemble mechanical/camera-ready art for 1, 2, and 3 color spot color designs.

1859.2.8 Indicate appropriate printer/camera instructions on mechanical: trim marks, fold lines, register marks, inks and percentages, bleeds, die cuts, foil stamping, spot varnish, embossing, etc.

Standard 3: Use vector graphics software to properly execute a variety of computer generated design projects. (1859.S.3)

Use vector graphics software to properly execute a variety of computer generated design projects objectives.

The student will:

1859.3.1 Incorporate logo design into letterheads, envelopes, business cards, etc., for the purposes of corporate identity.

1859.3.2 Design a greeting card and prepare for printing.

1859.3.3 Draw cartoons/caricatures.

1859.3.4 Produce a story board for a TV ad, motion picture, video, etc.

Illustration WVEIS Code 1861

This course will introduce students to the fundamentals of color theory and figure drawing.

Standard 1: Apply color theory to illustrations. (1861.S.1)

Illustrations Objectives

Students will:
1861.1.1 Identify the components of the color wheel, i.e., primary, secondary, and tertiary, etc.
1861.1.2 Determine color combinations: complimentary, analogous, split-complimentary, triads, tetrads, etc. and use them in designs.
1861.1.3 Define the dimensions of color: hue, value, intensity, opacity, saturation.

Standard 2: Apply rules of proportion to figure drawing. (1861.S.2)

Figure Drawing Objectives

Students will:
1861.2.1 Produce renderings of both standard and fashion figures.
1861.2.2 Produce renderings of heads, faces, hands, and feet.
1861.2.3 Produce renderings of various textiles, including folds and textures.

Standard 3: Develop reference materials. (1861.S.3)

Reference Materials Objectives

Students will:
1861.3.1 Begin to develop a portfolio of your best samples of graphic design and illustrative pieces.
1861.3.2 Correctly mount and mat pieces for display in a portfolio.
1861.3.3 Develop and maintain a picture morgue for illustrative reference.

Electrical Maintenance WVEIS Code 1871

This course will introduce students to the maintenance of electrical systems and motors in industrial maintenance occupations. Students will become familiar with tools and components of electrical motors and will perform a variety of operations using them.

Standard 1: Read and interpret electrical schematics and diagrams. (1871.S.1)

Electrical Schematics and Diagrams Objective

Students will:
1871.1.1 Explain the difference between power and control circuits.

Standard 2: Replace electric motors and protective devices. (1871.S.2)

Electric Motors and Protective Devices Objectives

Students will:
1871.2.1 Explain relevant sections of the National Electric Code.
1871.2.2 Calculate circuit amperage.
1871.2.3 Explain the difference between starting and running amperage.
1871.2.4 Explain and demonstrate how a magnetic contactor works.

Standard 3: Change rotation of electric motors. (1871.S.3)

Electric Motors Objectives

Students will:
1871.3.1 Identify parts of a three-phase motor.
1871.3.2 Describe current flow in a three-phase motor.
1871.3.3 Rewire a three-phase motor to change motor rotation.
1871.3.4 Describe current flow in a DC motor.
1871.3.5 Rewire a DC motor to change motor rotation.

Standard 4: Perform maintenance on electric motors. (1871.S.4)

Maintenance Objectives

Students will:
1871.4.1 Explain lock out tag out rules.
1871.4.2 Explain types of motor controllers.
1871.4.3 Explain how to clean and lubricate motors.

Standard 5: Use electrical test equipment to troubleshoot motor control circuits. (1871.S.5)

Electrical Test Equipment Objectives

Students will:
1871.5.1 Obtain various readings with a VOM.
1871.5.2 Test and replace semiconductors.
1871.5.3 Test DC power supplies.
1871.5.4 Use transistors, diodes, and resistors in electrical circuits.
1871.5.5 Install and test silicon controlled rectifiers.

Fundamentals of Industrial Equipment MaintenanceWVEIS Code 1873

This course will introduce students to entry level skills in industrial maintenance occupations. Students will become familiar with hand tools and power machines used in industrial mechanics and will perform a variety of operations using them.

Standard 1: Identify, explore, and evaluate career opportunities related to industrial mechanics.(1873.S.1)

Career Opportunities Objectives

Students will:

1873.1.1 Describe a variety of careers related to industrial mechanics, and the training necessary to be successful in those careers.

1873.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of industrial mechanics.

1873.1.3 Identify sources of information about careers in industrial mechanics.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to industrial mechanics. (1873.S.2)

Safety Rules Objectives

Students will:

1873.2.1 Recognize and follow general shop safety guidelines.

1873.2.2 Identify, select and demonstrate proper use and care of all basic personal safety equipment.

1873.2.3 Demonstrate the proper selection and use of fire extinguishers.

1873.2.4 Describe OSHA regulations necessary when using hazardous materials.

1873.2.5 Describe proper waste disposal of industrial lubricants.

Standard 3: Select and apply industrial lubricants. (1873.S.3)

Industrial Lubricants Objectives

Students will:

1873.3.1 Differentiate between oil, grease, and synthetic lubricants and describe various applications for each type.

1873.3.2 Explain how lubricants get contaminated.

1873.3.3 List possible handling and storage problems of lubricants.

Standard 4: Straighten a shaft using a press. (1873.S.4)

Shaft Objectives

Students will:

1873.4.1 Demonstrate the setup of an arbor press, shaft and dial indicator, take readings (data), explain run out, spring back, high point and flat spotting.

1873.4.2 Explain the effects of using heat on a shaft if used for straightening purposes.

1873.4.3 Differentiate between a normal shaft and a hardened shaft.

1873.4.4 Explain the magna fluxing and sonar devices for testing and inspecting for hairline cracks in shafts.

Standard 5: Adjust gibs for full operation. (1873.S.5)

Gibs Objectives

Students will:
1873.5.1 Describe the function of a gib and give examples of its application.
1873.5.2 Describe "excessive wear" and "galled" in relationship to gibs.
1873.5.3 Explain the setup and reading of a dial indicator and micrometer for checking a gib.

Standard 6: Fabricate and install safety guards. (1873.S.6)

Safety Guards Objectives

Students will:
1873.6.1 Identify materials to be used, and illustrate safety guards to be fabricated and installed.
1873.6.2 Explain how a conveyor system functions and what guards are required.

Standard 7: Assemble and align a drive mechanism for a conveyor system. (1873.S.7)

Conveyor System Objectives

Students will:
1873.7.1 Identify different types of conveyor systems, where and why they are used.
1873.7.2 Explain alignment alternatives and various shimming techniques.
1873.7.3 Locate and explain manufacturer's specifications of alignment data, capacity limitations, and assembly procedures.

Standard 8: Identify basic tools used in industrial mechanics and perform various processes.(1873.S.8)

Basic Tools Objectives

Students will:
1873.8.1 Choose the proper tools for given applications, and describe the proper care and maintenance of each.
1873.8.2 Demonstrate adjustments necessary for each tool.
1873.8.3 Drill and tap internal threads and cut external threads of various size and pitch, using the proper thread cutting lubricants.
1873.8.4 Demonstrate the proper use of a band saw and power hack saw, and calculate the desired teeth per inch and cutting speed for various materials.
1873.8.5 Differentiate between tempering and annealing for ferrous and non-ferrous metals.
1873.8.6 Remove damaged screws or bolts, using various sizes and styles of screw extractors.
1873.8.7 Grind surfaces using portable electric grinder, using the proper abrasive.
1873.8.8 Demonstrate the use and maintenance of hand, pedestal and machine grinders by sharpening and deburring tools.
1873.8.9 Differentiate between drilling, boring, counter boring, spot facing, reaming and honing using a drill press, and demonstrate each procedure, using the proper lubricant.
1873.8.10 Mount work in universal lathe chuck, face work piece and center drill work piece.
1873.8.11 Bore and counter bore a hole and cut internal and external threads using lathe.
1873.8.12 Cut a horizontal surface and an external taper on lathe using compound rest.

Standard 9: Inspect and troubleshoot moving parts on machines. (1873.S.9)

Machines Objectives

Students will:

1873.9.1 Differentiate between damaged and normal set up using manufacturer's specifications.
1873.9.2 Identify parts of gear box, open gear drive and explain gear alignments and meshing requirements.

Hydraulics and Pneumatic Systems WVEIS Code 1875

This course will introduce students to the application of hydraulic and pneumatic systems used in industrial maintenance occupations. Students will become familiar with tools and components of hydraulics and pneumatics and will perform a variety of operations using them.

Standard 1: Read and interpret hydraulic and pneumatic diagrams. (1875.S.1)

Hydraulic and Pneumatic Diagrams Objectives

Students will:
1875.1.1 Identify and describe the function of component parts of hydraulic and pneumatic systems.
1875.1.2 Interpret symbols for hydraulics and pneumatics using CAD.
1875.1.3 Identify and describe mechanical servo valves and cartridge valves.

Standard 2: Refill or clean filters and refill system in hydraulic and pneumatic systems. (1875.S.2)

Clean Filters and Refill System Objectives

Students will:
1875.2.1 Describe techniques for draining systems.
1875.2.2 Identify various filters, screen, strainers, and types of hydraulic and compressor oils.

Standard 3: Replace and align hydraulic motors and pumps. (1875.S.3)

Hydraulic Motors and Pumps Objectives

Students will:
1875.3.1 Describe hydraulic pumps, the basic parts and the function of each part.
1875.3.2 Explain how a hydraulic unit functions.
1875.3.3 Identify alignment and couplings.
1875.3.4 Align piston rod of hydraulic pump and adjust pressure.

Standard 4: Install hydraulic and pneumatic lines and measure pressure. (1875.S.4)

Install Hydraulic and Pneumatic Lines Objectives

Students will:
1875.4.1 Identify piping, fittings, gaskets, and seals.
1875.4.2 Inspect and replace pressure relief valve.

Standard 5: Install guards and covers. (1875.S.5)

Guards and Covers Objective

Students will:
1875.5.1 Explain and use manufacturer's specifications for clearance and attachment techniques.

Engine Machining WVEIS Code 1901

This course will introduce students to the basic fundamentals related to high performance engine machining. Students will become familiar with the machining operations necessary to change a conventional stock engine into an oversized performance engine through technology.

Standard 1: Identify, explore, and evaluate different types of high performance engines. (1901.S.1)

High Performance Engines Objectives

Students will:

1901.1.1 Inspect complete engine components for wear – block, heads, connecting rods, crankshaft, camshaft, lifers, etc.
1901.1.2 Determine hardness of valve.
1901.1.3 Determine the new face angle that value should be machined to.
1901.1.4 Determine oversize that cylinder is to be machined to.
1901.1.5 Determine the finish to which cylinder should be honed.
1901.1.6 Recondition and resize rods.
1901.1.7 Bore out valve guides, install new guides, ream to appropriate size for valve.
1901.1.8 Surface cylinder head to appropriate finish per application.
1901.1.9 Inspect crankshaft for cracks, pits, abrasions and then polish or grind depending on condition of crankshaft.
1901.1.10 Determine which camshaft is to be used per application: determine camshaft bearing size and appropriate method to install cam bearings into motor block.
1901.1.11 Check passages and restrictions in oiling systems of motor.

Fundamentals of Machine Tool Technology WVEIS Code 1903

This course will introduce students to the basic fundamentals related to machine tool technology. Students will become familiar with safety, blueprint reading, layout and measuring skills, and various hand and power tools used in the machine shop.

Standard 1: Identify, explore, and evaluate career opportunities related to metals technology.(1903.S.1)

Metals Technology Objectives

Students will:

1903.1.1 Describe a variety of careers related to metals technology, and the training necessary to be successful in those careers.
1903.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of metals technology.
1903.1.3 Identify sources of information about careers in metals technology.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to machine tool technology. (1903.S.2)

Safety Rules Objectives

Students will:

1903.2.1 Recognize and follow general shop safety guidelines.
1903.2.2 Explain and demonstrate the proper use and care of tools, machines, and equipment in the metals laboratory.
1903.2.3 Demonstrate the proper selection and use of fire extinguishers.
1903.2.4 Identify, demonstrate proper use and care of, and wear all basic personal safety equipment.
1903.2.5 Describe safety precautions necessary when using hazardous materials.

Standard 3: Demonstrate measuring skills and techniques used in machine tool technology. (1903.S.3)

Machine Tool Technology Objectives

Students will:

1903.3.1 Identify and properly use a variety of measuring equipment, including: a six inch rule, a 4R graduate rule, and a vernier caliper.
1903.3.2 Demonstrate use of inside and outside micrometer.

Standard 4: Interpret blueprints. (1903.S.4)

Blueprints Objectives

Students will:

1903.4.1 Draw sketches for jobs with notes and symbols.
1903.4.2 Interpret technical orders, standards and specifications for work applications.
1903.4.3 Form materials to blueprint specifications.

Standard 5: Identify basic hand tools used in machine tool technology and perform bench work processes. (1903.S.5)

Basic Hand Tools Objectives

Students will:

1903.5.1 Choose the proper hand tools for given applications, describe the proper care and maintenance of each, and demonstrate adjustments possible with each tool.
1903.5.2 Identify and maintain work holding devices, taps, dies and hand held tools.
1903.5.3 Cut internal and external threads using tap and die.
1903.5.4 Remove a broken bolt and tap.

Standard 6: Perform filing and grinding tasks. (1903.S.6)

Filing and Grinding Tasks Objectives

Students will:

1903.6.1 Demonstrate safe use of a pedestal grinder and use it to grind a center punch point, a chisel point edge, and a twist drill.
1903.6.2 Inspect, dress and true a grinding wheel, and adjust wheel guard and tool rest on grinder.
1903.6.3 Using hand tools, cut and file a square workpiece to precision specifications.

Standard 7: Demonstrate basic band saw operations and use. (1903.S.7)

Basic Band Saw Operations Objectives

Students will:

1903.7.1 Clean, lubricate, and inspect a bandsaw for safe operation.
1903.7.2 Layout and cut off material using both a vertical and horizontal bandsaw.
1903.7.3 Select, install, cut and weld bandsaw blades.

Standard 8: Demonstrate basic drill press operations and use. (1903.S.8)

Basic Drill Press Operations Objectives

Students will:

1903.8.1 Clean, lubricate, and inspect a drill press for safe operation.
1903.8.2 Select, mount, and secure holding device for drill press.
1903.8.3 Perform tapping, countersinking, counter boring, and spot facing operations on drill press.

Standard 9: Demonstrate basic metal lathe operations and use. (1903.S.9)

Basic Metal Lathe Operations Objectives

Students will:

1903.9.1 Clean, lubricate, and inspect a metal lathe for safe operation.
1903.9.2 Mount work in universal lathe chuck, face workpiece, center drill workpiece.
1903.9.3 Center tool bit in lathe using tail stock.
1903.9.4 Perform setup using dial indicator.
1903.9.5 Use a pedestal grinder to shape and sharpen left and right hand cutting tools, grind a radius and cutting edge on a lathe tool kit.
1903.9.6 Perform a variety of lathe operations, including turn round stock to specific size, knurl a workpiece, and freehand form a workpiece.

Standard 10: Demonstrate basic milling machine operations and use. (1903.S.10)

Basic Milling Machine Operations Objectives

Students will:
1903.10.1 Clean, lubricate and inspect a milling machine for safe operation.
1903.10.2 Align vice, locate center of workpiece, and seat workpiece in vice on mill.
1903.10.3 Square stock to size, using a milling machine.

Machine Processes WVEIS Code 1905

This course will provide students with an introduction to metallurgy and advanced power tool skills related to machine tool technology.

Standard 1: Describe the structure and classifications of machining metals. (1905.S.1)

Machining Metals Objectives

Students will:

1905.1.1 Describe the open hearth, Bessemer converter, electric furnace, and basic oxygen process of making steel.
1905.1.2 Classify low, medium, and high carbon steel, and tool and die steels according to the SAE and AISI systems.
1905.1.3 Identify the carbon content of alloy metals using the spark test method.
1905.1.4 Classify aluminum according to the Aluminum Association four digit numbering code.

Standard 2: Perform advanced grinding techniques. (1905.S.2)

Grinding Techniques Objectives

Students will:

1905.2.1 Grind a slot in workpiece.
1905.2.2 Dress angle on grinding wheel.

Standard 3: Demonstrate advanced lathe operations. (1905.S.3)

Lathe Operations Objectives

Students will:

1905.3.1 Cut internal taper surface using taper attachment.
1905.3.2 Cut taper using tailstock off set.
1905.3.3 Chase internal right hand and left hand threads.
1905.3.4 Chase external and internal acme threads.
1905.3.5 Chase external pipe threads.
1905.3.6 Turn an eccentric on lathe.
1905.3.7 Machine a workpiece using face plate.

Standard 4: Demonstrate advanced milling operations. (1905.S.4)

Milling Operations Objectives

Students will:

1905.4.1 Machine woodruff keyway in workpiece.
1905.4.2 Bore and counterbore hole in workpiece.
1905.4.3 Drill holes to specified angles using angular indexing.
1905.4.4 Cut a sprocket using simple indexing.
1905.4.5 Machine a spline using index head.
1905.4.6 Machine a spur gear.

Standard 5: Demonstrate CNC machining operations. (1905.S.5)

CNC Matching Operations Objectives

Students will:

1905.5.1 Identify the various parts of CNC equipment and describe how it operates.
1905.5.2 Demonstrate setup procedure for and properly operate CNC equipment.
1905.5.3 Calculate CNC programming geometry problems.
1905.5.4 Analyze part symmetry for CNC machining.
1905.5.5 Write CNC programs using G and M codes.
1905.5.6 Write incremental and absolute CNC programs.
1905.5.7 Solve angles for CNC program.

Machining Processes and Applications WVEIS Code 1907

This course will provide students with intermediate hand and power tool skills related to machine tool technology.

Standard 1: Demonstrate intermediate measuring skills. (1907.S.1)

Measuring Skills Objectives

Students will:
1907.1.1 Perform measuring skills using vernier calipers.
1907.1.2 Scribe circles, radian, and parallel lines on a workpiece.

Standard 2: Demonstrate intermediate vertical band saw operations. (1907.S.2)

Vertical Band Saw Objectives

Students will:
1907.2.1 Layout and saw an angle using vertical bandsaw.
1907.2.2 Perform contour cutting on vertical bandsaw.

Standard 3: Demonstrate intermediate grinding operations. (1907.S.3)

Grinding Operations Objectives

Students will:
1907.3.1 Mount and balance a grinding wheel on pedestal grinder.
1907.3.2 Grind flat, vertical, and angular surfaces.
1907.3.3 Grind a workpiece square and parallel to precision specifications.

Standard 4: Demonstrate intermediate metal lathe operations. (1907.S.4)

Metal Lathe Objectives

Students will:
1907.4.1 Counterbore hole in a workpiece.
1907.4.2 Part off workpiece.
1907.4.3 Machine an external taper using a taper attachment.
1907.4.4 Turn a long shaft between centers.
1907.4.5 Indicate shaft in lathe using a steady rest.
1907.4.6 Align tailstock using a dial indicator.
1907.4.7 Machine internal and external o-ring grooves.

Standard 5: Demonstrate intermediate milling operations. (1907.S.5)

Milling Operations Objectives

Students will:
1907.5.1 End mill key seats in workplace.
1907.5.2 Drill equally spaced holes on a bolt circle.
1907.5.3 Machine slots in workpiece.
1907.5.4 Machine equally spaced slots using direct indexing.
1907.5.5 Machine a hexagon workpiece using simple indexing.
1907.5.6 Align milling machine head, center drill workpiece, drill hole, and ream hole in workpiece on

mill.

1907.5.7 Set-up workpiece using clamps.

1907.5.8 Flycut workpiece on vertical mill.

Metal Trades Processes and Application WVEIS Code 1909

This course will introduce students to the basic fundamentals related to machine tool and welding technology. Students will develop advanced skills using various hand and power tools.

Standard 1: Demonstrate measuring skills and techniques. (1909.S.1)

Measuring Skills and Techniques Objective

Students will:
1909.1.1 Use a dial indicator properly.

Standard 2: Perform metal pressing operations. (1909.S.2)

Metal Pressing Operations Objectives

Students will:
1909.2.1 Bend and straighten parts using hydraulic iron worker.
1909.2.2 Set-up and brake workpiece using hydraulic press.
1909.2.3 Perform metal shear operations.

Standard 3: Perform power saw operations. (1909.S.3)

Power Saw Operations Objectives

Students will:
1909.3.1 Select speeds, feeds, and adjust power saw.
1909.3.2 Perform contour cuts using vertical band saw.

Standard 4: Perform metal lathe operations and procedures. (1909.S.4)

Metal Lathe Operations and Procedures Objectives

Students will:
1909.4.1 Perform drilling, tapping, reaming, counterboring and countersinking operations on a lathe.
1909.4.2 File and polish using lathe.
1909.4.3 Cut internal and external V threads.
1909.4.4 Cut internal and external tapers.

Standard 5: Perform milling machine operations and procedures. (1909.S.5)

Milling Machine Operations and Procedures Objectives

Students will:
1909.5.1 Perform side cutter operations.
1909.5.2 Demonstrate simplified indexing operation on milling machine.
1909.5.3 Cut key slots using milling machine.
1909.5.4 Perform slitting saw operation on milling machine.
1909.5.5 Perform slot milling operation.
1909.5.6 Set-up and align milling machine and holding devices.

Standard 6: Demonstrate CNC machining operations. (1909.S.6)

CNC Machining Operations Objectives

Students will:
1909.6.1 Identify the various parts of CNC equipment and describe how it operates.
1909.6.2 Demonstrate setup procedure for and properly operate CNC equipment.
1909.6.3 Calculate CNC programming geometry problems.
1909.6.4 Analyze part symmetry for CNC machining.
1909.6.5 Write CNC programs using G and M codes.
1909.6.6 Write incremental and absolute CNC programs.
1909.6.7 Solve angles for CNC program.

Standard 7: Demonstrate advanced Gas Metal Arc welding techniques. (1909.S.7)

Gas Metal Arc Objectives

Students will:
1909.7.1 Select, prepare, adjust, and operate Gas Metal Arc welding equipment.
1909.7.2 Prepare, position, and tack weld parts for Gas Metal Arc welding.
1909.7.3 Perform flat and vertical Gas Metal Arc welding positions.

Standard 8: Demonstrate advanced Gas Tungsten Arc welding techniques. (1909.S.8)

Gas Tungsten Arc Objectives

Students will:
1909.8.1 Operate Gas Tungsten Arc welding equipment to weld aluminum in flat position.
1909.8.2 Operate Gas Tungsten Arc welding equipment to weld steel in flat position.

Standard 9: Demonstrate basic Shielded Metal Arc welding. (1909.S.9)

Shielded Metal Arc Objectives

Students will:
1909.9.1 Set up and adjust Shielded Metal Arc welding equipment.
1909.9.2 Arc weld carbon steel in flat position.
1909.9.3 Perform Shielded Metal Arc weld of carbon steel in vertical and overhead position.

Block and Rock Laying — WVEIS Code 1911

This course will introduce students to the basic fundamentals of block and rock laying. Students will become familiar with basic tools, equipment and techniques used in block and rock laying.

Standard 1: Install a block foundation. (1911.S.1)

Block Foundation Objectives

Students will:
1911.1.1 Describe how to locate the corners of a foundation wall on the footing from batter boards.
1911.1.2 Estimate materials needed for a foundation project.
1911.1.3 Lay out, bond, build and waterproof a foundation project.
1911.1.4 Describe and install wire reinforcement and lintels in a block wall.

Standard 2: Lay concrete block to the line. (1911.S.2)

Concrete Block Objectives

Students will:
1911.2.1 Define terms associated with laying block.
1911.2.2 Identify methods of putting up a line.
1911.2.3 Lay out a block wall, and lay block to the line using an established level.
1911.2.4 Discuss the importance of having uniform bed joints and head joints.

Standard 3: Lay block leads. (1911.S.3)

Block Leads Objectives

Students will:
1911.3.1 Write a paragraph describing the importance and purpose of laying block leads to the correct height, level and plumb.
1911.3.2 Estimate materials and build an outside and inside corner lead seven courses high.
1911.3.3 Build a block partition wall with control joints.

Standard 4: Lay stone. (1911.S.4)

Stone Objectives

Students will:
1911.4.1 Define terms associated with cut stone.
1911.4.2 Describe various types of stone, and the procedure for laying out stone.
1911.4.3 Select types of anchors used in setting stone.
1911.4.4 Identify methods of handling stone.
1911.4.5 List factors to consider when setting stone.
1911.4.6 Lay a stone wall.

Bricklaying WVEIS Code 1913

This course will introduce students to the basic fundamentals of bricklaying. Students will become familiar with basic tools, equipment and techniques used in bricklaying.

Standard 1: Tool brick and mortar joints. (1913.S.1)

Tool Brick and Mortar Joints Objectives

Students will:

1913.1.1 Identify the different types of jointers and their specific uses.
1913.1.2 Strike, brush, and polish the following joints: rake joints, squeeze joints, trowel struck joints and V-joints.
1913.1.3 Grind and repair a brick wall.

Standard 2: Lay brick to the line. (1913.S.2)

Brick Objectives

Students will:

1913.2.1 Define terms associated with laying brick to the line.
1913.2.2 Identify and demonstrate methods of putting up a line and setting a trig brick.
1913.2.3 Dry bond a wall.
1913.2.4 Lay brick to the line using established leads and corner poles, and discuss the importance of each.
1913.2.5 Discuss the importance of having a plumb bond.
1913.2.6 Discuss the purpose of wall ties and describe how to install them.

Standard 3: Construct brick corners. (1913.S.3)

Brick Corners Objectives

Students will:

1913.3.1 Define terms associated with laying racked-back leads, inside corners, outside return corners and toothed-out leads.
1913.3.2 Write a short paragraph describing the purposes of leads.
1913.3.3 Lay a racked back, pyramid, inside and outside return corner, toothed lead.

Standard 4: Lay different brick positions. (1913.S.4)

Brick Positions Objectives

Students will:

1913.4.1 Discuss the different meanings of bonding, and identify various types of bonds.
1913.4.2 Define terms associated with wall layout.
1913.4.3 Correctly identify and describe the six different brick positions.
1913.4.4 Lay a double wall that contains stretches, headers, soldiers, shiners, row locks and sailors.

Standard 5: Install brick paving. (1913.S.5)

Brick Paving Objectives

Students will:

1913.5.1 List the various types of bricks and pattern bonds in paving and flooring.
1913.5.2 Describe how brick paving and floors are laid with and without mortar.
1913.5.3 Lay various brick patterns within a 2' x 4' frame.

Standard 6: Build chimneys and fireplaces. (1913.S.6)

Chimneys and Fireplaces Objectives

Students will:
1913.6.1 Define terms associated with chimneys and fireplaces.
1913.6.2 Identify various types of fireplaces, and identify the basic parts of a fireplace.
1913.6.3 Discuss the factors to consider in constructing fireplaces and chimneys.
1913.6.4 Write a paragraph describing the procedure for buttering a firebrick.
1913.6.5 Describe the characteristics of a firebox, and properly construct one.
1913.6.6 Construct a fireplace.
1913.6.7 Form a corbel.

Standard 7: Construct a flight of steps. (1913.S.7)

Steps Objectives

Students will:
1913.7.1 Define terms related to the parts of a porch and steps.
1913.7.2 Describe the relationship between riser and tread and why it is important in building steps.
1913.7.3 Describe how brick steps are laid out and constructed, and lay out and build a set of brick steps.

Standard 8: Lay out and construct an arch. (1913.S.8)

Arch Objectives

Students will:
1913.8.1 Define terms associated with arch construction, and describe the major types of arches used today.
1913.8.2 Describe the theory and function of an arch.
1913.8.3 Describe how wood arch forms are constructed in arches.
1913.8.4 Lay out and construct a semi-circular arch.

Concrete Finishing WVEIS Code 1915

This course will apply the concepts, applications, and techniques necessary for various phases of concrete construction.

Standard 1: Understand concrete construction and finishing concepts. (1915.S.1)

Concrete Construction Objectives

Students will:
1915.1.1 Define terms associated with concrete construction.
1915.1.2 Identify the composition and characteristics of concrete.
1915.1.3 Identify the uses of concrete as a building material.
1915.1.4 Identify the effect of craftsmanship on finished concrete.
1915.1.5 Explain the concrete construction process.
1915.1.6 Identify site operation work requirements.
1915.1.7 Explain the career potentials in concrete construction and finishing.

Standard 2: Understand and apply safety used in concrete construction. (1915.S.2)

Safety Objectives

Students will:
1915.2.1 Describe and wear different types of safety gear for the work site.
1915.2.2 State the guidelines for dressing appropriately for concrete work.
1915.2.3 Describe how to safely handle concrete when forming, placing, curing, and finishing.
1915.2.4 Describe safety precautions to follow when working in extreme heat and cold.
1915.2.5 Describe safety precautions to follow when working with hazardous materials.
1915.2.6 Describe proper procedures for handling and maintaining concrete construction tools safely.

Standard 3: Analyze the properties of concrete. (1915.S.3)

Properties of Concrete Objectives

Students will:
1915.3.1 Describe the properties of concrete.
1915.3.2 Explain how the properties of concrete are used in construction.
1915.3.3 Determine how the ingredients of concrete influence mix, placement, finishing, durability, and performance.
1915.3.4 Describe quality-control tests on concrete ingredients, fresh concrete, and hardened concrete.
1915.3.5 Mix a test batch of concrete.
1915.3.6 Perform a slump test.

Standard 4: Identify tools and equipment used in concrete construction. (1915.S.4)

Tools and Equipment Objectives

Students will:
1915.4.1 Name the tools used in placing and finishing concrete.
1915.4.2 Name the power equipment used in placing and finishing concrete.
1915.4.3 Describe how each tool is use.
1915.4.4 Describe how the power equipment is used.
1915.4.5 Associate trade terms with the appropriate tools and equipment.

Standard 5: Prepare worksite for concrete placement. (1915.S.5)

Concrete Placement Objectives

Students will:
1915.5.1 Describe basic site layout using levels and measuring tools.
1915.5.2 Properly locate, grade, and build forms for horizontal placement.
1915.5.3 Perform compaction activities on subgrades.
1915.5.4 Describe various joints and where to locate them.
1915.5.5 Describe various reinforcements and how to place them.
1915.5.6 Describe information needed when ordering concrete.

Standard 6: Place concrete. (1915.S.6)

Place Concrete Objectives

Students will:
1915.6.1 Describe how concrete is conveyed and placed.
1915.6.2 Draw up a pre-placement checklist.
1915.6.3 Demonstrate the use of equipment and tools for placing concrete.
1915.6.4 Demonstrate the process of depositing, spreading, consolidating, and striking off concrete in a form.
1915.6.5 Associate trade names with the appropriate processes and equipment.

Standard 7: Apply basic concrete finishing techniques. (1915.S.7)

Finishing Techniques Objectives

Students will:
1915.7.1 Describe the basic finishing process.
1915.7.2 Use the following finishing hand tools: float, edger, groover, and trowel.
1915.7.3 Mark and cut joints with a saw.
1915.7.4 Apply a broom finish.
1915.7.5 Apply a rubbing finish.
1915.7.6 Associate trade terms with the appropriate processes and equipment.

Standard 8: Curing and protecting concrete. (1915.S.8)

Curing and Protecting Concrete Objectives

Students will:
1915.8.1 Describe the process of curing concrete.
1915.8.2 Identify methods of curing concrete.
1915.8.3 Describe how each method is applied.
1915.8.4 Identify when each method is used.
1915.8.5 Associate trade terms with the appropriate processes and equipment.

Standard 9: Troubleshooting basic concrete construction problems. (1915.S.9)

Construction Problems Objectives

Students will:
1915. 9.1 Describe a basic troubleshooting methodology that can be used to identify a variety of concrete construction problems and their causes.
1915. 9.2 Identify problems with fresh concrete and describe ways to prevent them.
1915. 9.3 Identify different concrete defects such as crazing, cracking, dusting, scaling, popouts, and

efflorescence, and describe ways to prevent them.

Foundations and Footings WVDE Code 1917

This course will introduce students to the basic fundamentals of laying foundations and footings. Students will become familiar with basic tools, equipment and techniques used to lay foundations and footings.

Standard 1: Layout a foundation. (1917.S.1)

Foundation Objectives

Students will:
1917.1.1 Discuss the importance of accuracy in foundation layout.
1917.1.2 Describe how to square a foundation by finding the diagonal.
1917.1.3 Describe the important features of a foundation.
1917.1.4 Name the parts of a builders level and transit, and set up and adjust both properly.
1917.1.5 Lay out and square a foundation using a transit and the 6-8-10 method.
1917.1.6 Discuss the importance of the location, installation and use of batter boards.

Standard 2: Layout a footer. (1917.S.2)

Footer Objectives

Students will:
1917.2.1 Discuss the size of footings for various widths of block.
1917.2.2 Describe the two types of footings used for a foundation.
1917.2.3 Describe the use of steel reinforcement in concrete, and how a footing is placed and cured.
1917.2.4 Describe how to estimate materials for a footing.
1917.2.5 Estimate and prepare a material list for a footer.

Standard 3: Demonstrate knowledge of blueprint reading. (1917.S.3)

Blueprint Reading Objectives

Students will:
1917.3.1 Identify various types of working drawings, and describe the divisions found in a set of building plans.
1917.3.2 Measure accurately using an architects scale.
1917.3.3 Interpret a set of brick masonry specifications, listing major items found on the specifications and the items that may be shown in detail.
1917.3.4 Properly read a structural plan, a plan view, and a finish schedule.

Fundamentals of Masonry — WVDE Code 1919

This course will introduce students to the basic fundamentals in the masonry industry. Students will become familiar with basic tools, equipment and techniques used in masonry.

Standard 1: Identify, explore, and evaluate career opportunities related to masonry. (1919.S.1)

Career Opportunities Objectives

Students will:

1919.1.1 Describe a variety of careers related to masonry, and the training necessary to be successful in those careers.
1919.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of masonry.
1919.1.3 Identify sources of information about careers in masonry.

Standard 2: Demonstrate knowledge of basic blueprint reading. (1919.S.2)

Blueprint Reading Objectives

Students will:

1919.2.1 Interpret scale drawings.
1919.2.2 Define terms, abbreviations and symbols associated with basic blueprint reading.
1919.2.3 Demonstrate knowledge of specifications and codes.

Standard 3: Demonstrate safe work habits while working with masonry materials and equipment.(1919.S.3)

Safe Work Habits Objectives

Students will:

1919.3.1 Identify and practice safety rules used in the masonry lab.
1919.3.2 Complete a safety checklist.
1919.3.3 Identify safety practices related to the use of various hand and power masonry tools.

Standard 4: Identify and properly use various hand tools related to the masonry field. (1919.S.4)

Hand Tools Objectives

Students will:

1919.4.1 Identify and describe various masonry tools, and demonstrate how to use them properly.
1919.4.2 Explain the basic rules concerning the care of masonry hand tools.

Standard 5: Demonstrate proper and safe use of ladders and scaffolds. (1919.S.5)

Ladders and Scaffolds Objective

Students will:

1919.5.1 Identify basic types of ladders and scaffolds and safely erect both using proper placement and angle.

Standard 6: Describe various masonry units and the manufacturing processes used to

produce them. (1919.S.6)

Masonry Units Objectives

Students will:
1919.6.1 Describe the development of brick and how they are used today.
1919.6.2 Describe the methods of block manufacturing from early times to present.
1919.6.3 Match the description of various brick and block units to correct size of the units.
1919.6.4 List the different proportions and characteristics of brick.

Standard 7: Identify the different mortar types and their characteristics. (1919.S.7)

Mortar Objectives

Students will:
1919.7.1 Identify the various types of mortar used in masonry work.
1919.7.2 Describe admixtures and their purpose in masonry work.
1919.7.3 Describe the causes and prevention of efflorescence.

Standard 8: Interpret and read the various rules in masonry work. (1919.S.8)

Masonry Objectives

Students will:
1919.8.1 Describe the purpose of brick spacing and its purpose in spacing mortar joints.
1919.8.2 Describe the purpose of a modular rule and how it is used in relation to modular construction.

Standard 9: Properly mix and spread mortar. (1919.S.9)

Mortar Objectives

Students will:
1919.9.1 Define terms associated with spreading mortar.
1919.9.2 Proportion mortar ingredients for specific mixes, and mix to the proper consistency using a mortar hoe and a power mortar mixer.
1919.9.3 Identify different methods of picking up mortar from a board and pan.
1919.9.4 Distinguish between the correct and incorrect ways of holding a trowel and properly spread mortar.
1919.9.5 Label head and bed joints when given an illustration.
1919.9.6 Demonstrate the ability to spread mortar on a 2x4.

Fundamentals of Materials Distribution WVEIS Code 1921

This course will introduce students to the careers, skills and knowledge necessary to obtain employment in occupations related to preparing, accepting, checking and storing goods received for business and industry.

Standard 1: Identify, explore, and evaluate career opportunities related to materials handling and inventory control. (1921.S.1)

Career Opportunities Objectives

Students will:

1921.1.1 Describe a variety of careers related to materials handling and inventory control, and the training necessary to be successful in those careers.
1921.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of materials handling and inventory control.
1921.1.3 Identify sources of information about careers in materials handling and inventory control.

Standard 2: Demonstrate knowledge of basic safety rules and equipment as it relates to materials handling and inventory control. (1921.S.2)

Safety Rules Objectives

Students will:

1921.2.1 Recognize and follow general shop safety guidelines.
1921.2.2 Identify, select and demonstrate proper use and care of all basic personal safety equipment.
1921.2.3 Demonstrate proper lifting techniques and describe injuries that may occur if these procedures are not followed.
1921.2.4 Demonstrate the proper selection and use of fire extinguishers.
1921.2.5 Describe safety precautions used when handling hazardous materials.
1921.2.6 Demonstrate first aid procedures for immediate care in a variety of injuries.

Standard 3: Prepare merchandise for shipment. (1921.S.3)

Shipment Objectives

Students will:

1921.3.1 Address packages, cartons, and containers, and deliver merchandise to proper station for shipment.
1921.3.2 Determine method of shipment, UPS charges, and truck charges.
1921.3.3 Build skids, pallets, and boxes.
1921.3.4 Obtain goods from stockroom or warehouse; inspect merchandise to ensure entire order can be accounted for.
1921.3.5 Prepare invoices and appropriate shipping forms.
1921.3.6 Prepare damaged goods claims and package damaged goods for reshipment.

Standard 4: Accept and check materials received. (1921.S.4)

Accept and Check Materials Objectives

Students will:

1921.4.1 Describe the procedure for assisting carrier in off-loading supplies.
1921.4.2 Check invoice against purchase order and number of cartons against bill of lading.

1921.4.3 Prepare overage, shortage and discrepancy (OS&D) report and record carrier name and carrier number on receiving report.
1921.4.4 Spot check cartons for damage.

Standard 5: Properly store goods received. (1921.S.5)

Store Goods Received Objectives

Students will:
1921.5.1 Arrange goods according to identification codes.
1921.5.2 Check descriptions of goods against invoices.
1921.5.3 Maintain and update master warehouse location plans.
1921.5.4 Move goods to proper stocking area (normal control, first-in/first-out).
1921.5.5 Open containers with proper tools.
1921.5.6 Provide secure storage for property that is classified, sensitive, radioactive, hazardous or flammable.
1921.5.7 Store goods in proper location (bins, racks, etc.).

Materials Distribution Equipment WVEIS Code 1923

This course will introduce students to various skills and knowledge necessary in moving goods for business and industry with manual and power equipment.

Standard 1: Demonstrate safe and efficient use of manual materials handling equipment. (1923.S.1)

Equipment Objectives

Students will:

1923.1.1 List and explain the uses of various kinds of material handling equipment.
1923.1.2 Properly operate a dolly, desk mover, file cabinet mover, and a barrel truck.
1923.1.3 Properly operate a four-wheeled platform truck.
1923.1.4 Properly operate a 5000 lb. manual pallet jack.
1923.1.5 Properly operate a manually operated banding machine and demonstrate the use of plastic wrap.

Standard 2: Demonstrate safe and efficient use of powered materials handling equipment. (1923.S.2)

Handling Equipment Objectives

Students will:

1923.2.1 Identify and explain the parts and controls of powered industrial trucks and manlift cages.
1923.2.2 Define and properly use forklift terms.
1923.2.3 Properly operate a stand up & reach fork truck (electric).
1923.2.4 Properly operate both an LPG/gas and an electric a sit down fork truck.
1923.2.5 Properly operate an electric order selector fork truck.
1923.2.6 Properly operate an electric pallet jack.
1923.2.7 List proper battery charging procedures and storage.
1923.2.8 List proper refueling procedures for LPG/gas powered fork trucks.
1923.2.9 Identify and describe the parts and controls of materials handling robots.
1923.2.10 Demonstrate basic robotic programming.

Materials Management WVEIS Code 1925

This course will introduce students to the preparation of printed data for materials handling, using a variety of inventorying equipment.

Standard 1: Perform computer operations related to maintaining an inventory. (1925.S.1)

Computer Operations Objectives

Students will:
1925.1.1 Demonstrate computer functions and start up procedures.
1925.1.2 Prepare receiving reports and purchase requisitions.
1925.1.3 Demonstrate data entry.
1925.1.4 Prepare printouts on inventory by number or descriptions and packing lists.
1925.1.5 Prepare printed packing lists, purchase orders, and invoices.
1925.1.6 Demonstrate inventory adjustments.
1925.1.7 Prepare vendor list, sales register, and customer lists.
1925.1.8 Edit accounts.
1925.1.9 Print price lists.
1925.1.10 Define computerized inventory terms.

Standard 2: Perform bar code inventory operations related to performance inventory procedures. (1925.S.2)

Bar Code Objectives

Students will:
1925.2.1 Demonstrate UPC bar code reader operations.
1925.2.2 List operational procedures to upload and download inventory.
1925.2.3 Demonstrate proper care and storage of bar code equipment.
1925.2.4 List proper procedures to print bar code labels.

Supervisory Skills In Warehousing — WVEIS Code 1927

This course will instruct students in proper performance and execution of managerial duties in a warehouse.

Standard 1: Perform managerial duties within the warehouse. (1927.S.1)

Managerial Duties Objectives

Students will:

1927.1.1 Interpret policies, directives, or procedures for personnel.
1927.1.2 Plan layout of facilities and storage of goods.
1927.1.3 Prepare requisitions for in-house supplies or equipment.
1927.1.4 Supervise the accomplishment of work priorities.
1927.1.5 Supervise inventory of goods in the facility.
1927.1.6 Supervise receiving operations.
1927.1.7 Supervise shipping operations.
1927.1.8 Supervise storage of goods in the facility.

Standard 2: Perform personnel training duties within the warehouse. (1927.S.2)

Personnel Training Objectives

Students will:

1927.2.1 Prepare training and evaluation procedures for personnel.
1927.2.2 Role play an interview with a potential employee.
1927.2.3 Prepare employee selection criteria.
1927.2.4 Prepare and update employee portfolio.

Standard 3: Perform the administrative functions required in warehousing. (1927.S.3)

Administrative Functions Objectives

Students will:

1927.3.1 Adjust inventory records and complete inventory reports.
1927.3.2 Audit stock balance and consumption reports.
1927.3.3 Conduct on-going and periodic physical inventory.
1927.3.4 Make entries on the stock locator system cards to show changes in location of goods, and properly file cards.
1927.3.5 Prepare requisition and shipment documents.
1927.3.6 Post transaction data to stock control record cards.

Introduction to SQL and PL/SQL — WVEIS Code 1931

This course offers students an extensive introduction to data-server technology. Students are taught to create and maintain database objects and to store, retrieve and manipulate data using the powerful SQL and PL/SQL programming languages. Students will create blocks of application code that can be shared by multiple forms, reports and data management applications. They will demonstrate this learning by revisiting their WebDB database project and use SQL in place of the GUI interface. Through the use of SQL and PL/SQL, students will gain fast, efficient and secure access to the database.

Standard 1: Demonstrate knowledge of SQL. (1931.S.1)

SQL Objectives

Students will:

1931.1.1 Identify the structural elements of a relational database table.
1931.1.2 List and describe the System Development Life Cycle.
1931.1.3 Describe the Oracle implementation of the Relational Database Management System RDBMS) and Object Relational Database Management System (ORDBMS).
1931.1.4 Explain how SQL and PL/SQL are used in the Oracle Product Set. Identify the advantages of PL/SQL.

Standard 2: Write basic SQL statements. (1931.S.2)

Write SQL Statements Objectives

Students will:

1931.2.1 List the capabilities of SQL SELECT statements.
1931.2.2 Execute a basic SELECT statement.
1931.2.3 Differentiate between SQL statements and SQL*Plus commands.

Standard 3: Restrict and sort data. (1931.S.3)

Restrict and Sort Data Objectives

Students will:

1931.3.1 Identify and model various types of entities.
1931.3.2 Identify naming and drawing conventions for entities.
1931.3.3 Sequence the steps that are necessary for creation of an entity.
1931.3.4 Analyze and model the relationships between entities.

Standard 4: Perform single row functions. (1931.S.4)

Row Functions Objectives

Students will:

1931.4.1 Perform calculations on data.
1931.4.2 Modify individual data items.
1931.4.3 Use character, number and date functions in SELECT statements.
1931.4.4 Format data and numbers for display purposes.
1931.4.5 Convert column data types.

Standard 5: Display data from multiple tables. (1931.S.5)

Multiple Tables Objectives

Students will:
1931.5.1 Construct SELECT statements to access data from more than one table using equality and nonequality joins.
1931.5.2 Use outer joins through viewing data that generally does not meet a join condition.
1931.5.3 Join a table to itself.

Standard 6: Aggregate data using group functions. (1931.S.6)

Group Functions Objectives

Students will:
1931.6.1 Identify the available group functions and describe their use.
1931.6.2 Demonstrate the ability to group data through the use of the GROUP BY clause.
1931.6.3 Demonstrate the ability to include or exclude grouped rows by using the HAVING clause.

Standard 7: Demonstrate knowledge of subqueries. (1931.S.7)

Subqueries Objectives

Students will:
1931.7.1 Write a query with an embedded subquery.
1931.7.2 Evaluate and perform a multiple-column subquery.
1931.7.3 Describe and explain the behavior of subqueries when null values are retrieved.
1931.7.4 Create a subquery in a FROM clause.

Standard 8: Produce readable output with SQL* Plus and manipulate data. (1931.S.8)

Readable Output Objectives

Students will:
1931.8.1 Produce queries that require an input variable.
1931.8.2 Customize the SQL*Plus environment using SET commands for control.
1931.8.3 Produce more readable output through the use of the COLUMN and BREAK commands.
1931.8.4 Identify Data Manipulation Language (DML) and describe various DML statements.
1931.8.5 Utilize Data Manipulation Language (DML) through inserting, updating and deleting rows from a table.
1931.8.6 Control transactions using COMMIT and ROLLBACK statements.

Standard 9: Create and manage database objects. (1931.S.9)

Database Objects Objectives

Students will:
1931.9.1 Describe the main database objects.
1931.9.2 Create tables and alter their definitions.
1931.9.3 Describe the data types that can be used when specifying column definition.

Standard 10: Alter tables and constraints implementing views. (1931.S.10)

Alter Tables Objectives

Students will:
1931.10.1 Create, drop, rename and truncate tables using SQL*Plus.

1931.10.2 Identify and describe various constraints including NOT NULL, UNIQUE, PRIMARY KEY, FOREIGN KEY and CHECK.
1931.10.3 Create and maintain constraints including Adding, Dropping, Enabling, Disabling and Cascading.
1931.10.4 Recognize views and explain how they are created, how they retrieve data and how they perform DML operations.

Standard 11: Create and implement views, synonyms, indexes and other database objects.(1931.S.11)

Database Objects Objectives

Students will:
1931.11.1 Create views, retrieve data through a view, alter the definition of a view and drop a view.
1931.11.2 Categorize information by using Top-N queries to retrieve specified data.
1931.11.3 Identify the features of a sequence and display sequence values using a data dictionary view.
1931.11.4 Identify the characteristics of a cached sequence.
1931.11.5 Modify and remove a sequence using a SQL statement.
1931.11.6 Identify the features of private and public synonyms.
1931.11.7 Identify characteristics of an index and describe different types.
1931.11.8 Create and remove an index using a SQL statement.

Standard 12: Control user access and SQL workshop. (1931.S.12)

Control User Access Objectives

Students will:
1931.12.1 Identify the features of database security.
1931.12.2 Create users using SQL*Plus statements.
1931.12.3 Grant and Revoke object privileges using SQL*Plus.

Standard 13: Demonstrate knowledge of PL/SQL. (1931.S.13)

PL/SQL Objectives

Students will:
1931.13.1 List and describe the benefits of PL/SQL.
1931.13.2 Recognize the basic PL/SQL block and its sections.
1931.13.3 Declare PL/SQL variables and describe their significance.
1931.13.4 Execute a PL/SQL block.

Standard 14: Write executable statements working with composite datatype. (1931.S.14)

Executable Statements Objectives

Students will:
1931.14.1 Recognize the significance of the executable section and decide when to use it.
1931.14.2 Write PL/SQL statements in the executable section.
1931.14.3 Describe the rules of nested blocks.
1931.14.4 Identify and utilize appropriate coding conventions.
1931.14.5 Create a PL/SQL block that selects, inserts and updates data in a table.

Standard 15: Write control structures interacting with the Oracle server. (1931.S.15)

Control Structures Objectives

Students will:
1931.15.1 Identify the uses and types of control structures.
1931.15.2 Construct and execute an IF statement.
1931.15.3 Evaluate differences between loop statements.
1931.15.4 Control block flow through the use of nested loops and labels.

Standard 16: Write explicit cursors. (1931.S.16)

Cursors Objectives

Students will:
1931.16.1 Distinguish between an implicit and explicit cursor.
1931.16.2 Use a PL/SQL record variable.
1931.16.3 Write a cursor FOR loop.
1931.16.4 Determine when a FOR UPDATE clause in a cursor is required.
1931.16.5 Write a cursor that uses a subquery.

Standard 17: Demonstrate knowledge of handling exceptions review for the certification exam.(1931.S.17)

Handling Exceptions Objectives

Students will:
1931.17.1 Define PL/SQL exceptions.
1931.17.2 Recognize unhandled exceptions.
1931.17.3 List and use different types of PL/SQL exception handlers.
1931.17.4 Trap unanticipated errors.
1931.17.5 Describe the effect of exception propagation in nested blocks.
1931.17.6 Customize PL/SQL exception messages.

Java Database Applications WVEIS Code 1933

This course prepares students for taking the "Sun Certified Programmer for Java 2" exam. Students will also learn how to develop a Java database application, using JDeveloper for rapid application development. Approximately 6 weeks will be spent preparing for the syntax-and-rule-specific Java Certification exam.

Standard 1: Demonstrate knowledge of Java foundation classes. (1933.S.1)

Java Foundation Classes Objectives

Students will:

1933.1.1 Identify the five distinct parts of the JFC
1933.1.2 Demonstrate how Swing, AWT, and the JFC relate to each other.
1933.1.3 Identify the JFC-related packages, classes and interfaces.
1933.1.4 Use the Icon interface to annotate a component with an image.
1933.1.5 Establish a particular look and feel for a program's components.
1933.1.6 Implement a ToolTip to provide some simple, context-specific help.
1933.1.7 Develop borders around components.
1933.1.8 Use the four new Swing layouts.
1933.1.9 Recognize Swing event types and the new exception classes.
1933.1.10 Create a japplet.
1933.1.11 Create progress bars that display a current value.
1933.1.12 Present data in a two-dimensional format using tables.
1933.1.13 Create tabbed panes.
1933.1.14 Display data in a hierarchical structure using trees.
1933.1.15 Create split panes separated by a vertical or horizontal divider.
1933.1.16 Create pull-down menu items and attach them to a menu bar.
1933.1.17 Create mnemonics, or keyboard equivalents, and accelerators, keys pushed to activate the menu.
1933.1.18 Use event listeners to handle Action and Item events.
1933.1.19 Create popup menus and nested menus.
1933.1.20 Use Swing to create toolbar buttons for docked and floating toolbars.

Standard 2: Apply command line Applets. (1933.S.2)

Command Line Objectives

Students will:

1933.2.1 Write an applet using a subclass of the Applet class.
1933.2.2 Draw graphics with different colors and characters with different fonts.
1933.2.3 Identify the functions of the applet's execution methods.
1933.2.4 Load images and sounds in an applet.

Standard 3: Identify Applets and Jdeveloper. (1933.S.3)

Applets and Jdeveloper Objectives

Students will:

1933.3.1 Write an applet and embed it in an HTML page.
1933.3.2 Describe which methods are called by the browser, and when.
1933.3.3 Pass parameters into an applet from an HTML page.
1933.3.4 Deploy an applet using Jdeveloper.

Standard 4: Demonstrate Form Layout Manager. (1933.S.4)

Form Layout Manager Objectives

Students will:
1933.4.1 Write programs using the complex gridbag layout manager.
1933.4.2 Add swing containers to an application.
1933.4.3 Understand how layout managers operate.
1933.4.4 Write programs using the four basic layout manager types.
1933.4.5 Embed swing components into swing containers.
1933.4.6 Group swing components.

Standard 5: Demonstrate knowledge of Multithreading. (1933.S.5)

Multithreading Objectives

Students will:
1933.5.1 Distinguish between multithreading and multiprocessing.
1933.5.2 Design classes that extend the Thread class.
1933.5.3 Design applets that implement the Runnable interface.
1933.5.4 Avoid synchronization problems which can occur in multithreaded programs.
1933.5.5 Explain the basic concepts of multithreading.
1933.5.6 Create multiple threads.
1933.5.7 Use the synchronized keyword.
1933.5.8 Describe the life cycle of a thread.

Standard 6: Review for certification exam. (1933.S.6)

Certification Exam Objectives

Students will:
1933.6.1 Increase understanding of Java concepts.
1933.6.2 Become familiar with certification exam format and questions.

Standard 7: Access a database using JDBC. (1933.S.7)

JDBC Objectives

Students will:
1933.7.1 Describe the benefits of using Java and JDBC in conjunction with databases.
1933.7.2 Identify the package in the JDBC API that defines classes and interfaces for writing database applications in Java.
1933.7.3 Identify the importance of drivers to database connectivity and manipulation and the advantage of JDBC drivers.
1933.7.4 Identify Oracle JDBC drivers.
1933.7.5 Describe how Java can be used in all components of client-server and multitier database applications.
1933.7.6 Compare the use of Java in each component.
1933.7.7 Describe how Oracle8i and Oracle jserver implement each technology.
1933.7.8 Connect to a database.
1933.7.9 Write code to query and update a SQL database.
1933.7.10 Use stored procedures and precompiled statements.

Standard 8: Apply advanced JDBC topics and performance extensions. (1933.S.8)

Advanced JDBC Objectives

Students will:
1933.8.1 Define a JDBC driver and describe the Oracle JDBC drivers.
1933.8.2 Connect to a database using JDBC.

Java Programming WVEIS Code 1935

This course will provide the student with the fundamentals of Java programming, analysis, data types and operators, Jdeveloper, JavaApi, and how to control program flow.

Standard 1: Demonstrate knowledge of Java Programming Object-oriented Analysis. (1935.S.1)

Java Programming Objectives

Students will:

1935.1.1 Explain the principles and terminology of object oriented development.
1935.1.2 Apply a development process to move a project through analysis and design.
1935.1.3 Identify simple objects and classes.
1935.1.4 Describe relationships between objects.

Standard 2: Apply object-oriented analysis. (1935.S.2)

Analysis Objectives

Students will:

1935.2.1 Demonstrate the core concepts behind object-oriented programming: objects, methods, classes, and inheritance.
1935.2.2 Compare traditional project life cycles with iterative project life cycles.
1935.2.3 Describe the main activities of each phase in an OO project.
1935.2.4 Identify the popular tools currently available.
1935.2.5 List the strengths and weaknesses of Smalltalk, C++, and Java.
1935.2.6 Identify how they translate to code.
1935.2.7 Download and install the Java Development Kit. Set the PATH and CLASSPATH environment variables in a windows operating system.
1935.2.8 Begin to explore the Java API library.

Standard 3: Demonstrate knowledge of the Java language. (1935.S.3)

Java Language Objectives

Students will:

1935.3.1 Understand how the Java compiler, byte codes and Virtual Machine work together.
1935.3.2 Identify the ways in which Java is suited to network environments.
1935.3.3 Identify the components of the Java Software Development Kit (SDK) and their purpose.
1935.3.4 Identify the key elements of Java.
1935.3.5 Describe the Java Virtual Machine (JVM).
1935.3.6 Compare the use of Java for building applets and applications.
1935.3.7 Identify the key components of the Java Development Kit (JDK).
1935.3.8 Explain Java and the Oracle 8i database.
1935.3.9 Create a sample applet titled "Hello World".

Standard 4: Describe background object oriented programming working with classes and objects.(1935.S.4)

Background Object Objectives

Students will:

1935.4.1 Describe abstraction. Create an object-oriented hierarchy using "is-a" and "has-a" relationships.

1935.4.2 Describe object-oriented concepts: inheritance, encapsulation, polymorphism.
1935.4.3 Identify simple objects and classes.
1935.4.4 Identify internship possibilities and gather information about colleges supporting IT skills.

Standard 5: Define and use data types and operators. (1935.S.5)

Data Types and Operators Objectives

Students will:
1935.5.1 Describe primitive data types.
1935.5.2 Declare and initialize primitive variables.
1935.5.3 Use operators to manipulate the value in a primitive variable.
1935.5.4 Define and initialize arrays.
1935.5.5 Construct literal String values using quoted or unicode values.
1935.5.6 Identify when an object becomes eligible for garbage collection.

Standard 6: Demonstrate knowledge of Jdeveloper. (1935.S.6)

Jdeveloper Objectives

Students will:
1935.6.1 Create new workspaces, projects and applications.
1935.6.2 Build and execute Java applications
1935.6.3 Modify Java application source code.
1935.6.4 Demonstrate familiarity and develop comfort using jdeveloper design environment.
1935.6.5 Re-compile sample applications from previous sections.
1935.6.6 Research various colleges/universities that may offer additional IT courses.
1935.6.7 Identify businesses in local area that use Oracle software.

Standard 7: Apply controlling program flow techniques. (1935.S.7)

Flow Techniques Objectives

Students will:
1935.7.1 Use decision making constructs.
1935.7.2 Perform Loop operations through writing loops and nested loops.
1935.7.3 Write nested if/else and switch statements.
1935.7.4 Use logical operators in and identify valid arguments for if and switch statements.
1935.7.5 Use break and continue with and without labels.
1935.7.6 Debug an application using the Oracle developer debugger.

Standard 8: Discuss classes and objects as used in Java.

Java Objectives

Students will:
1935.8.1 Declare classes, instances of the classes and constants.
1935.8.2 Identify the two primary components make up the implementation of a class.
1935.8.3 Make appropriate use of the PUBLIC, PRIVATE and PROTECTED keywords.
1935.8.4 Write statements that declare a class, create instance variables of the given class and declare constants to store constant values.
1935.8.5 Implement nested classes.
1935.8.6 Determine the scope of a variable in a Java program.
1935.8.7 Identify the statement for casting primitive data types and object types.
1935.8.8 Copy the contents of an object to another object.
1935.8.9 Match the Math class methods with the values they return.

Standard 9: Discuss classes and objects as used in Java Apl. (1935.S.9)

Java Api Objectives

Students will:

1935.9.1 Understand the organization of the Java Application Programming Interfaces (API).
1935.9.2 Recognize the packages that make up the Java Software Development Kit (SDK).
1935.9.3 Use the javadoc tool to generate API documentation from Java source files.
1935.9.4 Utilize the API documentation.
1935.9.5 Create new classes with Jdeveloper.
1935.9.6 Use packages to group related classes.
1935.9.7 Define instance variables and methods.
1935.9.8 Create objects and call methods.
1935.9.9 Declare fields and methods using the final and static modifiers.
1935.9.10 Understand how inner classes work.
1935.9.11 Use final and static to create constants.
1935.9.12 Define overloaded methods in a class.
1935.9.13 Provide constructors for a class.
1935.9.14 Use class variables and class methods where appropriate.
1935.9.15 Use initializers to initialize instance and class variables.

Standard 10: Demonstrate knowledge of datatypes/arrays. (1935.S.10)

Datatypes/Arrays Objectives

Students will:

1935.10.1 Define and initialize arrays.
1935.10.2 Construct literal String values using quoted or unicode values.
1935.10.3 Identify when an object becomes eligible for garbage collection.
1935.10.4 Apply all assignment, arithmetic, relational, bitwise, and logical operators.
1935.10.5 Understand how type conversion occurs when using operators.
1935.10.6 Create and manipulate strings in Java.
1935.10.7 Use wrapper classes to convert strings to primitives and primitives to strings.
1935.10.8 Implement resizable arrays - vectors.

Standard 11: Demonstrate the use of Inheritance. (1935.S.11)

Inheritance Objectives

Students will:

1935.11.1 Define inheritance and use inheritance to define new classes.
1935.11.2 Explain how to use polymorphism in java classes.
1935.11.3 Identify when and how a default constructor is created for a class.
1935.11.4 Know how to use the instance of operator when casting class objects.
1935.11.5 Override methods in the superclass.

Standard 12: Identify abstract classes and interfaces. (1935.S.12)

Classes and Interfaces Objectives

Students will:

1935.12.1 Define abstract classes and abstract methods.
1935.12.2 Declare classes using the abstract modifier.
1935.12.3 Define and implement interfaces.

Standard 13: Apply knowledge of handling exceptions. (1935.S.13)

Handling Exceptions Objectives

Students will:
1935.13.1 Handle standard Java exceptions.
1935.13.2 Explain the basic concepts of exception handling.
1935.13.3 Write programs using try, catch and finally blocks.
1935.13.4 Create your own exception classes

Standard 14: Apply file input and output. (1935.S.14)

File Input and Output Objectives

Students will:
1935.14.1 Read from and write to the console.
1935.14.2 Create programs that read and write text and data files.
1935.14.3 Use Input and Output Streams.
1935.14.4 Write programs that operate on files and directories.
1935.14.5 List the contents of a directory.

Standard 15: Use the Java Foundation Class Abstract Window Toolkit. (1935.S.15)

Toolkit Objectives

Students will:
1935.15.1 Understand the use and organization of the AWT.
1935.15.2 Understand the relationship between the Abstract Window Toolkit (AWT) and the Java Foundation Classes (JFC).
1935.15.3 Use the Component and Container classes.
1935.15.4 Add Swing components to an application.
1935.15.5 Provide event handlers for common types of events.
1935.15.6 Write event handlers for different kinds of events.
1935.15.7 Determine when and how to use Event Adapters.
1935.15.8 Identify the cause of window events.
1935.15.9 Create buttons and labels.
1935.15.10 Write programs using textfields and Text Areas.
1935.15.11 Demonstrate how Text Component Events work.
1935.15.12 Explain parent and child components.
1935.15.13 Demonstrate the difference between the update(), paint() and repaint() methods.
1935.15.14 Use canvases to provide an area for drawing.
1935.15.15 Differentiate between the Graphics and Image classes.
1935.15.16 Use Frames.
1935.15.17 Create Menus and Dialog Boxes.
1935.15.18 Utilize Choice Menus and Scroll Bars.
1935.15.19 Manage the Font and fontmetrics classes.

Oracle-Database Fundamentals WVEIS Code 1937

This course is primarily conceptual, and covers the data requirements and business rules for the design of a relational database. As the first phase of the Academy curriculum, this course will provide the foundation for future software engineers or database administrators.

Standard 1: Provide an Introduction to the Internet academy. (1937.S.1)

Internet Academy Objectives

Students will:

1937.1.1 Cite examples of jobs, salary, and opportunities a student will have as a result of Oracle certification.
1937.1.2 Describe the role a database plays in a business and predict its evolution.
1937.1.3 Demonstrate the difference between "data" and "information".
1937.1.4 Understand the importance of clear communication when discussing business information requirements.
1937.1.5 Experiment with web-based e-mail and explain how these services use a database.

Standard 2: Provide an overview of database development. (1937.S.2)

Database Development Objectives

Students will:

1937.2.1 Identify and analyze the phases of the Database Development Process.
1937.2.2 Explain what Conceptual Data Modeling and Database Design involve.
1937.2.3 Compare Database Development Process with that of the Application Development Process.

Standard 3: Demonstrate basic conceptual data modeling. (1937.S.3)

Basic Conceptual Data Modeling Objectives

Students will:

1937.3.1 Identify and model various types of entities.
1937.3.2 Identify naming and drawing conventions for entities.
1937.3.3 Sequence the steps that are necessary for creation of an entity.
1937.3.4 Analyze and model the relationships between entities.
1937.3.5 Analyze and model attributes.
1937.3.6 Identify unique identifiers for each entity.
1937.3.7 Develop an Entity Relationship diagram tagging attributes with optionally.
1937.3.8 Create models and ER diagrams from user information requirements and interviews.
1937.3.9 Begin to differentiate between One-to-Many, Many-to-Many and One-to-One relationships.
1937.3.10 Identify relationship between two entities by reading a given diagram.
1937.3.11 Create a relationship between instances of the same entity.
1937.3.12 Read an Entity Relationship Model in order to validate it.

Standard 4: Apply advanced conceptual data modeling. (1937.S.4)

Advanced Conceptual Data Modeling Objectives

Students will:

1937.4.1 Identify the significance of an attribute that has more than one value for each entity instance.
1937.4.2 Evaluate appropriate methods of storing validation rules for attributes.
1937.4.3 Recognize unique identifiers inherited from other entities.
1937.4.4 Sequence the steps involved in resolving a Many-to-Many relationship.
1937.4.5 Validate that an attribute is properly placed based upon its dependence on its entity's Unique Identifier (UID).
1937.4.6 Sequence the steps involved in resolving a Many-to-Many relationship.

1937.4.7 Validate that an attribute is properly placed based upon its dependence on its entity's Unique Identifier (UID).
1937.4.8 Resolve Many-to-Many relationships with intersection entities.
1937.4.9 Model advanced data constructs including recursive relationships, subtypes, and exclusive relationships.
1937.4.10 Create exclusive entities and relationships by using subtypes and arcs, respectively.
1937.4.11 Identify initial layout for presentation and generate a list of action items for members of group.

Standard 5: Apply advanced conceptual data modeling. (1937.S.5)

Advanced Conceptual Data Modeling Objectives

Students will:
1937.5.1 Model advanced data constructs including recursive relationships, subtypes, and exclusive relationships.
1937.5.2 Develop an ER Model using subtypes, supertypes and an exclusive arc.

Standard 6: Demonstrate adding complexity to an ERM. (1937.S.6)

Entity Relationship Model Objectives

Students will:
1937.6.1 Revise an Entity Relationship Model according to the diagramming techniques covered.
1937.6.2 Formulate reasons for holding historical data.
1937.6.3 Recognize and resolve Fan Traps and Chasm Traps.
1937.6.4 Differentiate between transferable and non-transferable relationships.
1937.6.5 Deliver a professional, formal business style presentation.
1937.6.6 Evaluate and critique presentation layout, design and performance.

Standard 7: Explain relational database concepts and initial database design. (1937.S.7)

Database Concepts and Design Objectives

Students will:
1937.7.1 Describe a relational database and how it is different from other databases.
1937.7.2 Define primary keys and foreign keys and their describe purpose.
1937.7.3 Describe what data integrity refers to and list some constraints.
1937.7.4 Explain how Database Design fits into the Database Development Process.
1937.7.5 Translate an Entity-Relationship Model into a relational database design.
1937.7.6 Document a database design using Table Instance charts.

Standard 8: Initial Database Design and Normalization (1937.S.8)

Design and Normalization Objectives

Students will:
1937.8.1 Demonstrate ability to implement 6 steps for mapping E-R Models.
1937.8.2 Document an initial database design on Table Instance Charts.
1937.8.3 Recognize raw data and evaluate the steps for creating a data group in unnormalized Form (UNF).

Standard 9: Demonstrate the technique of normalization. (1937.S.9)

Normalization Objectives

Students will:
1937.9.1 Differentiate between unnormalized data and normalized.
1937.9.2 Move data from an unnormalized form through to a Third Normal Form.
1937.9.3 Demonstrate ability to test data groups for Third Normal Form compliance.

1937.9.4 Identify optimized data groups from given groups of normalized data.
1937.9.5 Illustrate their personal folder using WebDB and altering the navigation bar, banner and content area.

Standard 10: Perform table normalization. (1937.S.10)

Table Normalization Objectives

Students will:
1937.10.1 Compare the Normalization and Entity Relationship Modeling (ERM) techniques in terms of strengths and weaknesses.
1937.10.2 Further define normalization and explain its benefits.
1937.10.3 Place tables in Third Normal Form.
1937.10.4 Explain how conceptual data modeling rules ensure normalized tables.
1937.10.5 Specify referential integrity constraints and design indices.

Standard 11: Review Data Modeling and Design and Introduction to WebDB (1937.S.11)

WebDB Objectives

Students will:
1937.11.1 Evaluate the transformation of business requirements into an initial layout and design for a database.
1937.11.2 Construct simple web page design for personal work folder.
1937.11.3 Evaluate existing web sites and determine quality of design.

Standard 12: Utilize WebDB and Building a Database Project. (1937.S.12)

Building A Database Project Objectives

Students will:
1937.12.1 Formulate a plan of action for a Database Project.
1937.12.2 Normalize an ERM to the Third Normal Form (TNF).
1937.12.3 Create a table in the database using webdb.
1937.12.4 Demonstrate ability to edit tables using webdb.
1937.12.5 Create forms that will display the table components created with webdb.

Standard 13: Work on database projects. (1937.S.13)

Database Projects Objectives

Students will:
1937.13.1 Create a website that displays the Database Project home using webdb.
1937.13.2 Link the web site to create a web-enabled interface to an Oracle database.
1937.13.3 Edit the forms created with webdb and specify appropriate field labels for data entry.
1937.13.4 Evaluate and generate criteria for a formal, business presentation.
1937.13.5 Construct a persuasive group presentation using the guidelines set forth in class.

Standard 14: Perform database presentations. (1937.S.14)

Perform Database Presentations Objectives

Students will:
1937.14.1 Deliver a formal business presentation for the class that discusses an Entity-Relationship Model and Initial Database Design.
1937.14.2 Demonstrate the functionality of the database and the layout/design capabilities of webdb.

Floriculture WVEIS Code 1941

Floriculture introduces students to careers in the floral industry and provides basic instruction in the techniques of floral design and merchandising.

Standard 1: Demonstrate leadership and communication skills. (1941.S.1)

Leadership and Communication Skills Objectives

Students will:
1941.1.1 Utilize record-keeping skills in work-based experience programs (SAE).
1941.1.2 Identify appropriate career opportunities in the floriculture industry.
1941.1.3 Draft and prepare a resume, fill out a job application, demonstrate employability skills.
1941.1.4 Develop personal relation and communication skills.
1941.1.5 Describe employment and floriculture industry ethics.

Standard 2: Utilize principles of design to critique floral designs. (1941.S.2)

Floral Designs Objectives

Students will:
1941.2.1 Utilize floriculture principles, elements and theory of design.
1941.2.2 Identify basic designs and arrangements associated with floriculture principles of design.
1941.2.3 Explain the concepts and use of color.

Standard 3: Identify and maintain cut flowers and greens. (1941.S.3)

Cut Flowers and Greens Objectives

Students will:
1941.3.1 Identify and classify flowers and foliage.
1941.3.2 List the techniques to maintain optimum flower and foliage quality.

Standard 4: Manipulate floral materials and supplies. (1941.S.4)

Floral Materials and Supplies Objectives

Students will:
1941.4.1 Identify the basic mechanics and supplies used in floral design.
1941.4.2 Identify materials to wire flowers for corsages, arrangements and wreaths.
1941.4.3 Demonstrate construction of bows.

Standard 5: Design product in selected specialty areas. (1941.S.5)

Specialty Areas Objectives

Students will:
1941.5.1 Design boutonnieres and corsages.
1941.5.2 Identify concepts in floral design of holiday arrangements.
1941.5.3 Identify designs for weddings and receptions.
1941.5.4 Recognize practice in sympathy floral designs.
1941.5.5 Dry and preserve flowers and foliage to make a dried flower presentation.
1941.5.6 Explain appropriate indoor planting schemes, construction and maintenance.

Standard 6: Develop floral operations and management strategies. (1941.S.6)

Floral Operations and Management Strategies Objectives

Students will:

1941.6.1 Develop skills in retail sales using various selling techniques.
1941.6.2 Develop a visual merchandising plan to project the right image.
1941.6.3 Identify the components and the importance of a floral delivery system.
1941.6.4 Identify professional trade organizations organized to assist the retail florist.

Greenhouse Technology WVEIS Code 1943

This area of study is designed to provide both college bound students and work bound students with the basic skills and knowledge needed in the greenhouse management industry. Major instructional concepts include: plant environments, classification, plant processes, growing media, plant nutrients, propagation, growth, pests and management procedures, nursery and landscape techniques, structures operation and maintenance and advanced greenhouse practice and technologies.

Standard 1: Demonstrate leadership development (1943.S.1)

Leadership Development Objectives

Students will:
1943.1.1 Utilize record-keeping skills in work-based experience programs.
1943.1.2 Develop and exhibit communication skills.
1943.1.3 Draft and complete a resume, complete a job application, and demonstrate job seeking/keeping skills.
1943.1.4 Demonstrate personal and social skills.
1943.1.5 Research career opportunities in the greenhouse management industry.

Standard 2: Identify greenhouse designs, operation and maintenance. (1943.S.2)

Greenhouse Objectives

Students will:
1943.2.1 Identify different greenhouse parts and compare types of structures and coverings.
1943.2.2 Demonstrate safety and proper manipulation of greenhouse equipment.
1943.2.3 Diagram operational systems in the greenhouse operation.
1943.2.4 Analyze suitable greenhouse locations and recommend interior layout.

Standard 3: Develop plant classification and identification skills. (1943.S.3)

Plant Classification and Identification Skills Objectives

Students will:
1943.3.1 Describe the natural classification system for the plant kingdom.
1943.3.2 Identify and research plants that are important to the greenhouse industry.

Standard 4: Develop skill in environmental control and plant growth. (1943.S.4)

Environmental Control And Plant Growth Objectives

Students will:
1943.4.1 Describe the plant processes involved with plant growth and development.
1943.4.2 List plant growth regulators and document their effects on plants.
1943.4.3 Explain how essential elements become available for plant use.
1943.4.4 Identify and document the effects of environmental factors on plant growth.

Standard 5: Identify greenhouse media and containers. (1943.S.5)

Greenhouse Media and Containers Objectives

Students will:
1943.5.1 Research the components of media and amendments.
1943.5.2 Demonstrate the effect of various greenhouse media and proper media preparation on plant

growth.
1943.5.3 Compare and contrast basic types and sizes of containers used in greenhouse management.

Standard 6: Identify plant processes and propagation. (1943.S.6)

Plant Processes and Propagation Objectives

Students will:
1943.6.1 Perform methods of propagating plants.
1943.6.2 Manipulate total environment from juvenile to mature plant.
1943.6.3 Describe plant growth and propagation processes including photosynthesis, respiration, transpiration and pollination.

Standard 7: Identify and control disease, insects, and weeds. (1943.S.7)

Control Disease, Insects and Weeds Objectives

Students will:
1943.7.1 Identify and exhibit guidelines for pesticide use.
1943.7.2 Practice integrated pest management procedures.
1943.7.3 Describe and evaluate control methods, chemical formulations and equipment used to control pests in the greenhouse.

Standard 8: Develop skills in greenhouse business management. (1943.S.8)

Greenhouse Business Objectives

Students will:
1943.8.1 Explore and discuss the various types of records kept in a greenhouse business.
1943.8.2 Use computers to solve problems related to greenhouse management.
1943.8.3 Describe the methods and determine the values and limitations of effective advertising.
1943.8.4 Develop a plan for profitable sales techniques.
1943.8.5 Record receipts and expenditures.

Standard 9: Safely conduct laboratory investigation. (1943.S.9)

Conduct Laboratory Investigation Objectives

Students will:
1943.9.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
1943.9.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
1943.9.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
1943.9.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 10: Apply technology to real world problems in greenhouses. (1943.S.10)

Technology in Greenhouses Objectives

Students will:
1943.10.1 Use computers and the World Wide Web (WWW) to solve problems related to work-based experience programs in greenhouses, locate, evaluate, and collect information from a variety of sources related to greenhouse technology, develop positive attitude, support lifelong learning, collaboration, personal pursuits, and productivity.
1943.10.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and

telecommunications.

1943.10.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to greenhouse technology.

1943.10.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of greenhouse technology.

Standard 11: Demonstrate process/workplace skills. (1943.S.11)

Process/Workplace Skills Objectives

Students will:

1943.11.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.

1943.11.2 Explore careers available in greenhouse technology.

1943.11.3 Use a variety of sources to investigate the educational requirements of various careers in greenhouse technology.

1943.11.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.

1943.11.5 Demonstrate correct language usage in all oral and written work.

1943.11.6 Perform effectively in both leadership and non-leadership roles.

1943.11.7 Evaluate information for reliability, completeness, and applicability to various assignments.

1943.11.8 Participate as a team member to complete a variety of assignments.

Horticulture WVEIS Code 1945

Horticulture includes art, science and technology. This field of study explains concepts of plant growth and how plants are used in our environment for aesthetics, ecosystems and as plant products for human consumption. Students will gain skills for entry-level employment or entrance into an advanced training/degree program.

Standard 1: Demonstrate leadership development. (1945.S.1)

Leadership Development Objectives

Students will:
1945.1.1 Participate in a student organization and its components.
1945.1.2 Utilize record-keeping skills in work-based experience programs.
1945.1.3 Develop and exhibit communication skills.
1945.1.4 Draft and complete a resume, complete a job application, and demonstrate job seek/keep skills.
1945.1.5 Demonstrate personal and social skills.
1945.1.6 Research career opportunities in the greenhouse management industry.

Standard 2: Perform plant classification and identification. (1945.S.2)

Plant Classification And Identification Objectives

Students will:
1945.2.1 Describe the natural classification system for the plant kingdom.
1945.2.2 Identify plant species and explore their benefit to people.
1945.2.3 Identify and research plants that are important to the greenhouse industry.
1945.2.4 Describe the plant processes involved with plant growth and development.
1945.2.5 List plant growth regulators and document their effects on plants.
1945.2.6 Explain how essential elements become available for plant use.
1945.2.7 Identify and document the effects of environmental factors on plant growth.
1945.2.8 Compare and contrast types of plant-growing media.
1945.2.9 Determine appropriate amendments for optimum plant growth.
1945.2.10 Explain and utilize soil and water conservation practices.

Standard 3: Identify levels of plant processes and propagation. (1945.S.3)

Plant Processes And Propagation Objectives

Students will:
1945.3.1 Perform methods of propagating plants.
1945.3.2 Manipulate total environment from juvenile to mature plant.
1945.3.3 Identify plant growth and propagation processes including photosynthesis, respiration, transpiration and pollination.

Standard 4: Perform pest management. (1945.S.4)

Pest Management Objectives

Students will:
1945.4.1 Explain and apply the concepts of integrated pest management.
1945.4.2 Identify safety guidelines for tools, equipment and pesticide use.
1945.4.3 Identify pests and evaluate control methods according to label interpretation.
1945.4.4 Recognize, calibrate and operate pesticide application equipment
1945.4.5 Research and discuss the environmental and health concerns relating to pesticide usage.

1945.4.6 Interpret federal and state pesticide laws.

Standard 5: Identify the various specialty areas in horticulture. (1945.S.5)

Horticulture Objectives

Students will:

1945.5.1 Explore professions in floriculture and understand the scope of job opportunities.
1945.5.2 Demonstrate various techniques and procedures commonly used in the floriculture industry.
1945.5.3 Explore professions in greenhouse management and understand the scope of job opportunities.
1945.5.4 Demonstrate various techniques and procedures commonly used in the greenhouse management industry.
1945.5.5 Explore professions in nursery production and understand job requirements.
1945.5.6 Demonstrate techniques and procedures used in the nursery production industry.
1945.5.7 Research careers in the landscape and turf industry.
1945.5.8 Perform basic landscape design, plantings and maintenance tasks.
1945.5.9 Utilize Internet World Wide Web to explore specialty areas in horticulture.

Standard 6: Safely conduct laboratory investigation. (1945.S.6)

Laboratory Investigation Objectives

Students will:

1945.6.1 Engage in active inquiries, investigations, and hands-on activities a minimum of 50 percent of the time.
1945.6.2 Conduct explorations in a variety of environments (e.g., laboratories, libraries, parks, and other outdoor locations).
1945.6.3 Properly and safely manipulate equipment, materials, chemicals, organisms, and models.
1945.6.4 Use computers and other electronic technologies (e.g., computer, CBL, probe interfaces, laser discs) to collect, analyze, and/or report data, interact with simulations, and research.

Standard 7: Apply technology to real world problems in horticulture. (1945.S.7)

Technology Objectives

Students will:

1945.7.1 Use computers and the World Wide Web (WWW) to solve problems related to experience programs in horticulture, locate, evaluate, and collect information from a variety of sources related to horticulture, develop a positive attitude toward technology, support lifelong learning, collaboration, personal pursuits, and productivity.
1945.7.2 Demonstrate skills in word processing and the use of databases, spreadsheets, graphics and telecommunications.
1945.7.3 Use TV/satellite, VCR and Laser discs/DVD to retrieve information to complete classroom assignments related to horticulture.
1945.7.4 Use cameras and/or camcorders to record activities and progress of special projects in the area of horticulture.

Standard 8: Demonstrate process/workplace skills. (1945.S.8)

Process/Workplace Skills Objectives

Students will:

1945.8.1 Use computers and other electronic technologies to access, gather, store, retrieve, organize, analyze, and report data.
1945.8.2 Explore careers available in horticulture.

1945.8.3 Use a variety of sources to investigate the educational requirements of various careers in horticulture.
1945.8.4 Analyze problems, state causes and effects, and plan, organize, and implement a solution to the problem or a concept to improve the situation or process.
1945.8.5 Demonstrate correct language usage in all oral and written work.
1945.8.6 Perform effectively in both leadership and non-leadership roles.
1945.8.7 Evaluate information for reliability, completeness, and applicability to various assignments.
1945.8.8 Participate as a team member to complete a variety of assignments.

Landscape Design and Installation WVEIS Code 1947

This course will prepare students to design appropriate landscapes for home, business and other facilities. After the design plan is formulated, Students will: Implement the plan.

Standard 1: Demonstrate leadership and interpersonal skills. (1947.S.1)

Leadership and Interpersonal Skills Objectives

Students will:
1947.1.1 Write, deliver and evaluate a speech and/or presentation.
1947.1.2 Explore careers in the landscape industry.
1947.1.3 Determine appropriate job seeking and keeping skills.
1947.1.4 Describe ethical conduct.
1947.1.5 Use record-keeping skills in work-based experience programs.

Standard 2: Recognize basic landscape design. (1947.S.2)

Landscape Design Objectives

Students will:
1947.2.1 Determine environmental requirements for landscape plant materials.
1947.2.2 Recognize the appropriate plants for landscape use.
1947.2.3 Interpret landscape symbols for a landscape plan.
1947.2.4 Operate computer assisted design programs.
1947.2.5 Demonstrate drafting skills needed in a landscape plan.

Standard 3: Use safety in operation of horticulture tools and equipment. (1947.S.3)

Horticulture Tools and Equipment Objectives

Students will:
1947.3.1 Identify and properly use horticulture tools and equipment.
1947.3.2 Follow appropriate safety procedures and policies.
1947.3.3 Interpret and follow safety information from equipment manuals.
1947.3.4 Maintain and adjust safety devices.
1947.3.5 Service tools and equipment as to manufactures specifications.
1947.3.6 Operate equipment under job site conditions.

Standard 4: Implement principles of landscape design. (1947.S.4)

Principles of Landscape Design Objectives

Students will:
1947.4.1 Prepare an area to be landscaped.
1947.4.2 Construct walkways and landscape structures.
1947.4.3 Install balled and burlapped, containerized and bare root plantings.
1947.4.4 Install herbaceous landscape plants.
1947.4.5 Place edging materials.
1947.4.6 Mulch a landscape site.
1947.4.7 Install turf areas.
1947.4.8 Place planting to provide appropriate lighting.

Landscape Maintenance WVEIS Code 1949

Landscape maintenance is designed to expose students to proper techniques for maintaining a well-designed landscape. Students will: understand the importance of landscape maintenance from the added aesthetic and financial value of the property.

Standard 1: Demonstrate leadership and interpersonal skills. (1949.S.1)

Leadership and Interpersonal Skills Objectives

Students will:
1949.1.1 Identify communication skills.
1949.1.2 Identify interview and employment readiness skills.
1949.1.3 Draft a resume.

Standard 2: Demonstrate safe use and operation of horticulture tools and equipment. (1949.S.2)

Horticulture Tools and Equipment Objectives

Students will:
1949.2.1 Identify and properly use horticulture tools and equipment.
1949.2.2 Follow appropriate safety procedures and policies.
1949.2.3 Interpret and follow safety information from equipment manuals.
1949.2.4 Maintain and adjust safety devices.
1949.2.5 Service tools and equipment as to manufacturer's specifications (including winterizing).
1949.2.6 Operate equipment under job site conditions.
1949.2.7 Identify and demonstrate the safe use of potentially hazardous materials (fuels, lubricants, etc.)

Standard 3: Practice safe use of pest management techniques. (1949.S.3)

Pest Management Objectives

Students will:
1949.3.1 Identify, calibrate, and properly use equipment.
1949.3.2 Identify and use personal safety equipment and protective clothing.
1949.3.3 Identify pests and the appropriate control techniques.
1949.3.4 Introduce Integrated Pest Management (IPM) techniques.
1949.3.5 Interpret pesticide labels and proper use as instructed.
1949.3.6 Identify and maintain an insect, disease, and weed control program.

Standard 4: Practice proper landscape maintenance techniques. (1949.S.4)

Landscape Objectives

Students will:
1949.4.1 Determine and follow appropriate lawn care practices.
1949.4.2 Aerate and dethatch turf areas.
1949.4.3 Determine and implement irrigation needs for turf and landscaped areas.
1949.4.4 Identify appropriate soil testing procedures.
1949.4.5 Over-seed, lime, and fertilize as deemed necessary.
1949.4.6 Determine and implement proper pruning timelines and practices.
1949.4.7 Maintain landscape edging materials.
1949.4.8 Mulch landscape planting.
1949.4.9 Maintain landscape structures.
1949.4.10 Describe appropriate winter protection.

ProStart I

WVEIS Code 1951

ProStart is a two-course foodservice curriculum developed by the Educational Foundation of the National Restaurant Association with input from thousands of foodservice professionals across the nation. The courses integrate academic and hands-on learning to provide an overview of the industry and competencies necessary for success in the foodservice industry. Completers of the ProStart program are eligible for a national certificate from the National Restaurant Association Educational Foundation. Students must pass rigorous tests at the end of each course and complete 400 hour off-campus, paid internship. This first course focuses on the basics of preparing and service safe food, preventing accidents, using foodservice equipment and preparing certain types of foods. It also addresses the business topics of human relations, customer service, controlling costs and certain math concepts.

Standard 1: Prepare for a successful career in foodservice management. (1951.S.1)

Foodservice Management Objectives

Students will:

1951.1.1 Recognize how the foodservice industry provides a unique workplace environment.
1951.1.2 Describe the importance of service to success in foodservice
1951.1.3 Describe the elements of excellent service.
1951.1.4 Identify ways to speak to customers and coworkers.
1951.1.5 Identify career opportunities within the foodservice industry.
1951.1.6 Describe the steps in looking for a job.
1951.1.7 Complete the necessary documents for a job interview including the resume, cover letter, and application.
1951.1.8 Participate in a job interview.

Standard 2: Prepare and serve safe food. (1951.S.2)

Safe Food Objectives

Students will:

1951.2.1 Demonstrate proper sanitary procedures for use in food service.
1951.2.2 Show how contamination and cross-contamination is most likely to occur.
1951.2.3 List the major causes of foodborne illnesses, and describe potentially hazardous foods.
1951.2.4 Describe the micro-organisms that cause foodborne illnesses and the conditions in which they thrive.
1951.2.5 Demonstrate safe and proper procedures for receiving, storing, preparing, holding, and serving food.
1951.2.6 Describe ways to prevent infestation by pests.

Standard 3: Practice safe workplace habits. (1951.S.3)

Safe Workplace Objectives

Students will:

1951.3.1 Demonstrate proper safety procedures commonly used in foodservice operations.
1951.3.2 Describe the role of OSHA regulations and explain the Hazard Communication Standard requirements for employers.
1951.3.3 Demonstrate proper procedures for reducing accidents involving fire, slips, trips, falls, lifting and carrying, cuts and equipment.

Standard 4: Demonstrate the basics food preparation. (1951.S.4)

Food Preparation Objectives

Students will:

1951.4.1 Describe the various liquid and dry cooking methods and the foods to which they are best suited.
1951.4.2 Read and follow standardized recipes, describing their components and functions, and convert them to smaller and larger quantities.
1951.4.3 Explain the functions of different types of knives and demonstrate their proper use.
1951.4.4 Identify the tools commonly used in food service for wet and dry measure and demonstrate understanding of equivalence of standard American and metric measures.
1951.4.5 Define common cooking and foodservice terms.

Standard 5 :Operate foodservice equipment safely and effectively. (1951.S.5)

Foodservice Equipment Objectives

Students will:

1951.5.1 List and describe the equipment commonly used in the receiving, storage, food preparation, baking, holding and service, bar, dishwashing and waste disposal areas.
1951.5.2 List and describe the measuring utensils, hand tools, knives, pots and pans commonly used in a food service operation.
1951.5.3 Discuss how to troubleshoot the maintenance and repair of mixers, slicers, steamers, broilers, ranges, grills, fryers, ovens, food warmers, coffee urns, dishwashers and waste disposal systems.
1951.5.4 Discuss the role of the health inspector and how managers get ready for inspections.

Standard 6: Discuss the role of nutrition in a food service operations. (1951.S.6)

Nutrition in Food Service Operations Objectives

Students will:

1951.6.1 Explain the role of Recommended Dietary Allowances (RDAs) and the Food Guide Pyramid planning healthful meals.
1951.6.2 Plan interesting, appealing and nutritionally balanced meals.
1951.6.3 Demonstrate cooking methods and identify recipes that preserve nutrients in quantity cooking.

Standard 7: Prepare sandwiches and breakfast foods. (1951.S.7)

Sandwiches and Breakfast Foods Objectives

Students will:

1951.7.1 Explain the roles of the production sheet, daily food cost sheet, sales history, and sales mix record in quantity food production.
1951.7.2 Perform total food cost and food cost percentage calculations.
1951.7.3 Determine the total cost and portion cost of standardized recipes.
1951.7.4 Explain the roles of the three components of a sandwich: bread, spread and filling.
1951.7.5 Compare and contrast the various types of sandwich: simple hot, open-faced, deep-fried, simple cold, tea and canapé.
1951.7.6 Set up a safe, sanitary, and efficient sandwich station.
1951.7.7 List the various forms in which milk is available and define pasteurize and homogenize.
1951.7.8 Compare and contrast current, aged, and processed cheeses and give examples of each.
1951.7.9 Describe the methods for cooking eggs: boiled, baked, shirred, poached, fried, scrambled, deviled, omelet, quiche, and soufflé.
1951.7.10 Prepare common breakfast food: pancakes and similar foods, eggs, breakfast cereals and

breakfast meats.

Standard 8: Prepare salads and garnishes. (1951.S.8)

Salads and Garnishes Objectives

Students will:
1951.8.1 Discuss characteristic of the various ingredients that can be used to make both common and unusual salads.
1951.8.2 Prepare and store salads properly.
1951.8.3 Demonstrate techniques used to prepare garnishes
1951.8.4 Discuss common salad dressings and condiments.

Standard 9: Understand personnel management techniques. (1951.S.9)

Personnel Management Techniques Objectives

Students will:
1951.9.1 Demonstrate quality customer service techniques.
1951.9.2 Describe the elements involved in staff planning, recruiting, interviewing, and selecting employees
1951.9.3 Discuss effective methods of motivating and retaining employees
1951.9.4 Show techniques used to conduct and effective employee evaluation.

Standard 10: Prepare fruits and vegetables. (1951.S.10)

Fruits and Vegetables Objectives

Students will:
1951.10.1 Describe and identify the various varieties of fruits and vegetables and the forms in which they are available (fresh, frozen etc.).
1951.10.2 List seasons in which fresh fruits and vegetables are at their best quality and lowest price.
1951.10.3 Match different cooking methods to various fruits and vegetables.
1951.10.4 Explain how to properly select and purchase, receive, store, and handle fruits and vegetables.
1951.10.5 Prepare fruits and vegetables in a variety of ways.

Standard 11: Control food service costs. (1951.S.11)

Food Service Costs Objectives

Students will:
1951.11.1 Perform basic math operations as they relate to foodservice operations: i.e., determine percentages, convert recipes, convert form American and metric units of measure, approximate recipe yields.
1951.11.2 Describe different types of costs related to food, beverage and labor: controlled costs, fixed costs, variable costs, etc.
1951.11.3 Demonstrate operational procedures for preventing waste of food ad beverage.
1951.11.4 Show proper use of recipes, glassware, utensils, production sheets and other tools that help control waste.
1951.11.5 Determine menu prices using various methods.
1951.11.6 Illustrate the cost percentage formula and apply it to operational procedures.
1951.11.7 Describe and apply procedures used in planning and forecasting to control food, beverage and labor costs.

ProStart II WVEIS Code 1952

ProStart is a two-course foodservice curriculum developed by the Educational Foundation of the National Restaurant Association with input from thousands of foodservice professionals across the nation. The courses integrate academic and hands-on learning to provide an overview of the industry and competencies necessary for success in the foodservice industry. Completers of the ProStart program are eligible for a national certificate from the National Restaurant Association Educational Foundation. Students must pass rigorous tests at the end of each course and complete a 400 hour off-campus, paid internship. This second course focuses on the basics of quality table service, menu planning, industry careers and preparing certain types of foods. It also addresses the business topics of marketing, communication, accounting, purchasing, and inventory control.

Standard 1: Prepare Potatoes, Grains and Pasta (1952.S.1)

Prepare Potatoes, Grains and Pasta Objectives

Students will:

1952.1.1 Explain how to properly select, receive, and store potatoes, grains and pasta.
1952.1.2 Match different cooking methods to potatoes, grains and pasta.
1952.1.3 Prepare potatoes, grains and pasta using a variety of recipes and cooking techniques.

Standard 2: Explain the characteristics, activities, opportunities and types of lodging operations.(1952.S.2)

Lodging Operations Objectives

Students will:

1952.2.1 Define the term "lodging property" and discuss each of the characteristic types of lodging operations.
1952.2.2 List and discuss the five key elements that differentiate one lodging establishment from another.
1952.2.3 Identify the two national organizations that rate commercial lodging establishments and list a minimum of five factors used by each in making their judgments.
1952.2.4 Identify ten services offered by some, but not all, lodging properties.
1952.2.5 Discuss career opportunities in the lodging industry and the qualifications commonly sought by lodging employers.
1952.2.6 Name the activities generally accomplished at the front desk, in housekeeping, in the front office and by engineering.
1952.2.7 Describe the different types of rates and what makes them different.

Standard 3: Demonstrate the techniques necessary for quality table service. (1952.S.3)

Table Service Objectives

Students will:

1952.3.1 Set a table properly for guests arrival.
1952.3.2 Set and clear items properly.
1952.3.3 Demonstrate different service styles: American, French, English, Russian, buffet, counter and cafeteria.
1952.3.4 Describe the traditional service staff and the duties and responsibilities of each staff position.
1952.3.5 Present a guest check, receive payment, and say good-bye to guest properly.
1952.3.6 Identify various dining utensils.
1952.3.7 Perform several tableside service and food preparation techniques.
1952.3.8 Show how servers should properly identify, describe and recommend menu items to guests.

Standard 4: Prepare desserts and baked goods. (1952.S.4)

Desserts and Baked Goods Objectives

Students will:
1952.4.1 Identify the functions of basic ingredients used in desserts and breads.
1952.4.2 Describe common desserts and methods used to prepare them.
1952.4.3 Prepare various desserts and baked goods and store them properly.
1952.4.4 Bake different types of breads and quick breads.

Standard 5: Plan an effective menu. (1952.S.5)

Menu Objectives

Students will:
1952.5.1 Characterize various menu types - a la carte, table d'hôte, California, du jour, cycle - and the operations in which they are most commonly used.
1952.5.2 Write descriptions of menus items using appetizing language.
1952.5.3 Critique the physical layout of a menu.

Standard 6: Describe how marketing techniques are used in food service. (1952.

Marketing Techniques Objectives

Students will:
1952.6.1 Describe the basic marketing concepts and terms.
1952.6.2 Describe the elements of a marketing plan.
1952.6.3 Describe elements of successful community and public relations.
1952.6.4 Write and effective press release. LA
1952.6.5 Explain the various advertising media and advantages and disadvantages of each.
1952.6.6 Plan a successful promotional campaign using commonly used professional tools.

Standard 7: Practice appropriate purchasing and inventory control procedures. (1952.S.7)

Purchasing and Inventory Control Objectives

Students will:
1952.7.1 Determine when and how often to order inventory items using both perpetual and physical inventory methods
1952.7.2 Prepare purchase specifications and purchase orders for items to be purchased.
1952.7.3 Explain the formal bidding process.
1952.7.4 Describe the factors involved in selecting appropriate suppliers.
1952.7.5 Describe proper receiving procedures.
1952.7.6 Explain procedures used to issue items and keep track of inventory.

Standard 8: Prepare meats, poultry and seafood. (1952.S.8)

Meats, Poultry and Seafood Objectives

Students will:
1952.8.1 Explain the federal grading systems for meat, poultry, fish and shellfish.
1952.8.2 Describe the various forms of meat, poultry, fish and shellfish.
1952.8.3 Discuss proper procedures for receiving, storing, and handling meat, poultry, fish and shellfish.
1952.8.4 Prepare meat, poultry, fish and shellfish using a variety of cooking methods and recipes.

Standard 9: Use Standard Accounting Practices. (1952.S.9)

Accounting Objectives

Students will:
1952.9.1 Demonstrate basic accounting principles and apply them to common foodservice scenarios.
1952.9.2 Practice double-entry accounting (recording transactions in balanced T accounts).
1952.9.3 Read and interpret income statements and balance sheets
1952.9.4 Calculate cost of sales using opening and closing inventory figures.
1952.9.5 Use the balance sheet equation to determine assets, liabilities and owners equity.

Standard 10: Prepare soups, stocks and sauces. (1952.S.10)

Soups, Stocks and Sauces Objectives

Students will:
1952.10.1 List the common ingredients of and describe the proper procedure for, making a quality stock.
1952.10.2 Prepare a stock.
1952.10.3 Describe common soups and how they are prepared.
1952.10.4 Prepare various soups.
1952.10.5 Identify the major sauce families and the sauces derived from them.
1952.10.6 Prepare quality sauces using proper procedures.

Standard 11: Describe the characteristics, components and opportunities of the tourism industry.(1952.S.11)

Tourism Objectives

Students will:
1952.11.1 Describe the role of travel and tourism in the hospitality industry.
1952.11.2 Recognize career opportunities offered in travel and tourism.
1952.11.3 Distinguish the segments that make up the travel industry.
1952.11.4 Describe the kinds of customer service skills required of people who work in the travel industry.

Standard 12: Communicate well with customers. (1952.S.12)

Communications Objectives

Students will:
1952.12.1 Display basic speaking and listening skills.
1952.12.2 Use effective writing skills in all forms of written communications.
1952.12.3 Display proper and courteous telephone skills.
1952.12.4 Describe menu items effectively and demonstrate suggestive selling techniques.

Standard 13: Complete a 400-hour, off-campus, paid internship in a food service establishment. (1952.S.13)

Internship Objectives:

Students will:
1952.13.1 Develop personal qualities and skills necessary for success in the food service industry as described in the ProStart workplace competency checklist.
1952.13.2 Develop long-term work qualities and skills necessary for success in the food service industry as described in the ProStart workplace competency checklist.
1952.13.3 Develop short-term observable skills necessary for success in the food service industry as

described in the ProStart workplace competency checklist.

Arc Welding WVEIS Code 1981

This course will give students the opportunity to advance their skills in SMAW, GMAW, FCAW, GTAW and to have the opportunity to test to a sate or national standard.

Standard 1: Perform advanced Shielded Metal Arc Welding (SMAW) processes. (1981.S.1)

Shielded Metal Arc Welding Objectives

Students will:

1981.1.1 Perform safety inspections of equipment and accessories.
1981.1.2 Make minor external repairs to equipment and accessories.
1981.1.3 Set up for shielded metal arc welding operations.
1981.1.4 Operate shielded metal arc welding equipment.
1981.1.5 Execute corrective actions to repair surface flaws on welds areas and base metals.
1981.1.6 Make fillet welds, all positions, on plain carbon steel or stainless steel plate using stainless steel electrodes.
1981.1.7 Make groove welds, all positions, on plain carbon steel or stainless steel using stainless steel electrodes.
1981.1.8 Make groove welds, all positions, according to AWS D1.1 Code.
1981.1.9 Make fillet welds, all positions, on carbon steel pipe.
1981.1.10 Prepare test coupons according to AWS D1.1 Code.

Standard 2: Apply advanced Gas Metal Arc Welding (GMAW) procedures. (1981.S.2)

Gas Metal Arc Welding Objectives

Students will:

1981.2.1 Perform safety inspections of equipment and accessories.
1981.2.2 Make minor external repairs to equipment and accessories.
1981.2.3 Set up for gas metal arc welding operations on carbon steel.
1981.2.4 Operate gas metal arc welding equipment.

Standard 3: Perform Spray Transfer processes. (1981.S.3)

Spray Transfer Objectives

Students will:

1981.3.1 Make fillet welds, all positions, on aluminum plate.
1981.3.2 Make groove welds, all positions, on aluminum plate.

Standard 4: Utilize Short Circuiting Transfer process. (1981.S.3)

Short Circuiting Transfer Objectives

Students will:

1981.4.1 Make fillet welds, all positions, on carbon steel pipe, using short circuiting transfer.
1981.4.2 Make groove welds, all positions, using short circuiting transfer to the AWS D1.1 Code.
1981.4.3 Prepare test coupons according to AWS D1.1 Code.

Standard 5: Utilize Flux Cored Arc Welding (FCAW-S, FCAW-G) processes. (1981.S.5)

Flux Cored Arc Welding Objectives

Students will:

1981.5.1 Perform safety inspections of equipment and accessories.
1981.5.2 Make minor external repairs to equipment and accessories.
1981.5.3 Set up for flux cored arc welding operations on carbon steel.
1981.5.4 Operate flux cored arc welding equipment.
1981.5.5 Make fillet welds, all positions, on carbon steel pipe, using gas-shielded electrodes.
1981.5.6 Make groove welds, all positions, according to the AWS D1.1 Code.
1981.5.7 Prepare test coupons according to AWS D1.1 Code.

Standard 6: Perform Gas Tungsten Arc Welding (GTAW). (1981.S.6)

Gas Tungsten Arc Welding Objectives

Students will:
1981.6.1 Perform safety inspections of equipment and accessories.
1981.6.2 Make minor external repairs to equipment and accessories.
1981.6.3 Set up for gas tungsten arc welding operations on carbon steel, aluminum, and stainless steel.
1981.6.4 Operate gas tungsten arc welding equipment.
1981.6.5 Make fillet welds, all positions, on aluminum.
1981.6.6 Make groove welds, all positions, on aluminum.
1981.6.7 Make fillet welds, all positions, on stainless steel.
1981.6.8 Make groove welds, all positions, on stainless steel.

Blueprint Reading and Metallurgy — WVEIS Code 1983

This course will introduce students to the basic fundamentals of blueprint reading as it relates to the welding industry, and to the science and technology of extracting metals from their ores, refining them, and preparing them for use.

Standard 1: Determine processing requirements from drawings. (1983.S.1)

Drawings Objectives

Students will:

1983.1.1 Identify the types of lines used on blueprints.
1983.1.2 Describe various methods of dimensioning a welding blueprint.
1983.1.3 Differentiate between notes and specifications.
1983.1.4 Analyze processing requirements from information block.
1983.1.5 Explain what tolerances are, and why they are used on blueprints.
1983.1.6 Read a drawing and write a bill of materials.

Standard 2: Draw shop and field sketches. (1983.S.2)

Shop and Field Sketches Objective

Students will:

1983.2.1 Draw shop or field sketches of sample dimensions, notes, and specifications.

Standard 3: Identify and interpret basic welding symbols. (1983.S.3)

Welding Symbols Objectives

Students will:

1983.3.1 Differentiate common types of welds and joints.
1983.3.2 Identify weld symbols and draw samples of each.
1983.3.3 Match parts of a fillet weld and a groove weld with their geometric definitions.
1983.3.4 Draw fillet and groove weld symbols with different requirements.
1983.3.5 Interpret common abbreviations for blueprints and welding processes.

Standard 4: Understand the composition of metals, their atomic structures and properties, and how they behave when exposed to different conditions of use. (1983.S.4)

Metals Objectives

Students will:

1983.4.1 Define metallurgy and describe historical developments.
1983.4.2 Define terms related to metallurgy.
1983.4.3 Distinguish between mechanical and physical properties.
1983.4.4 Compare chemical characteristics of ferrous and non-ferrous metals.
1983.4.5 Describe in writing, various heat treating processes.
1983.4.6 Explain welding characteristics of low, medium, and high carbon steel, alloy steels, cast iron, stainless and high chromium steels, Austenitic manganese steels, tool and die steels, and exotic steels.

Fundamentals of Welding Technology WVEIS Code 1985

This course will introduce students to the basic fundamentals of welding/cutting. Students will become familiar with general safety, welding terms and joints, and oxyfuel welding techniques.

Standard 1: Identify, explore, and evaluate career opportunities related to welding. (1985.S.1)

Career Opportunities Objectives

Students will:

1985.1.1 Describe a variety of careers related to welding, and the training necessary to be successful in those careers.
1985.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of welding.
1985.1.3 Identify sources of information about careers in welding.

Standard 2: Identify and practice safety during tool and equipment use and practice safe conduct in welding shop. (1985.S.2)

Welding Shop Objectives

Students will:

1985.2.1 Recognize and follow general welding shop safety guidelines.
1985.2.2 Discuss the precautions needed to avoid fires in the welding area.
1985.2.3 Describe how a closed container can be welded.
1985.2.4 Describe the precautions to be taken when welding in confined areas.
1985.2.5 Explain the purpose of tinted lenses used during welding and cutting.
1985.2.6 Describe the protective clothing, eye, face and head gear worn by welder.
1985.2.7 Recognize what fumes, gases, dust and smoke must be removed.
1985.2.8 List and describe electrical safety when using ARC welding equipment.
1985.2.9 Illustrate safe handling and storage of compressed gas cylinders and explain safety involved with use of acetylene gas.

Standard 3: Express knowledge of the basic terms and processes associated with the welding industry. (1985.S.3)

Welding Industry Objectives

Students will:

1985.3.1 Tell what the American Welding Association does for welders.
1985.3.2 Define welding and explain coalescence and filler material.
1985.3.3 State the difference between fusion welding, brazing, soldering and solid-state welding.
1985.3.4 List the major welding fusion welding processes and state the differences between them.
1985.3.5 Discuss the purpose and functions of SMAW electrodes.

Standard 4: Setup oxyfuel welding and cutting equipment and demonstrate the safe use of the equipment. (1985.S.4)

Oxyfuel Welding and Cutting Equipment Objectives

Students will:

1985.4.1 Obtain oxyfuel cylinders, chain into work station, assemble and set up oxy fuel stationary and mobile cutting equipment.
1985.4.2 Perform soap and water leak test and set line pressure according to the tip size and metal

thickness.

1985.4.3 Lay out pattern on metal using steel rule, square and soapstone.

1985.4.4 Make 90 degree straight cuts, bevel cuts and hole cuts.

1985.4.5 List five (5) reasons for poor cuts and four (4) causes for back fire.

1985.4.6 Clean and maintain cutting equipment and demonstrate proper shut down and storage of the equipment.

1985.4.7 Choose the proper tip size for braze welding and oxyacetylene welding, light and adjust flame for proper welding of mild steel.

Gas Metal Arc Welding

WVEIS Code 1987

This course will introduce students to basic skills in gas metal arc welding. Students should have good eye, hand coordination and a safety awareness. All students who take this class must have successfully completed Fundamentals of Welding and have passed all safety tests.

Standard 1: Setup and use Gas Metal Arc welding equipment. (1987.S.1)

Gas Metal Arc Objectives

Students will:
1987.1.1 Perform safety inspections of equipment and accessories.
1987.1.2 Make minor external repairs to equipment and accessories.
1987.1.3 Set up for gas metal arc welding operations on plain carbon steel.
1987.1.4 Operate gas metal arc welding equipment.

Standard 2: Perform GMAW using short circuit transfer. (1987.S.2)

Short Circuit Transfer Objectives

Students will:
1987.2.1 Make fillet welds, all positions, on plain carbon steel.
1987.2.2 Make groove welds, all positions, on plain carbon steel.

Standard 3: Perform GMAW using Sray transfer. (1987.S.3)

Sray Transfer Objectives

Students will:
1987.3.1 Make 1F-2F welds on plain carbon steel.
1987.3.2 Make 1G welds on plain carbon steel.

Standard 4: Set up and use Flux Cored Arc welding equipment (FCAW, FCAW-G). (1987.S.4)

Flux Cored Arc Objectives

Students will:
1987.4.1 Perform safety inspections of equipment and accessories.
1987.4.2 Make minor external repairs to equipment and accessories.
1987.4.3 Set up for flux cored arc welding operations on plain carbon steel.
1987.4.4 Operate flux cored arc welding equipment.
1987.4.5 Make fillet welds, all positions, on plain carbon steel.
1987.4.6 Make groove welds, all positions, on plain carbon steel.

Gas Tungsten Arc Welding

WVEIS Code 1989

This course will introduce students to basic skills in gas tungsten arc welding. Students should have good eye, hand coordination and a safety awareness. All students who take this class must have successfully completed Fundamentals of Welding and have passed all safety tests.

Standard 1: Setup and use Gas Tungsten Arc welding equipment. (1989.S.1)

Gas Tungsten Arc Welding Objectives

The student will

1989.1.1 Perform safety inspections of equipment and accessories.
1989.1.2 Make minor external repairs to equipment and accessories.
1989.1.3 Set up for gas tungsten arc welding operations on plain carbon steel, aluminum, and stainless steel.
1989.1.4 Operate gas tungsten arc welding equipment.
1989.1.5 Make fillet welds, all positions, on plain carbon steel.
1989.1.6 Make groove welds all positions, on plain carbon steel.
1989.1.7 Make 1F-2F welds on aluminum.
1989.1.8 Make 1G welds on aluminum.
1989.1.9 Make 1F-3F welds on stainless steel.
1989.1.10 Make 1G-2G welds on stainless steel.

Shielded Metal Arc Welding — WVEIS Code 1993

This course will introduce students to basic skills in shielded metal arc welding. Students should have good eye, hand coordination and a safety awareness. All students who take this class must have successfully completed Fundamentals of Welding and have passed all safety tests.

Standard 1: Setup and use Shielded Metal Arc welding equipment in all positions. (1993.S.1)

Shielded Metal Arc Objectives

Students will:

1993.1.1 Perform safety inspections of equipment and accessories.
1993.1.2 Make minor external repairs to equipment and accessories.
1993.1.3 Setup for SMAW operations on plain carbon steel.
1993.1.4 Operate SMAW equipment.
1993.1.5 Make fillet welds in all positions on plain carbon steel.
1993.1.6 Make groove welds in all positions on carbon steel.
1993.1.7 Perform horizontal and vertical limited thickness qualification test on carbon steel plate.
1993.1.8 Interpret test results.
1993.1.9 Discuss electrode handling procedures.
1993.1.10 Finish metal surfaces with hand and power tools.

Thermal Cutting and Welding WVEIS Code 1995

This course will introduce students to the basic fundamentals to effectively use the oxyfuel welding and cutting processes to produce welded and brazed joints, and to cut straight lines and shapes.

Standard 1: Set up oxyfuel cutting equipment and demonstrate its safe use. (1995.S.1)

Oxyfuel Cutting Equipment Objectives

Students will:
1995.1.1 Describe historical developments in thermal cutting and welding.
1995.1.2 Recognize safety related to thermal cutting.

Standard 2: Perform manual oxyfuel gas cutting and demonstrate its safe use. (1995.S.2)

Manual Oxyfuel Gas Cutting Objectives

Students will:
1995.2.1 Perform safety inspections of equipment and accessories.
1995.2.2 Make minor repairs to equipment and accessories.
1995.2.3 Set up for manual oxyfuel gas cutting operations.
1995.2.4 Perform oxyfuel gas cutting, beveling, and piercing operations.
1995.2.5 Perform arc cutting, beveling, and piercing operations.
1995.2.6 Perform shape cutting and bevel cutting operations on plain carbon steel.
1995.2.7 Remove weld metal from plain carbon steel by using weld washing technique.

Standard 3: Perform oxyfuel welding and brazing and demonstrate its safe use. (1995.S.3)

Oxyfuel Welding and Brazing Objectives

Students will:
1995.3.1 Perform safety inspections of equipment and accessories.
1995.3.2 Set and weld mild steel using oxyfuel welding equipment.
1995.3.3 Set and braze mild steel using oxyfuel welding equipment.

Standard 4: Perform machine oxyfuel gas cutting (OFC) and demonstrate its safe use. (1995.S.4)

Machine Oxyfuel Gas Cutting Objectives

Students will:
1995.4.1 Perform safety inspections of equipment and accessories.
1995.4.2 Make minor external repairs to equipment and accessories.
1995.4.3 Set up for manual air carbon arc gouging and cutting operations on plain carbon steel.
1995.4.4 Operate manual air carbon arc cutting equipment.
1995.4.5 Perform metal removal operations on plain carbon steel.

Standard 5: Set up and safe use of plasma arc cutting (PAC) equipment. (1995.S.5)

Plasma Arc Cutting Objectives

Students will:
1995.5.1 Perform safety inspections on equipment and accessories.

1995.5.2 Make minor external repairs to equipment and accessories.
1995.5.3 Set up for manual plasma arc cutting operations on plain carbon steel, aluminum, and stainless steel.
1995.5.4 Operate manual plasma arc cutting equipment.
1995.5.5 Perform shape cutting operations on plain carbon steel, aluminum, and stainless steel.

Exploring Technology (2401-2409 inclusive) WVEIS Code 2401

Exploring technology is a comprehensive, action based educational program for middle school concerned with the ways that humans use communication, manufacturing, transportation and construction to adapt to their environment. It is necessary for all people to understand technology if they are to function as informed voters, productive workers and wise consumers of technological products. Content and activities involve students' use of tools, materials and processes.

Standard 1: Systems Model (2401.S.1)

Students will understand the concept of a systems model and how it applies to technology.

Systems Model Objectives

Students will:

2401.1.1 Define technology and its four major systems: communication, transportation, construction and manufacturing.

2401.1.2 Name the parts of a technological system, and describe each of the four systems using this model.

Standard 2: Technical Developments (2401.S.1)

Students will recognize the evolving nature of technology and describe its potential for impacting the future.

Technical Developments Objectives

Students will:

2401.2.1 Identify and describe important historical developments in the evolution of technology.

2401.2.2 Use past and present technological developments to predict trends and possible future developments.

Standard 3: Academic Applications (2401.S.3)

Students will integrate academic skills with technological knowledge when solving problems.

Academic Applications Objectives

Students will:

2401.3.1 Solve math and measurement problems as they relate to specific technological systems.

2401.3.2 Apply vocabulary and reading comprehension skills to the study of technology.

2401.3.3 Develop and organize a presentation to inform by using: written, graphic, and verbal techniques.

2401.3.4 Apply concepts of science to real world technological problems.

2401.3.5 Demonstrate the use of critical thinking skills when analyzing technological solutions.

2401.3.6 Use computer hardware and software where applicable in the study of technology.

Standard 4: Problem Solving (2401.S.4)

Students will develop and demonstrate technological problem solving skills and processes when developing solutions to problems.

Problem Solving Objectives

Students will:

2401.4.1 Generate ideas and design solutions to problems through sketches, drawings and notes.

2401.4.2 Plan and select the materials, energy, tools and processes needed and produce a physical

model or prototype of the solution.
2401.4.3 Test the solution.
2401.4.4 Analyze test results and evaluate the success of the solution.

Standard 5: Resources (2401.S.5)

Students will solve problems and make decisions involving resources to create and improve technological systems.

Resources Objectives

Students will:
2401.5.1 Define the term "resource", and list resources in a given technological system.
2401.5.2 Use and reuse a variety of resources in an efficient manner.
2401.5.3 Demonstrate proper use and care of tools and equipment.
2401.5.4 Identify and practice all given safety rules when using materials and equipment in laboratory and classroom activities.
2401.5.5 Use tools, machines and equipment at an appropriate skill level to separate materials; change the shape of materials; join materials; and process information.

Standard 6: Communication Systems (2401.S.6)

Students will explore a variety of resources, processes and outcomes necessary for the development and support of communication systems.

Communication Systems Objectives

Students will:
2401.6.1 Demonstrate proper layout and design principles when designing messages.
2401.6.2 Identify and properly construct the three principle views of an object using sketching and/or drafting tools and techniques.
2401.6.3 Compare and contrast each of the major printing methods used in industry and use at least two methods to make prints which convey a message.
2401.6.4 Explain the basic electrical concepts necessary to operate a simple circuit, and simulate one communication device by constructing a working model.
2401.6.5 Describe major telecommunication devices, and experiment with at least one device in an activity.

Standard 7: Construction Systems (2401.S.7)

Students will explore a variety of resources, processes and outcomes necessary for the development and support of construction systems.

Construction Systems Objectives

Students will:
2401.7.1 Identify a variety of different types of structures, and explain the various uses made of them.
2401.7.2 Explain how loads and forces affect a structural system.
2401.7.3 Identify basic structural elements and techniques used in light construction, and use at least three in classroom activities.
2401.7.4 Identify basic structural elements and techniques used in heavy construction, and use at least one in a classroom activity.
2401.7.5 Compare and contrast the characteristics of a variety of construction materials in relation to their intended purpose.
2401.7.6 Explain the importance of blueprints, specifications, and scheduling of labor and materials to the management of a construction project.

Standard 8: Manufacturing Systems (2401.S.8)

Students will explore a variety of resources, processes and outcomes necessary for the development and support of manufacturing systems.

Manufacturing Systems Objectives

Students will:

2401.8.1 Describe methods used to acquire a variety of raw material resources, including woods, metals, plastics and ceramics.
2401.8.2 Explain the importance of standard stock, and the various methods that industry uses to convert raw materials into standard stock.
2401.8.3 Compare and contrast the various forming operations (casting/molding, compressing/ stretching, and conditioning) and perform at least one operation in each category.
2401.8.4 Compare and contrast the various separating operations (shearing, chip removal, other) and perform at least one operation in each category.
2401.8.5 Compare and contrast the various combining operations (mechanical fastening, adhesive bonding, cohesive bonding coating, and mixing) and perform at least one operation in each category.
2401.8.6 Describe the five organizational departments of a manufacturing company.
2401.8.7 Participate in the establishment and production of a product in student-organized company.

Standard 9: Transportation Systems (2401.S.9)

Students will explore a variety of resources, processes and outcomes necessary for the development and support of transportation systems.

Transportation Systems Objectives

Students will:

2401.9.1 Identify and describe the four environments in which vehicles operate.
2401.9.2 Classify transportation devices according to four operating environments.
2401.9.3 Determine the advantages and disadvantages of a variety of modes of transportation according to their purpose.
2401.9.4 Define the six technical sub-systems of a transportation device.
2401.9.5 Explore a variety of modes of transportation by designing, producing, operating and analyzing the efficiency of at least two models.

Standard 10: Leadership (2401.S.10)

Students will function as a leader, follower, organizer and planner.

Leadership Objectives

Students will:

2401.10.1 Demonstrate the value of working independently and cooperatively in activities.
2401.10.2 Develop civic pride and responsibility by participating in service activities to benefit others.
2401.10.3 Experience leadership development through participation in Technology Student Association activities.

Standard 11: Impacts (2401.S.11)

Students will identify societal problems and environmental impacts that result from the use of technological products and processes.

Impacts Objectives

Students will:

2401.11.1 List several social changes brought about by developments in technology.
2401.11.2 Describe the positive and negative implications that various technologies have had on the environment.
2401.11.3 Explain the impact of renewable and non-renewable resources on the individual, society and the environment.

Standard 12: Careers (2401.S.12)

Students will identify and explore major career opportunities in the engineering and technical field.

Careers Objectives

Students will:
2401.12.1 Use available resources to research a variety of careers associated with engineering and technical fields.
2401.12.2 Evaluate a variety of engineering and technical careers as they relate to personal interests and aptitudes.

Communication Systems WVEIS Code 2421

This course will introduce students to a variety of ways that people use tools and resources to communicate. Topics include the processes of communication, the sources of energy used to communicate, and the technological advancements that are rapidly affecting the world. Students will explore various applications in communication technology through hands-on activities.

Standard 1: Background (2421.S.1)

Students will describe the communication system, its development and importance in the world today.

Background Objectives

Students will:

2421.1.1 Define communication technology, listing the inputs, processes, outputs and feedback and give examples of each.
2421.1.2 Identify and describe important inventions and developments in communication technology.
2421.1.3 Examine the advantages and disadvantages of a variety of graphic and electronic communication methods as to their efficiency (economics, speed, effectiveness).

Standard 2: Communication Applications (2421.S.2)

Students will use oral and written communication skills to effectively deliver a variety of messages.

Communication Applications Objectives

Students will:

2421.2.1 Use a variety of techniques to access information and use the information to solve design problems in communication.
2421.2.2 Write a technical report explaining a specific communication process, which reflects appropriate technical style, and use word processing software to generate the report.
2421.2.3 Prepare and deliver a 3-5 minute speech on a given topic in communication.
2421.2.4 Apply vocabulary and reading comprehension skills used in communication occupations.
2421.2.5 Create a design portfolio to use the remainder of the semester to document your design work.

Standard 3: Mathematical Applications (2421.S.3)

Students will apply accurate measurement practices, solve math problems, and perform algebraic computations as they relate to communication careers.

Mathematical Applications Objectives

Students will:

2421.3.1 Perform mathematical computations as they relate to communication activities (page layout, circuitry problems, etc.)
2421.3.2 Interpret various charts, graphs and drawings used to display numerical data.

Standard 4: Problem Solving (2421.S.4)

Students will apply the basic steps in the problem solving process to develop solutions to a variety of communication problems.

Problem Solving Objectives

Students will:

2421.4.1 Generate ideas and design solutions to solve problems through sketches, drawings and notes.
2421.4.2 Plan and select materials, energy, tools and processes needed for producing solutions to a variety of problems, and use them to solve a variety of problems.

2421.4.3 Choose and conduct the appropriate tests to gather data on the efficiency of solutions to problems.
2421.4.4 Interpret the information gained, and evaluate the success of solutions.

Standard 5: Safety (2421.S.5)

Students will develop appropriate health and safety practices associated with the communication system.

Safety Objectives

Students will:
2421.5.1 Explain and demonstrate general safety rules and the proper use of tools, machines, and equipment in the communication laboratory.
2421.5.2 Describe safety measures and industrial laws and regulations used by communication industries to protect workers on the job.

Standard 6: Mechanical Drawing (2421.S.6)

Students will effectively use mechanical drawing and CAD to communicate graphically.

Mechanical Drawing Objectives

Students will:
2421.6.1 Correctly use a variety of drafting tools to create drawings.
2421.6.2 Use an introductory CAD program to produce a simple drawing, demonstrating basic functions of CAD.
2421.6.3 Correctly draw the necessary views for given orthographic drawings.
2421.6.4 Correctly draw an isometric drawing of a given object and use it in the design of a message.

Standard 7: Layout and Design (2421.S.7)

Students will design and create a variety of graphic messages using proper techniques.

Layout and Design Objectives

Students will:
2421.7.1 Describe the elements and principles of design (color, shape, line, texture, proportion, balance, rhythm, and unity) and apply them when designing a poster.
2421.7.2 Demonstrate proper techniques for producing a thumbnail, rough layout and comprehensive mechanical layout.
2421.7.3 Use desktop publishing software to create a one-page flyer advertising a given item.
2421.7.4 Describe common methods of creating a printed image, and compare various reproduction methods.

Standard 8: Graphic Arts (2421.S.8)

Students will define the general steps necessary to produce a printed product (image design, generation and assembly, carrier preparation, transfer, and product finishing).

Graphic Arts Objectives

Students will:
2421.8.1 Compare and contrast a variety of techniques used to duplicate messages.
2421.8.2 Choose the appropriate method and reproduce a selected project, explaining the reason for your choice of printing method.

Standard 9: Telecommunication (2421.S.9)

Students will examine the processes used in electronic communication and their applications.

Telecommunication Objectives

Students will:

2421.9.1 Explain the basic principles of electricity as they relate to the operation of various communication devices.

2421.9.2 Explain the principle of electromagnetism as it relates to communication and construct a device that operates on this principle.

2421.9.3 Identify the four basic requirements for an electrical circuit and solve a communication problem involving simple circuitry.

2421.9.4 Define the processes of encoding, transmitting, receiving, storing, retrieving, and decoding information.

2421.9.5 Utilize a commercial electronic communication device (video equipment, laser/fiber optics, computer/modem) to design, send, and receive a message, describing the six processes involved.

Standard 10: Impacts (2421.S.10)

Students will examine the impacts and future implications of communication systems as they relate to society, the economy, and the environment.

Impacts Objectives

Students will:

2421.10.1 Discuss several social changes brought about by technological developments in the communication industry.

2421.10.2 Explain how our economy is affected by developments in communication systems and give examples.

2421.10.3 Describe positive and negative implications that various communication technologies have had on the environment.

2421.10.4 Discuss a variety of future developments in communication and their possible effects on society, the economy and the environment.

Construction Systems WVEIS Code 2424

This course will introduce students to the principles of the construction industry. Topics range from how construction meets the needs of society to basic construction techniques. Students will explore various applications in construction technology through hands on activities.

Standard 1: Background (2424.S.1)

Students will describe the construction system, its development and importance in the world today.

Background Objectives

Students will:

2424.1.1 Define construction technology, listing the inputs, processes, outputs and feedback and give examples of each.
2424.1.2 Compare and contrast various types of structures and uses made of them.
2424.1.3 Identify and describe important inventions and developments in construction technology.

Standard 2: Communications Applications (2424.S.2)

Students will use oral, graphic and written communication skills to effectively deliver a variety of messages.

Communication Applications Objectives

Students will:

2424.2.1 Use a variety of techniques to access information and use the information to solve design problems in construction.
2424.2.2 write a technical report explaining a specific construction process, which reflects appropriate technical style, and use word processing software to generate the technical report.
2424.2.3 Prepare and deliver a 3-5 minute speech on a given topic in construction.
2424.2.4 Apply vocabulary and reading comprehension skills used in construction occupations.

Standard 3: Mathematical Applications (2424.S.3)

Students will apply accurate measurement practices, solve math problems, and perform algebraic computations as they relate to construction careers.

Mathematical Applications Objectives

Students will:

2424.3.1 Perform mathematical computations as they relate to construction activities (calculating square feet, foundation layouts, triangulation, etc.).
2424.3.2 Interpret various charts, graphs and drawings used to display numerical data.

Standard 4: Problem Solving (2424.S.4)

Students will apply the basic steps in the problem solving process to develop solutions to a variety of construction problems.

Problem Solving Objectives

Students will:

2424.4.1 Generate ideas and design solutions to solve problems through sketches, drawings and notes.
2424.4.2 Plan and select materials, energy, tools and processes needed for producing solutions to a variety of problems, and use them to solve a variety of problems.
2424.4.3 Choose and conduct the appropriate tests to gather data on the efficiency of solutions to problems.

2424.4.4 Interpret the information gained, and evaluate the success of solutions.

Standard 5: Safety (2424.S.5)

Students will develop appropriate health and safety practices associated with the construction system.

Safety Objectives

Students will:

2424.5.1 Explain and demonstrate general safety rules and the proper use of tools, machines, and equipment in the construction laboratory.

2424.5.2 Describe safety measures and industrial laws and regulations used by construction industries to protect workers on the job.

Standard 6: Resources (2424.S.6)

Students will identify, evaluate, and select common tools, materials, energy, and information to design, engineer, and produce structures.

Resources Objectives

Students will:

2424.6.1 Describe a variety of construction materials, and conduct tests on common structural materials to determine their physical characteristics.

2424.6.2 Perform various forming, separating, and combining processes on construction materials.

Standard 7: Forces and Loads (2424.S.7)

Students will identify and examine the forces and loads acting upon structural elements.

Forces and Loads Objectives

Students will:

2424.7.1 Differentiate between the forces that act on structures (tension, compression, shear, and torsion), and determine which forces are present in various structural elements.

2424.7.2 Differentiate between static, continuous dynamic, and impact dynamic loads, and give examples of each.

2424.7.3 Calculate load stress in a structure and give the answer in load per square inch or load per square foot.

Standard 8: Producing Structures (2424.S.8)

Students will understand the processes used to design, engineer, and produce a variety of types of structures.

Producing Structures Objectives

Students will:

2424.8.1 Differentiate between light and heavy construction by identifying structures, structural elements, and building techniques used in each type of construction.

2424.8.2 Identify several points which must be considered when evaluating a potential construction site, and identify an acceptable location for a structure, given a properly prepared plot plan.

2424.8.3 Design a living space, identifying basic and non-basic activity areas; plan traffic flow pattern and efficient room layout.

2424.8.4 Given a cross sectional view of a foundation and framed superstructure, explain the purpose of each, and identify several structural parts.

2424.8.5 Explain the basic steps of enclosing a structure.

2424.8.6 Describe the importance of insulating a structure and identify the five paths of heating/ cooling

loss in a home.

2424.8.7 Identify internal and external utility systems.

2424.8.8 Describe several internal and external finishing processes.

2424.8.9 Describe a variety of heavy construction projects (dams, highways, bridges, and pipelines) and their relationship to the transportation industry.

2424.8.10 Participate in the various steps, from planning to finished construction, of a model scale structure.

Standard 9: Managing Construction Projects (2424.S.9)

Students will understand the processes related to managing a construction project.

Managing Construction Projects Objectives

Students will:

2424.9.1 Define and describe the three activities of management (planning, organizing, and controlling).

2424.9.2 Describe how a contractor organizes a construction project, including the concept of subcontracting, controlling construction costs, and scheduling of required inspections.

Standard 10: Impacts (2424.S.10)

Students will understand the impacts and future implications of construction systems as they relate to society, the economy, and the environment.

Impacts Objectives

Students will:

2424.10.1 Discuss several social changes brought about by technological developments in the construction industry.

2424.10.2 Explain how our economy is affected by developments in construction systems and give examples.

2424.10.3 Describe positive and negative implications that various construction technologies have had on the environment.

2424.10.4 Discuss a variety of future developments in construction and their possible effects on society, the economy and the environment.

Drafting Specialization - Architectural WVEIS Code 2427

This course will provide students the opportunity to specialize in architectural drawing and design, including plumbing, electrical and HVAC systems. Students will: choose one of these areas to do in-depth study during this course.

Standard 1: Piping Systems (2427.S.1)

Students will demonstrate the ability to design and draw domestic and commercial piping systems.

Piping Systems Objectives

Students will:

2427.1.1 Demonstrate knowledge of domestic and commercial piping system terminology and materials.

2427.1.2 Demonstrate the ability to interpret and draw domestic and commercial piping schematic flow diagrams.

2427.1.3 Demonstrate the ability to use a CAD system to design and develop drawings for domestic and commercial piping.

Standard 2: Electrical Systems (2427.S.2)

Students will demonstrate the ability to design and draw electrical systems.

Electrical Systems Objectives

Students will:

2427.2.1 Demonstrate knowledge of electrical system terminology and materials.

2427.2.2 Demonstrate the ability to interpret and draw electrical diagrams.

2427.2.3 Demonstrate the ability to use a CAD system to design and develop drawings for electrical systems.

Standard 3: HVAC Systems (2427.S.3)

Students will demonstrate the ability to design and draw HVAC systems.

HVAC Systems Objectives

Students will:

2427.3.1 Demonstrate knowledge of HVAC system terminology and materials.

2427.3.2 Demonstrate the ability to interpret and draw HVAC diagrams.

2427.3.3 Demonstrate the ability to use a CAD system to design and develop drawings for HVAC systems.

Standard 4: Architectural Techniques (2427.S.4)

Students will apply architectural techniques to design and draw building structures.

Architectural Techniques Objectives

Students will:

2427.4.1 Demonstrate knowledge of building styles, material selection and price estimates and architectural terms.

2427.4.2 Demonstrate the ability and knowledge to determine structural design required for client needs and purposes.

2427.4.3 Draw and dimension all necessary drawings for the completion of the structure, including floor plan, elevations and exterior presentation (two point, three point, etc.), etc.

2427.4.4 Demonstrate the ability to use a CAD system to design and develop architectural drawings.

Drafting Specialization – Mechanical WVEIS Code 2430

This course will introduce students to mechanical drafting, including the application of dimensioning techniques, assembly and detail drawings, pictorial views and common threads and fasteners. This course will provide the training to apply these applications using a CAD system.

Standard 1: Dimensioning (2430.S.1)

Students will demonstrate the proper use and knowledge of advanced dimensioning techniques.

Dimensioning Objectives

Students will:

2430.1.1 Demonstrate knowledge of advanced dimensioning terminology and basic principals of fit selection.

2430.1.2 Apply tolerance dimensions, positional and form tolerance symbols.

Standard 2: Assembly Drawings (2430.S.2)

Students will construct various types of assembly and detail drawings.

Assembly Drawings Objectives

Students will:

2430.2.1 Identify types of assembly drawings, detail parts within, and dimension detailed assembly drawings.

2430.2.2 Draw title and revision blocks, make and record drawing revisions, specify shop notes, and draft the necessary bill of materials on a drawing.

2430.2.3 Draw sectional and detailed working assembly drawings.

Standard 3: Threads and Fasteners (2430.S.3)

Students will identify and draw common threads and fasteners.

Threads and Fasteners Objectives

Students will:

2430.3.1 Demonstrate knowledge of common threaded fasteners, thread forms, series and classification of fits.

2430.3.2 Specify keys, keyways and taper pins, etc.

2430.3.3 Draw threaded fasteners using detailed and schematic representations.

Standard 4: Computer Applications (2430.S.4)

Students will use computer assisted drafting to produce drawings, demonstrating competency in using advanced CAD systems.

Computer Applications Objectives

Students will:

2430.4.1 Use advanced drawing and editing features within a CAD system.

2430.4.2 Obtain numerical and database information from a CAD system.

2430.4.3 Use operating system functions within the CAD program.

2430.4.4 Demonstrate the ability to efficiently print/plot specified drawings.

2430.4.5 Develop 3-D objects on a CAD system.

2430.4.6 Use specialized CAD software to design and develop mechanical drawings and models Mechanical Desktop).

2430.4.7 Develop 3-D objects using CNC.

Drafting Techniques WVEIS Code 2433

This course will introduce students to techniques used in advanced orthographic projection, including dimensioning, sectioning, auxiliary views, revolutions, pattern development and advanced CAD.

Standard 1: Sectioning (2433.S.1)

Students will apply proper sectioning techniques to fully describe the interior of an object on a drawing.

Sectioning Objectives

Students will:
2433.1.1 Describe the purpose of a cutting plane and cutting plane line, and properly draw them.
2433.1.2 Draw various ANSI standard section lines used for general sections, steel, concrete, etc.
2433.1.3 Describe the differences between a full, half, revolved, aligned, offset, removed and broken out sections, and use sectioning techniques to complete drawings.

Standard 2: Pictorial Views (2433.S.2)

Students will identify and construct pictorial views.

Pictorial Views Objectives

Students will:
2433.2.1 Construct oblique and isometric drawings, including exploded and sectional views.
2433.2.2 Apply standard, horizontal and reverse axes in isometric drawings.
2433.2.3 Draw non-isometric lines, circles arcs, and curved lines.

Standard 3: Auxiliary Views (2433.S.3)

Students will draw primary and secondary auxiliary views and revolutions.

Auxiliary Views Objectives

Students will:
2433.3.1 Demonstrate knowledge of primary auxiliary views.
2433.3.2 Draw secondary auxiliary views and explain their use.
2433.3.3 Demonstrate knowledge of revolutions and their use.

Standard 4: Descriptive Geometry (2433.S.4)

Students will apply descriptive geometry techniques to solve graphical problems.

Descriptive Geometry Objectives

Students will:
2433.4.1 Determine the true length of a line, true view of a plane and the true angle between two planes.
2433.4.2 Determine the intersection between lines, planes, and surfaces.

Standard 5: Patterns and Developments (2433.S.5)

Students will use proper techniques to draw patterns and developments.

Patterns and Developments Objectives

Students will:
2433.4.1 Develop rectangular prisms, cylinders, pyramids and cones.

2433.5.2 Demonstrate knowledge of transition pieces.
2433.5.3 Apply development techniques to shop patterns.

Standard 6: Dimensioning (2433.S.6)

Students will apply the rules of dimensioning to dimension drawings, using architectural, engineering and metric measurements.

Dimensioning Objectives

Students will:
2433.6.1 Layout, measure and construct lines with the architectural, engineering and metric scales.
2433.6.2 Describe and apply unidirectional and aligned systems of dimensioning.
2433.6.3 Apply standard dimensioning techniques for a hole, countersink, counter bore and knurling.
2433.6.4 Properly dimension axonometric drawings.

Standard 7: Computer Applications (2433.S.7)

Students will use computer assisted drafting to produce drawings, demonstrating the ability to customize a CAD system.

Computer Applications Objectives

Students will:
2433.7.1 Create and use various prototype drawings using custom developed line types, hatch patterns and text styles.
2433.7.2 Modify CAD menu to perform additional and/or new operations.
2433.7.3 Demonstrate the ability to modify operating system files to facilitate CAD operations and load and run a lisp routine.

Foundations In Engineering WVEIS Code 2436

This course will introduce students to the basic principles of materials, mechanisms, structures, electricity, electronic control, fluidics, and graphic communication and how they can be integrated and used to solve a variety of complex technical challenges. Students work in engineering teams to develop work process skills, such as researching, writing, organizing, modeling, calculating, and communicating with others.

Standard 1: Problem Solving (2436.S.1)

Students will understand the basic steps in the problem solving process to develop solutions to a variety of technological problems.

Problem Solving Objectives

Students will:
2436.1.1 Identify and describe the four basic steps in the problem solving process.
2436.1.2 Explain at least four factors that influence the design process.

Standard 2: Conducting Research (2436.S.2)

Students will understand how to generate ideas and use a variety of information gathering techniques to conduct research and gather data.

Conducting Research Objectives

Students will:
2436.2.1 Use a variety of divergent and convergent methods (mind mapping, brainstorming, consensus) to generate ideas, organize thoughts, and represent relationships between concepts.
2436.2.2 Generate ideas and design solutions to solve problems through sketches, drawings and notes.
2436.2.3 Discuss the purpose and importance of research in the design process.
2436.2.4 Apply vocabulary and reading comprehension skills used in engineering.
2436.2.5 Effectively use a variety of information gathering techniques to compile research information for designs.
2436.2.6 Properly document information gained from any resource.
2436.2.7 Develop and use a questionnaire or interview guide designed to gain specific information from people, then use spreadsheet software to design a chart or graph to display the data gathered.
2436.2.8 Conduct destructive and nondestructive tests on a variety of materials to determine their characteristics, collect data and produce a computer graph to display information about a material's properties.
2436.2.9 Determine which specific materials are most appropriate for a given product, and justify your answer.

Standard 3: Documenting Design Work (2436.S.3)

Students will understand the importance of documenting design work and use a variety of methods to record design ideas.

Design Work Objectives

Students will:
2436.3.1 Describe various methods to document design work.
2436.3.2 Provide three good reasons for documenting design work.
2436.3.3 Create a design portfolio, using a variety of methods to document your design work.
2436.3.4 Use desktop publishing software to create a variety of titles, graphics and layouts for your portfolio.

2436.3.5 Properly sketch and dimension a variety of drawings using orthographic projection and pictorial drawing techniques.
2436.3.6 Create technical sketches that depict various details of a product.
2436.3.7 Use computer assisted drafting to communicate graphic solutions to a variety of problems.

Standard 4: Factors Affecting Design (2436.S.4)

Students will consider the various factors that affect design when creating solutions to problems. Demonstrate how to gather anthropometrics data, and apply it to the design of products.

Factors Affecting Design Objectives

Students will:
2436.4.1 Specify the functional criteria of a variety of consumer products.
2436.4.2 Effectively apply the elements and principles of design when creating solutions to problems.
2436.4.3 Describe the internal and external forces that are exerted on a structure, and explain why they need to be considered in the design of an object.
2436.4.4 Compare and contrast various structural elements and apply them to the solution of design problems.

Standard 5: Technological Resources (2436.S.5)

Students will understand and integrate a variety of technological resources to produce models to design problems.

Technological Resources Objectives

Students will:
2436.5.1 Define and describe the difference between appearance models, working models, prototypes, and computer models.
2436.5.2 Plan and select appropriate materials needed for producing solutions to a variety of problems.
2436.5.3 Identify a variety of tools and equipment and methods used to control them.
2436.5.4 Describe general safety rules and demonstrate safe use of any tool or piece of equipment that may be used in the engineering/ technical laboratory.
2436.5.5 Perform various forming, separating, and combining processes when creating models for design solutions.
2436.5.6 Demonstrate how various mechanisms, including gear trains, pulleys, cams, cranks, links and levers affect changing types of movement.
2436.5.7 Describe and apply the concept of mechanical advantage, velocity ratio, and efficiency.
2436.5.8 Explain the relationship between current, voltage, and resistance, and use appropriate meters to measure each.
2436.5.9 Describe the operation of and properly use a variety of switches, diodes, variable resistors, and fuses to create circuits to solve design problems.
2436.5.10 Correctly draw a diagram of a circuit and build the circuit from the diagram.
2436.5.11 Describe the purpose of and use various sensing devices (switches, temperature and light sensors) and actuator devices (buzzers, lamps) and use them in control circuits.
2436.5.12 Explain the nature of digital signals in electronic circuits and represent them in binary arithmetical form.
2436.5.13 Apply common digital processing blocks used in electronic circuits such as AND and OR gates in the solution of problems.
2436.5.14 Explain the concept of 3 port and 5 port valves, and single and double acting cylinders, and use them to control design solutions.
2436.5.15 Explain the concept of controlling the speed of cylinders and use a variety of controlling arrangements such as delay circuits, (reservoirs, restrictors, and/or valves) to produce delays, AND, OR and NOT functions.
2436.5.16 Describe the locus of moving points in mechanisms and explain how cylinders are mounted to

provide appropriate angular travel.

2436.5.17 Demonstrate the ability to integrate the various technologies and use them to build models of working solutions.

Standard 6: Testing and Analyzing (2436.S.6)

Students will understand the importance of testing and analyzing a design solution and use the information for improvement.

Testing and Analyzing Objectives

Students will:

2436.6.1 Choose and conduct the appropriate tests to gather data on the efficiency of solutions to problems.

2436.6.2 Interpret the information gained by calculating the efficiency of a given design.

2436.6.3 Analyze test results and use them to suggest redesign strategies.

Standard 7: Presenting Information (2436.S.7)

Students will demonstrate a variety of methods to present information.

Presenting Information Objectives

Students will:

2436.7.1 Write objective reports reflecting appropriate technical style, and use word processing software to generate the report.

2436.7.2 Prepare and deliver a 3-5 minute speech on a given topic.

2436.7.3 Design and create an effective physical display to explain the solution to a specific design problem.

2436.7.4 Design and create a variety of publications and displays by hand and with desktop publishing software.

2436.7.5 Prepare and deliver a 3-5 minute multimedia presentation on a given topic.

Standard 8: Leadership (2436.S.8)

Students will develop personal responsibility and leadership skills through participation in engineering team activities.

Leadership Objectives

Students will:

2436.8.1 Share responsibility of the problem solving process in a group.

2436.8.2 Demonstrate the value of working independently and cooperatively in activities.

Standard 9: Careers (2436.S.9)

Students will explore a variety of careers that are involved in the engineering field, and the skills, qualifications and requirements necessary to work in this field.

Careers Objectives

Students will:

2436.9.1 Define at least five types of engineers, and give examples of how they use the design process in their specific jobs.

2436.9.2 Discuss a variety of businesses and industries that use design engineers, and what type of work each does.

2436.9.3 Examine the skills and training necessary to be successful in an engineering career.

Fundamentals Of Drafting — WVEIS Code 2439

This course will introduce students to the basic fundamentals of drafting and geometric construction. Students will become familiar with drafting equipment and methodology used in industry. This course will provide basic understanding of drafting techniques necessary to allow students to progress to CAD.

Standard 1: Careers (2439.S.1)

Students will Identify, explore, and evaluate career opportunities related to drafting and design.

Careers Objectives

Students will:

2439.1.1 Describe a variety of careers related to drafting and design, and the training necessary to be successful in those careers.

2439.1.2 Develop appropriate attitudes and behaviors required to succeed in careers in the field of drafting and design.

2439.1.3 Identify sources of information about careers in drafting.

Standard 2: Equipment and Materials (2439.S.2)

Students will identify and properly use a variety of basic drafting equipment and materials.

Equipment and Materials Objectives

Students will:

2439.2.1 Describe and properly use standard drafting tools and machines such as triangles, protractors, scales, erasing shield, pencils, pens, erasers, compass and dividers.

2439.2.2 List the standard size sheets for drawing, and describe the difference between tracing paper, vellum and drafting film.

Standard 3: Mathematical Applications (2439.S.3)

Students will apply mathematical skills related to drafting and design.

Mathematical Applications Objectives

Students will:

2439.3.1 Perform mathematical computations as they relate to creating accurate drawings.

2439.3.2 Interpret various charts and graphs used to display numerical data.

2439.3.3 Layout, measure and construct lines with the architectural scales.

Standard 4: Basic Drafting Techniques (2439.S.4)

Students will demonstrate proper drafting techniques when solving a variety of drafting problems.

Basic Drafting Techniques Objectives

Students will:

2439.4.1 Identify and draw the various standard ANSI lines, borders and title blocks used in the drafting/design industry.

2439.4.2 Properly draw basic geometric shapes using equipment, and layout basic geometric constructions to demonstrate bisection, perpendicular, parallel, tangent, division, etc.

2439.4.3 Demonstrate proper techniques for lettering freehand and with mechanical lettering devices.

Standard 5: Orthographic Projection (2439.S.5)

Students will demonstrate proper techniques to develop multi-view drawings using orthographic projection.

Orthographic Projection Objectives

Students will:
2439.5.1 Apply proper isometric sketching techniques to aid in visualization of orthographic drawings.
2439.5.2 Arrange and layout the three principle views of an object on a standard ANSI sheet, using proper centering techniques.
2439.5.3 Select the proper views necessary to completely describe an object, and complete technical drawings using these views.

Standard 6: Dimensioning (2439.S.6)

Students will apply general rules to dimension drawings, using architectural measurements.

Dimensioning Objective

Students will:
2439.6.1 List and draw basic dimensions lines such as extension, dimension and leader lines.

Standard 7: Computer Applications (2439.S.7)

Students will use computer assisted drafting to produce drawings, demonstrating basic functions of CAD.

Computer Applications Objectives

Students will:
2439.7.1 Properly use software to create drawings using basic commands.
2439.7.2 Dimension the drawing, using appropriate commands.
2439.7.3 Properly save and plot a drawing.

Manufacturing Systems WVEIS Code 2442

This course will introduce students to the basic elements of the manufacturing industry. Students will explore a variety of materials and processing techniques common to manufacturing, and apply this knowledge to the development and operation of a student manufacturing enterprise.

Standard 1: Background (2442.S.1)

Students will describe the manufacturing system, its development and importance in the world today.

Objectives

Students will:

2442.1.1 Define manufacturing technology, listing the inputs, processes, outputs and feedback and give examples of each.

2442.1.2 Describe the stages of manufacturing, from securing raw materials to distributing the finished product.

2442.1.3 Identify and describe important inventions and developments in manufacturing technology.

Standard 2: Communication Applications (2442.S.2)

Students will use oral, graphic and written communication skills to effectively deliver a variety of messages.

Communication Applications Objectives

Students will:

2442.2.1 Use a variety of techniques to access information and use it to solve design problems in manufacturing.

2442.2.2 Write a technical report explaining a specific manufacturing process, which reflects appropriate technical style, and use word processing software to generate the technical report.

2442.2.3 Prepare and deliver a 3-5 minute speech on a given topic in manufacturing.

2442.2.4 Apply vocabulary and reading comprehension skills used in manufacturing occupations.

2442.2.5 Create a design portfolio to use the remainder of the semester to document your design work.

Standard 3: Mathematical Applications (2442.S.3)

Students will apply accurate measurement practices, solve math problems, and perform algebraic computations as they relate to manufacturing careers.

Mathematical Applications Objectives

Students will:

2442.3.1 Perform mathematical computations as they relate to manufacturing activities (calculating break even points, board feet, bills of materials, etc.).

2442.3.2 Interpret various charts, graphs and drawings used to display numerical data.

Standard 4: Management (2442.S.4)

Students will discuss and apply standard forms of management, which are used in the manufacturing industry.

Management Objectives

Students will:

2442.4.1 Develop a management team to run a simulated company, using it to improve quality, productivity, and economic competitiveness in manufacturing.

Standard 5: Research and Development (2442.S.5)

Students will understand processes used to conduct research and develop products by a manufacturing enterprise.

Research and Development Objectives

Students will:
2442.5.1 Practice a variety of ways to generate ideas to solve problems.
2442.5.2 Conduct a market survey to determine the potential sales of a product you have designed.
2442.5.3 Design and construct a working model of a potential product.
2442.5.4 Use testing strategies to evaluate the model, and analyze the information gained through testing to evaluate the success of the product.

Standard 6: Finances and Accounting (2442.S.6)

Students will apply processes used to manage finances in a manufacturing industry.

Finances and Accounting Objectives

Students will:
2442.6.1 Estimate fixed and variable manufacturing costs.
2442.6.2 Prepare a master budget and maintain a general ledger.

Standard 7: Safety (2442.S.7)

Students will develop appropriate health and safety practices associated with the manufacturing system.

Safety Objectives

Students will:
2442.7.1 Explain and demonstrate general safety rules and the proper use of tools, machines, and equipment in the manufacturing laboratory.
2442.7.2 Describe safety measures and industrial laws and regulations used by manufacturing industries to protect workers on the job.

Standard 8: Industrial Relations (2442.S.8)

Students will identify processes used to promote good industrial relations.

Industrial Relations Objectives

Students will:
2442.8.1 Describe the three (3) major types of industrial relations (employee, labor, public) and list several functions of each.

Standard 9: Resources (2442.S.9)

Students will identify and select common materials, tools, and equipment and use them to design and produce products.

Resources Objectives

Students will:
2442.9.1 Identify common materials (metallic, ceramic, natural and synthetic polymers) and describe their characteristic properties.
2442.9.2 Identify various types of tools and equipment and the methods used to safely control them.
2442.9.3 Form and/or separate standard stock into one piece products or components of multiple piece products.

2442.9.4 Combine components into subassemblies and final products.

Standard 10: Producing Products

Students will demonstrate and understand processes used to plan for and produce high quality products.

Producing Products Objectives

Students will:

2442.10.1 Describe the five major activities that occur in the manufacturing area (planning, control, plant engineering, quality control, and material processing).
2442.10.2 Describe the similarities and differences of custom, intermittent, and continuous flow techniques.
2442.10.3 Develop an operation flow chart.
2442.10.4 Develop a flow process chart (operations, delays, etc.) for a product.
2442.10.5 Construct jigs/fixtures required for a manufacturing run.
2442.10.6 Apply intermittent (job lot) production techniques to prepare standard stock for a continuous flow production, using appropriate jigs and fixtures.
2442.10.7 Apply continuous flow production techniques to produce a finished product using appropriate jigs and fixtures.
2442.10.8 Compare and contrast the prevention (SPC) and the detection (inspection) system of quality control.

Standard 11: Impacts (2442.S.11)

Students will examine the impacts and future implications of manufacturing systems as they relate to society, the economy, and the environment.

Impacts Objectives

Students will:

2442.11.1 Discuss several social changes brought about by technological developments in the manufacturing industry.
2442.11.2 Explain how our economy is affected by developments in manufacturing systems and give examples.
2442.11.3 Describe positive and negative implications that various manufacturing technologies have had on the environment.
2442.11.4 Discuss a variety of future developments in manufacturing and their possible effects on society, the economy and the environment.

Mechanical Services Systems WVEIS Code 2445

This course will introduce students to the basic principles of mechanisms, electricity/electronics and fluidics involved in the support, maintenance, design and installation of all types of mechanical and electrical devices. Students will explore a variety of techniques used in the mechanical services industry, and apply this knowledge in a variety of hands-on activities.

Standard 1: Background (2445.S.1)

Students will describe the mechanical services system, its development and importance in the world today.

Background Objectives

Students will:

2445.1.1 Define mechanical services technology.

2445.1.2 Identify and describe important inventions and developments in the evolution of the mechanical services industry.

Standard 2: Communication Applications (2445.S.1)

Students will use oral, graphic and written communication skills to effectively deliver a variety of messages.

Communication Applications Objectives

Students will:

2445.2.1 Use a variety of techniques to access information and use it to solve design problems in mechanical services.

2445.2.2 Write a technical report explaining a specific mechanical services process, which reflects appropriate technical style, and use word processing software to generate the report.

2445.2.3 Prepare and deliver a 3-5 minute extemporaneous speech on a given topic in mechanical services.

2445.2.4 Apply vocabulary and reading comprehension skills used in mechanical services.

2445.2.5 Create a design portfolio to use the remainder of the semester to document your design work.

Standard 3: Mathematical Applications (2445.S.3)

Students will apply accurate measurement practices, solve math problems, and perform algebraic computations as they relate to mechanical services careers.

Mathematical Applications Objectives

Students will:

2445.3.1 Continue to use English and Metric measurements accurately.

2445.3.2 Perform mathematical computations as they relate to mechanical services activities (calculating break-even points, board feet, bills of materials, etc.)

2445.3.3 Interpret various charts, graphs and drawings used to display numerical data.

Standard 4: Problem Solving (2445.S.4)

Students will apply design, creativity and critical thinking skills to develop solutions to a variety of problems to meet specific criteria.

Problem Solving Objectives

Students will:

2445.4.1 Generate ideas and design solutions to problems through sketches, drawings, and notes.

2445.4.2 Plan and select the materials, energy, tools, and processes needed for producing solutions to mechanical services problems, and produce solutions to a variety of mechanical services problems.
2445.4.3 Test the solution to a variety of mechanical services problems, and analyze test results to valuate the success of solutions.

Standard 5: Safety (2445.S.5)

Students will develop appropriate health and safety practices associated with the mechanical services industry.

Safety Objectives

Students will:
2445.5.1 Explain and demonstrate general safety rules and the proper use of tools, machines, and equipment in the mechanical services field and in the training laboratory.
2445.5.2 Describe safety measures and industrial laws and regulations used by companies to protect mechanical services workers on the job.

Standard 6: Electricity and Electronics (2445.S.6)

Students will explain the basic principles of electricity and electronics as they relate to the various operations involved in mechanical services.

Electricity and Electronics Objectives

Students will:
2445.6.1 Identify the basic requirements for an electrical circuit and solve problems involving simple circuitry.
2445.6.2 Explain the principle of electro-magnetism and describe devices that operate on this principle.
2445.6.3 Identify and explain electric control of pneumatic and hydraulic systems (single and multiple gas and fluid systems).

Standard 7: Fluidics (2445.S.7)

Students will explain the basic principles of fluidics as they apply to the various devices and operations in mechanical services.

Fluidics Objectives

Students will:
2445.7.1 Compare and contrast basic principles of pneumatics and hydraulics, and describe devices that operate on each principle.
2445.7.2 Demonstrate typical industrial compressed air systems, explaining the various types of controls used.
2445.7.3 Memorize and use accepted practices and nomenclatures for lubricants and oils used in fluidics.
2445.7.4 Demonstrate how flow and pressure control systems, fluid pumps, motors and actuators function

Standard 8: Mechanisms (2445.S.8)

Students will understand and demonstrate the proper use of lubricants and mechanical practices.

Mechanisms Objectives

Students will:
2445.8.1 Describe friction bearings and mechanical seals and their uses.

2445.8.2 Explain the difference between oil, grease and synthetic lubricants and their use.
2445.8.3 Describe the operation of fluid motors and pumps which require alignment of drive mechanisms (shimming, etc.).
2445.8.4 Install piping, tubing and fittings used in mechanical services.
2445.8.5 Explain the difference between gears, levers, pulleys and types of bearings

Standard 9: Impacts (2445.S.9)

Students will understand the impacts and future implications of mechanical services systems as they relate to individuals, society, and the economic, environmental, and technological systems.

Impacts Objectives

Students will:
2445.9.1 Discuss several social changes brought about by the development of mechanical services technology.
2445.9.2 Explain how mechanical services technology affects our economic system and give examples.
2445.9.3 Describe positive and negative implications that various mechanical services technologies have had on the environment.
2445.9.4 Discuss a variety of future developments in mechanical services and their possible effects on society.

Transportation Systems WVEIS Code 2448

This course will introduce students to the use of tools and resources to relocate people and goods. Topics range from the subsystems of transportation to the sources of energy used in the industry. Students will explore various applications in transportation technology through hands on activities.

Standard 1: Background (2448.S.1)

Students will describe the transportation system, its development and importance in the world today.

Background Objectives

Students will:

2448.1.1 Define transportation technology in terms of the systems model, listing the inputs, processes, outputs and feedback and give examples of each.

2448.1.2 Identify and describe important inventions and developments in transportation technology.

2448.1.3 Determine the advantages and disadvantages of selected modes of transportation in relation to its efficiency (speed, payload, economics, safety).

Standard 2: Communication Applications (2448.S.2)

Students will use oral, graphic and written communication skills to effectively deliver a variety of messages.

Communication Applications Objectives

Students will:

2448.2.1 Use a variety of techniques to access information and use it to solve design problems in transportation.

2448.2.2 Write a technical report explaining a specific transportation process, which reflects appropriate technical style, and use word processing software to generate the technical report.

2448.2.3 Prepare and deliver a 3-5 minute extemporaneous speech on a given topic in transportation.

2448.2.4 Apply vocabulary and reading comprehension skills used in transportation occupations.

Standard 3: Mathematical Applications (2448.S.3)

Students will apply accurate measurement practices, solve math problems, and perform algebraic computations as they relate to transportation careers.

Mathematical Applications Objectives

Students will:

2448.3.1 Perform mathematical computations as they relate to transportation activities (calculating speed, loads, lift, etc.)

2448.3.2 Interpret various charts, graphs and drawings used to display numerical data.

Standard 4: Problem Solving (2448.S.4)

Students will apply design, creativity and critical thinking skills to develop solutions to a variety of problems involving different technologies to meet specific criteria.

Problem Solving Objectives

Students will:

2448.4.1 Practice a variety of ways to generate ideas to solve problems.

2448.4.2 Plan and select the materials, energy, tools, and processes needed for producing solutions to transportation problems, and produce solutions for a variety of problems.

2448.4.3 Use several testing strategies to evaluate the solution to transportation problems, and analyze information gained through testing to evaluate the success of solutions.

2448.4.4 Create a design portfolio to use the remainder of the semester to document your design work.

Standard 5: Safety (2448.S.5)

Students will develop appropriate health and safety practices associated with the transportation industry.

Safety Objectives

Students will:

2448.5.1 Explain and demonstrate general safety rules and the proper use of tools, machines, and equipment in the transportation laboratory.

2448.5.2 Describe safety measures and industrial laws and regulations used by transportation industries to protect workers on the job.

Standard 6: Power and Energy (2448.S.6)

Students will understand the role that energy plays in producing power for transportation and how power systems convert energy into work.

Power and Energy Objectives

Students will:

2448.6.1 Define energy and the three major categories of energy sources (renewable, non-renewable, and inexhaustible), listing several examples of each.

2448.6.2 Explain the Law of Conservation of Energy.

2448.6.3 Define mechanical advantage and describe how the six simple machines provide mechanical advantage to a vehicle.

2448.6.4 Define power and describe the three major power systems used in transportation (mechanical, electrical, fluid), listing several examples.

2448.6.5 Illustrate the types of gears used in transmission of power, and calculate gear ratio and direction.

Standard 7: Propulsion Sub-Systems (2448.S.7)

Students will explain the operation of various propulsion systems used in transportation.

Propulsion Sub-Systems Objectives

Students will:

2448.7.1 Define propulsion, and describe the three major types of energy converters used in transportation (heat engines, electric systems, hybrid systems).

2448.7.2 Describe the effect that friction has on the movement of a vehicle.

2448.7.3 Compare and contrast 2-stroke and 4-stroke engines.

2448.7.4 Compare and contrast propulsion systems used in air transport: reciprocating and jet engines.

Standard 8: Structural Sub-Systems (2448.S.8)

Students will describe the purpose of structural systems and analyze designs as to their efficiency.

Structural Sub-Systems Objectives

Students will:

2448.8.1 Explain the various structural design criteria including: human, safety, and economic factors, giving examples.

2448.8.2 Describe various materials used in vehicle structures (body, hull, fuselage) and why each is used.

2448.8.3 Design and construct a model vehicle, which demonstrates efficient aerodynamic or hydrodynamic design.

Standard 9: Suspension Sub-Systems (2448.S.9)

Students will compare and contrast various types of suspension systems and explain their purpose in vehicles.

Suspension Sub-Systems Objectives

Students will:

2448.9.1 Define suspension, and list the three types of suspension systems, giving examples of each (mechanical, fluid, magnetic).
2448.9.2 Describe the main components of suspension systems used in land transportation.
2448.9.3 Explain Bernoulli's Principle, describing the forces that affect an aircraft in flight.
2448.9.4 Define buoyancy and explain how it provides suspension to marine craft.
2448.9.5 Explain why aerodynamic devices (airfoils) are not effective in space.

Standard 10: Support Sub-Systems (2448.S.10)

Students will describe the function of support systems for the transportation industry.

Support Sub-Systems Objectives

Students will:

2448.10.1 Explain the need for each of the five types of support systems used in transportation (life, legal, operations, maintenance, economic).

Standard 11: Guidance Sub-Systems (2448.S.11)

Students will explain guidance systems and why they are an integral part of any transportation system.

Guidance Sub-Systems Objectives

Students will:

2448.11.1 Explain the purpose of guidance systems in transportation.
2448.11.2 Describe several types of visual and electronic guidance systems and give examples of where each would most commonly be found.

Standard 12: Control Sub-Systems (2448.S.12)

Students will describe the purpose of control systems in transportation systems.

Control Sub-Systems Objectives

Students will:

2448.12.1 Describe the two major categories of control systems: speed and direction.
2448.12.2 Demonstrate the concept of movement about axes (roll, pitch, yaw) in a variety of modes.
2448.12.3 Define random and fixed routes, and briefly explain directional control in both.
2448.12.4 Describe the various ways to control speed and direction in land transportation vehicles.
2448.12.5 Identify and describe the control surfaces on an aircraft and how they function.

Standard 13: Impacts (2448.S.13)

Students will examine the impacts and future implications of transportation systems as they relate to society, the economy, and the environment.

Impacts Objectives

Students will:

2448.13.1 Discuss several social changes brought about by technological developments in the transportation industry.
2448.13.2 Explain how our economy is affected by developments in transportation systems and give examples.
2448.13.3 Describe positive and negative implications that various transportation technologies have had

on the environment.

2448.13.4 Discuss a variety of future developments in transportation and their possible effects on society, the economy and the environment.

Travel West Virginia — WVEIS Code 7663

This course provides students with an awareness of the impact of tourism in West Virginia. Students study the eight tourism regions of the state, the history, heritage, culture and geography of the state related to tourism and the role that marketing plays in building our tourism industry. Hospitality careers are also covered.

Standard 1: Develop an appreciation for and promote a sense of pride in the state of West Virginia. (7663.S.1)

Pride in the State Objectives

Students will:

7663.1.1 Describe and have an understanding of how stereotypes and prejudice can negatively impact West Virginia.
7663.1.2 Evaluate stereotypes used to describe West Virginia and determine their validity.
7663.1.3 List places of interest in West Virginia.
7663.1.4 Analyze slogans that promote West Virginia.
7663.1.5 Explain reasons why people should come to West Virginia.

Standard 2: Demonstrate an understanding of historical/geographical places of interest in West Virginia. (7663.S.2)

Historical/Geographical Objectives

Students will:

7663.2.1 Locate on a map the eight tourist regions of West Virginia.
7663.2.2 Draw conclusions about West Virginia's eight tourist regions from maps, pictures, charts and graphs.
7663.2.3 Explain how the physical geography of West Virginia supports tourism.
7663.2.4 Identify the location of places of historical significance in West Virginia.
7663.2.5 Identify the location of places of recreational interest in West Virginia and distinguish which are natural and man-made.
7663.2.6 Categorize historical/geographical places of interest by tourist region.
7663.2.7 Categorize historical places of interest by time period.

Standard 3: Analyze the potential for tourism in West Virginia. (7663.S.3)

Tourism Objectives

Students will:

7663.3.1 Define tourism.
7663.3.2 Identify the location and role of the Convention and Visitors' Bureaus.
7663.3.3 List reasons people travel.
7663.2.4 List the major population centers that are within a 500-mile radius of West Virginia.
7663.2.5 Evaluate misconceptions about tourism.
7663.2.6 Interpret data regarding tourism in West Virginia.
7663.2.7 List categories of tourism and give examples of each.
7663.2.8 Define target markets.
7663.2.9 List target markets for tourism and compare/contrast each.
7663.2.10 Evaluate the importance of preservation, e.g., natural beauty, historical significance vs. economic progress.
7663.2.11 Explain how ethnicity impacts tourism.
7663.2.12 Analyze data to determine leisure travel habits of potential target markets.
7663.2.13 Describe internal and external factors that motivate people to travel.

Standard 4: Explore careers in the hospitality and tourism industry. (7663.S.4)

Careers in Hospitality and Tourism Objectives

Students will:
7663.4.1 List careers in hospitality and tourism.
7663.4.2 Categorize jobs in hospitality and tourism, e.g., entry level, CEO.
7663.4.3 Explain how a hobby can become a career.
7663.4.4 Define entrepreneur.
7663.4.5 Evaluate how careers in hospitality/tourism can change over time.
7663.4.6 Compare job opportunities in each of the eight tourist regions.
7663.4.7 Identify personal traits that are necessary for a successful career in the hospitality industry.
7663.4.8 Identify benefits of a career in hospitality/tourism.
7663.4.9 Demonstrate skills necessary to ensure a successful interview.
7663.4.10 Demonstrate the ability to complete an application form.
7663.4.11 Explain the role an employee fills in promoting tourism.
7663.4.12 Describe the steps in looking for a job.
7663.4.13 Define career ladder.

Standard 5: Develop skills and competencies necessary for success in any occupation as identified by the Secretary's Commission on Achieving Necessary Skills. (SCANS) (7663.S.5)

SCANS Objectives

Students will:
7663.5.1 Define SCANS.
7663.5.2 Identify basic skills necessary for workplace competency.
7663.5.3 Identify personal skills essential for workplace competency.
7663.5.4 List the functional skills necessary for workplace success and cite examples of each.
7663.5.5 Identify workplace competencies found in everyday activities.

Standard 6: Compare economic opportunities in different regions of the state. (7663.S.6)

Economic Opportunities Objectives

Students will:
7663.6.1 List businesses affected by tourism.
7663.6.2 Categorize the effect of tourism on select businesses as direct or indirect.
7663.6.3 Assess the impact of interstate highways on the economic development of West Virginia.
7663.6.4 Explain reasons businesses locate in specific areas.
7663.6.5 Identify the role of lodging and restaurants to the promotion of tourism.
7663.6.6 Identify industries and products that are important to West Virginia's economy.
7663.6.7 Analyze the strengths and weaknesses of each of the eight tourist regions and make recommendations for economic development in each.
7663.6.8 Give examples of historical structures that have been used for economic development.
7663.6.9 Evaluate the economic impact of special events, e.g., fairs festivals.
7663.6.10 Analyze how an increase of decrease in tourism affects businesses.

Standard 7: Develop an understanding of the role marketing plays in tourism. (7663.S.7)

Role Marketing Plays in Tourism Objectives

Students will:
7663.7.1 Define marketing.
7663.7.2 List the 5 P's of marketing.
7663.7.3 Distinguish between a product and service.
7663.7.4 Evaluate the factors that make tourism a product or a service.

7663.7.5 List factors to consider when describing a target market.
7663.7.6 Explain the role market research plays in the tourist industry.
7663.7.7 Evaluate information from a variety of sources and formulate a marketing plan for your local tourist region.
7663.7.8 Describe the elements of a marketing plan.
7663.7.9 Explain how increased tourism brings added demands on public facilities/services.
7663.7.10 Explain the role promotion plays in marketing.
7663.7.11 Compare/contrast the importance of a campaign theme.

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FORM HD 201
(10-66)

FISCAL NOTE WORKSHEET
(Submit 4 Copies)

HD NO _____ DRAFT NO _____ BILL NO _____ RESOLUTION NO _____ _____

SUBJECT Policy 2520: Content Standards and Objectives for West Virginia Schools

FUND General

SOURCE OF REVENUE: ☐ GENERAL FUND ☐ SPECIAL ☐ OTHER (SPECIFY) _____

COST OF ESTIMATE BASED ON: ☐ AN ORIGINAL ESTIMATE ☐ BUDGET BILL ☐ OTHER (SPECIFY) _____

INCOME ESTIMATE BASED ON: ☐ AN ORIGINAL ESTIMATE ☐ BUDGET BILL ☐ OTHER (SPECIFY) _____

SHOW OVER-ALL EFFECT IN ITEMS 1 AND 2 & GIVE EXPLANATION OF BREAKDOWN BY FISCAL YEAR INCLUDING LONG-RANGE EFFECT

EFFECT OF PROPOSAL	ANNUAL INCREASE	ANNUAL DECREASE	FISCAL YEAR CURRENT	FISCAL YEAR NEXT	FISCAL YEAR THEREAFTER	
1. ESTIMATED TOTAL COST	$ -0-	$ - 0 -	$ - 0 -	$ -0-	$ -0-	
PERSONAL SERVICES CURRENT EXPENSES REPAIRS/ALTERATIONS EQUIPMENT OTHER	$	$	$	$	$	
2. ESTIMATED TOTAL REVENUES	$ -0-	$ - 0 -	$ - 0 -	$ -0-	$ -0-	

3. EXPLANATION OF ABOVE ESTIMATES (INCLUDING LONG-RANGE EFFECT):

DATE

4/4/02

AGENCY

West Virginia Department of Education

AUTHORIZED REPRESENTATIVE



POLICY 2520: Content Standards and Objectives for West Virginia Schools
COMMENT LOG
April 22, 2002 - June 21, 2002

ACTION
N: No Response
NA: Not Accepted
A: Accepted

TYPE
- Negative
+ Positive
o Neutral

Date	Individual/Organization	Comments	Action/ Type	Rationale
		Agricultural Education		
		None		
		Business Education		
		None		
		Diversified Cooperative Training		
		None		
		Family and Consumer Science		
6/6/02	Kristie Randall, Warm Springs Middle School	All BASE competencies are the same for all grade levels. Create challenging objectives as the grade level advances. Use of technology- computer software, embroidery machines.	A/0	The CSOs for BASE were designed for a one semester course. Evidently, Middle School FACS teachers are teaching BASE with widely varying schedules. Our FACS Coordinator will meet with teachers to determine if we need to make changes in our CSOs or just help teachers develop additional CSOs to supplement those required as a minimum if they are expanding the course.
		Health Occupations		
		None		
		Lodging Management		
		None		
		Marketing Education		

		None		
		Occupational Family and Consumer Science		
		None		
		Technical and Industrial Education		
		None		
		Technology Education		
		None		
		Travel West Virginia		
		None		

5/2/02 - Please review, make comments if you wish, and return to me by May 31st! ☺ Thanks!
-Shelly Fleming

POLICY 2520
CONTENT STANDARDS AND OBJECTIVES FOR WEST VIRGINIA SCHOOLS
COMMENT RESPONSE FORM

JUN -6 2002

Comment Period Ends: June 21, 2002

Please use this form when commenting on proposed Policy 2520. You may attach additional sheets if necessary.

Individual/Organization: KRISTIE RANDALL

Title: FAMILY & CONSUMER SCIENCE TEACHER / FCCLA ADVISER

Street Address: WARM SPRINGS MIDDLE
145 FAIRFAX ST; BERKELEY SPRINGS, WV 25411

City/State/Zip Code: _____

NOTE: There are no changes to the Content Standards and Objectives for Mathematics, Reading/English Language Arts, Science, Social Studies and Technology and we will not accept comments on those sections.

General: ALL BASE COMPETENCIES ARE THE SAME FOR ALL GRADE LEVELS. CREATE CHALLENGING OBJECTIVES AS THE GRADE LEVEL ADVANCES. USE OF ~~TECHNOLOGY~~ TECHNOLOGY - (computer software, embroidery machines)

FCCLA → OBJECTIVES ARE GENERIC AND REPETETIVE. CREATE SPECIFIC GOALS PER GRADE LEVEL (ex. - 6th gr. - focus chapter projects / 7th gr. - state level projects, competitions / 8th gr. initiations, officers, national level projects, competetions.

Agricultural Education:

Business Education:

Diversified Cooperative Training:

Technology Education:

Travel West Virginia:

Please return comments to:

Norma K. Miller
Director, Office of Program Services
West Virginia Department of Education
Building 6, Room 243, Capitol Complex
1900 Kanawha Boulevard East
Charleston, West Virginia 25305-0330

INSTITUTE for CREATION RESEARCH
10946 Woodside Ave. N., Santee, CA 92071 □ P.O. Box 2667, El Cajon, CA 92021 □ (619) 448-0900 □ Fax (619) 448-3469

January 6, 2003

Email: bwest@access.k12.wv.us
Ms. Brenda West
Building 6, Room 722
1900 Kanawha Blvd., East
Charleston, WV 25305

RECEIVED
JAN 09 2003

HENRY M. MORRIS, Ph.D.
President Emeritus
JOHN D. MORRIS, Ph.D.
President
DUANE T. GISH, Ph.D.
Senior Vice-President
DONALD H. ROHRER
Chief Financial Officer

Dear Ms. West,

I understand that the West Virginia Public School Science Standards are being considered for revision, and that responses from interested parties must be received by this Friday, January 10th. Therefore, I am pleased to submit a packet of pertinent information assembled as a result of the many questions received from school administrators, teachers, and parents regarding this issue and the recent federal law, H.R. 1.

Although this packet will be sent by mail in time to meet the deadline, I do have a question and also would like to offer a comment:

Q 1: Are the persons responsible for subject Standards in your State familiar with the 'No Child Shall Be Left Behind' education bill and do they intend to comply with the accompanying section dealing with the recommended "balanced treatment" of teaching controversial theories such as biological evolution and the origin of life?

C 1: Please add to the Standards objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. [The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."] Also, please add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

Thank you for your consideration. If we at ICR can be of further assistance of any kind, please call on us.

Sincerely,

John G. Arend, B.S. (Geology), M.S. (Science Education), M. Div.
Public Information Services Director
ICR

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DEBORAH S. BROOKS, M.S. Education Outreach
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Customer Service 1-800-628-7640 http://www.icr.org

Public School (Let's Roll)
Science Standards Packet

12/13/02

A/ Preparation:

Should the Public Schools Teach Creation? (BTG # 28)

Introducing Creationism into the Public Schools (Impact # 20)

Creation Science and the Local School District (Impact # 67)

Establishing Scientific Guidelines for Origins - Instruction in Public Education (Impact # 93)

Summary of Scientific Evidence for Creation (Impacts # 95-96)

What Really Happened on the Kansas School Board? (BTG # 131b)

Teachers Can Teach Creation Science in the Classroom (Impact # 196)

An Educational Step in the Right Direction (Impact # 270)

A Call to Arms for Conservative Christian Science Educators (Impact # 306)

U.S. Senate Passes Amendment and Supports Critical Thinking regarding Evolutionary Theory (6/13/01)

Creationism and First Amendment Rights (7-18-02)

*Teaching Creation Science in Public Schools, Dr. Duane T. Gish (1995, 70 pp.) www.icr.org.

*Scientific Creationism, Dr. Henry M. Morris (2nd. ed., 1985, 294 pp.) www.icr.org

Evolution – Legislation – 1st Amendment Links Re: Current Law on restriction of individual rights to practice one's faith in a classroom setting

What Could Happen Next? – Prepared by Christian Legal Association (CLA)

Legal Opinion Memorandum – May Creationism be legally taught in a public school setting? (CLA)

Department of Education Guidelines for Religious Expression – Prepared by American Center for Law & Justice (ACLJ)

Legally Teaching Creation Science in Public Schools – Prepared by Liberty Counsel (LC)

Public Schools: Christians have rights! (Answers in Genesis)

B/ The Struggle - Creation vs. Evolution:

Evolution, Creation, and the Public Schools (Impact # 1)

Evolution in Public Schools and Creation in Students' Homes: What Creationists Can Do (Impact # 69)

Evolution in Public Schools and Creation in Students' Homes: What Creationists Can Do (Impact # 70)

Resolution for Balanced Presentation of Evolution and Scientific Creationism (Impact # 71)

Are Schools Teaching Evolution Well Enough? (BTG # 114b)

Evolutionary Indoctrination and Decision-Making in Schools (Impact # 120)

Evolution Verses the People (BTG # 161)

Biology Textbooks Worldview Development and the Creation/Evolution Controversy (Impact # 278)

Should Evolution be Immune From Critical Analysis in the Science Classroom? (Impact # 282)

Evolution is Religion-Not Science (Impact # 332)

Teaching Creation and Evolution in Public Schools (CEN Tech. Journal 13 (2):118-123, 1999

*Evolution the Fossils Still Say No! Dr. Duane T. Gish (1995, 391)

C/ The Result - No Child Shall Be Left Behind education bill: (H.R. 1)

Honest Science "Left Behind" in US Education Bill (1/7/02)

Federal Challenges to the Teaching of Evolution (1-22-02)

Santorum Language on Evolution (1/31/02)

Santorum Letter to ICR (3/20/02)

Negotiators Retain Heart of Education Department Proposals (3/27/02)

Committee on Education and the Workforce Letter to NCSE (5/14/02)

Behind the Headlines Newsfax Standards Under Siege (7/5/02)

Equal Time for Creation in Cobb County? (8-26-02)

Georgia School District Adopts a Creation Policy (8-29-02)

Monkeys Out of Evolutionists (8-29-02)

Does Creationism Deserve to be Taught Along With Evolution in the Public Schools? (ACLJ)

Evolution Backers, Critics Claim Victory in Science Standards (12/11/02)

D/ Science and the Bible:

Does Science Conflict With the Bible? (BTG # 107b)

Faith Under Fire Taking Creation Back to School: What can Teachers Do? (Impact # 196)

Teaching the Bible in Public Schools? (Impact # 279)

*Science and the Bible, Dr. Henry Morris (1986 ed. 184 pp.) www.icr.org

*Note: An asterisk indicates a Book (not included in packet, but available from www.icr.org)

Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created." Rev 4:11**

BTG No. 28b

Should the Public Schools Teach Creation?

by John D. Morris, Ph.D.

Institute for Creation Research, PO Box 2667, El Cajon, CA 92021
Voice: (619) 448-0900 FAX: (619) 448-3469

"Vital Articles on Science/Creation" April 1991
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"Break up your fallow ground, and sow not among thorns" (Jeremiah 4:31).

Many today claim that only evolution should be taught in the public, tax-supported schools of our land. Let us look at their reasoning and formulate a response.

The basic assumption of modern evolutionary theory is that no Supernatural Being has ever been involved in this universe. The basic definition of science even has been changed to imply Naturalism. If there is no Creator, there is no creation, and teaching creation is folly. Furthermore, the claim that creation is religious implies that teaching it would violate the "establishment clause" in the Constitution. Beyond that, the claim that creation ideas have been disproved by science implies it would be a waste of valuable classroom time to teach it.

On the other hand, many modern educators believe that the inclusion of creation in the public school curriculum is both proper and advantageous, for the following reasons:

The assumption of no supernatural input into the universe is unscientific. At best, it is unfounded, impossible of proof, and religious to the extreme.

The claim that belief in creation is religious, is, of course, true, but no more religious than belief in evolution. Both are based on similar, but opposite religious assumptions. The two concepts are on equal religious footing, and to mandate the teaching of only one (i.e., evolution), while censoring the other, "establishes" a state religion, and certainly prohibits the "free exercise" of the religious practice held by creationists. To make matters worse, "free speech" is frequently abridged in such onesided forums.

Keep in mind that this is not a small minority whose rights have been denied. A recent national poll revealed that eighty-five percent of the American people want creation taught in the public schools, either exclusively or along with evolution. The rights of the majority have clearly been usurped.

The claim that only evolution is scientific is patently false. In fact, many scientists now hold that creation is much more scientific than evolution. Evolution flies in the face of established scientific law, including the second law of thermodynamics, the law of cause and effect, and the law of biogenesis, as well as not being harmonious with observed data. Fossil gaps are real, there are limits on genetic variability, favorable mutations are essentially non-existent, etc. The flaws in the concept of evolution are seldom admitted, let alone taught in public education. This situation has the flavor of brainwashing students in only one school of thought, and an unscientific one, at that. On the other hand, the true facts of science fit quite well into a creation model.

By incorporating both views of the unobserved past into the curriculum, teachers can employ a proven teaching method. Students allowed to study the pros and cons of conflicting models are much more likely to grasp the material, develop love for science, and learn critical decision making skills. Brainwashing does none of this.

In summary, we have found evolution and exclusive evolutionary teaching to be unscientific, unconstitutional, religious, frequently dishonest, unpopular, and undesirable. The time has come for better teaching on origins.

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," just request them by filling out this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians 10:4,5).

Member, Evangelical Council for Financial Accountability

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Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created**." **Rev 4:11**

IMPACT No. 20

INTRODUCING CREATIONISM INTO THE PUBLIC SCHOOLS

by Henry M. Morris, Ph.D.

Institute for Creation Research, PO Box 2667, El Cajon, CA 92021
Voice: (619) 448-0900 FAX: (619) 448-3469

"Vital Articles on Science/Creation" November 1974
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More people today than ever are objecting to the exclusive teaching of evolution in the public schools. Strong pressures are developing aimed at opening the schools to the teaching of special creation as a viable alternative to evolution.

Resistance to teaching creationism is still very strong, however. Opposition usually centers around two related arguments. First, evolution is widely claimed to be the only acceptable *scientific* theory of origins. Second, creation is assumed to be strictly a religious concept, which on that account has no place in a public school curriculum.

Both of these arguments are wrong and invalid. Creation can be shown to be a more effective scientific model of origins than evolution, and evolution can be shown to require a higher degree of credulous faith than creation. It is the purpose of this paper, however, to encourage a careful and objective study of *both* concepts of origins, on a scientific level only, in the public schools.

Creationists Need to Become Informed

If this effort is to succeed, creationists must first of all be able to support their claim that creation is as scientific as evolution and that evolution is as religious as creation. Political or legislative efforts to require creationist teaching will be futile otherwise. Even if a favorable statute or court decision is obtained, it will probably be declared unconstitutional, especially if the legislation or injunction refers to the *Bible* account of creation. Furthermore, a teacher forced to teach creationism with no knowledge of how to do it and with a built-in prejudice against it is not very likely to give the students a fair exposure to it, probably doing more damage than if it were ignored altogether.

The only effective way to get creationism taught properly is to have it taught by teachers who are both willing to do it and adequately prepared to do it. Since most teachers now are neither willing nor able, they must first be both persuaded and instructed themselves.

This means that someone must do the persuading and someone do the instructing. This burden must ultimately fall on the concerned creationists of each particular community. However, although a community-wide census would almost certainly show a large majority favoring the teaching of both creation and evolution, only a remnant will be found willing to work to accomplish that end.

In any case, the concerned creationist minority, whether large or small, will need first of all to become informed on the issue and its various implications. Each individual needs to be aware of the significance of evolutionary teaching and of the scientific evidence favoring creation. He does not have to be a scientist to understand the latter, but he does need to take the time for a careful reading of some of the modern treatments of the subject by creationist scientists.

For example, he should read the two I.C.R. books, The Troubled Waters of Evolution[1] and Scientific Creationism,[2] or other books of comparable scope and treatment. The former shows the historical background and modern influence of evolutionary thought, and the latter shows the scientific superiority of creationism in every phase of the problem of origins.

He should then do his best to help others become informed. There are many ways to do this—Sunday School classes, letters-to-the-editor, gifts of books to libraries and key individuals, promoting creation seminars, etc. Perhaps the best way is by personal, friendly discussions with school officials and other people of influence.

In the following sections appear additional specific suggestions for creationists (or open-minded evolutionists) who are in various positions of key responsibility.

School Administrators

Members of state and local school boards, school superintendents, curriculum specialists and school principals are, of course, in the most important positions of all with regard to this problem. Some of these officials are creationists themselves and many others are sufficiently dedicated to true education and service to the community as to be willing to provide the young people in their schools an opportunity to hear both sides of this all-important question.

There are many ways in which this can be done. First, each teacher should be provided with a good reference handbook on scientific creationism and asked to study it. The Public School Edition of *Scientific Creationism*, prepared by the Institute for Creation Research, is designed specifically for this purpose, providing conveniently-organized and well-documented scientific evidence for special creation on all aspects of the subject of origins.

The teacher should then be encouraged (not required) to use this information in his or her classes. As long as no *religious* instruction is given (for example, an exposition of the creation chapters in Genesis), there is no legal problem involved. For example, when treating such a subject as human origins, the teacher can balance the usual evolutionary discussion of Ramapithecus, Australopithecus. Neanderthal, etc., by citing the creationists' evidence that such fossils are invariably either of apes or of men, with no true and unquestioned intermediates between men and apes. Such a discussion need not deal with such theological topics as the divine purpose for man, but only with the factual evidence concerning the unique physical and mental characteristics of men.

If possible, arrangements should also be made to conduct Workshops on Scientific Creationism for the teachers of the district. These can even be offered on a graduate credit basis, so that the teachers can apply the time spent on the Workshop toward a graduate degree. There are now many creationist scientists and teachers who are qualified to instruct in such Workshops, the purpose of which is to provide basic scientific orientation in the creation model of origins and in the deficiencies of the evolution model.

For those teachers who, for personal reasons, are unwilling to teach creation along with evolution, substitutes can be provided who could come in, say, for a special three-week unit on scientific creationism. It might be feasible to have one or more specialists available for rotating assignments of this kind.

Creationist literature can also be provided for school and classroom libraries. This is especially needed as source material for student papers and special projects. If only evolutionary books are available, as is true now in most libraries, it is obviously impossible for any student to carry out a meaningful research study on any topic related to origins. There is a great deal of sound scientific creationist literature now available. See, for example, the Appendix in *Scientific Creationism* for an extensive bibliographical listing.

School administrators may have two serious reservations about taking any of the above steps, one political in nature and one financial. As long as the teaching of creationism is done strictly in a scientific context, however, without reference to the Bible or other religious literature, such teaching is perfectly constitutional, legal and proper. In fact, the exclusive teaching of evolution is *not* constitutional, legal or proper, since belief in evolution requires at least as much faith as belief in creation and is therefore a religious belief. Evolutionary philosophy is the foundation of atheism and humanism, which are nothing less than non-theistic religions. Exclusive teaching of evolution has the effect of establishing religious systems of this sort as state-endorsed and state-supported religions. The political reservation is, therefore, not only invalid but actually applies in reverse. This is the very reason why there is so much concern about this question around the country.

The financial reservation is understandable, as most schools supposedly do not have enough funds to adequately finance existing programs, let alone a new program such as this. However, it is a simple matter of priorities. New programs of other sorts are continually being introduced, and nothing can be more important than giving the students a fair opportunity to choose between two philosophies that will have profound influence on them, one way or another, all the rest of their lives. Furthermore, the cost is not really very much. Providing one book per teacher, plus perhaps a dozen books for library use, plus an annual workshop would altogether comprise only a minuscule percentage of the district's annual budget, and there are bound to be certain marginal items in other programs that could be postponed if necessary. In fact, most school districts actually have funds already budgeted for supplemental materials.

Teachers

Creationist teachers are in a unique position to play a critical role in this strategic conflict. First of all, they are better able than anyone else to win their fellow teachers over either to creationism or at least to acceptance of an equal-time approach. If they have first become adequately informed themselves, they are then able, over coffee in the faculty lounge, in the faculty lunchroom, or in the homes of their colleagues, to discuss the subject on a friendly, scientific basis, and hopefully to convince them of the viability and importance of the creation model. Books and other literature can be given or loaned, invitations to hear creationist speakers can be shared, and other opportunities for personal help utilized.

As far as the teacher's own classes are concerned, by all means creationism should be included, no matter what the course subject or grade level may be. This is perfectly legal as long as the teaching is factual and scientific, and in fact, such teaching is necessary to balance the evolutionist bias that is almost certain to be present in the textbook and supplementary material for the course.

In some courses—for example, biology, ancient history, etc.—it may well be feasible to incorporate a formal unit on scientific creationism into the course content. The topics in the book *Scientific Creationism* would provide an excellent outline for such a unit, adapted by the teacher to the particular grade level.

More commonly, perhaps, the teacher should merely introduce creation as an alternative whenever the textbook or course plan contains evolutionary teachings or implications. For example, when an earth science textbook discusses the geologic age system and the great age of the earth, the teacher should also discuss the geologic evidence for the catastrophic interpretation of the fossil record and some of the scientific evidences for a young earth.

Other possibilities include the use of creationist films and slides, assignment of student projects which incorporate both evolutionist and creationist interpretations, and invitations to local creationist scientists as guest lecturers. In the latter case, the teacher may also be able to arrange for such speakers to address a school assembly.

Pastors

Because of their wide influence, not only with their own congregations but in the community as a whole, creationist pastors can often play a vital part in getting creationism back into the schools of the community. They have knowledge of the Biblical teachings on creation and are already aware of the problem and concerned about it. Once they realize the importance of promoting *scientific* creationism in the public schools, leaving Biblical and theological aspects to be taught in their churches and in the homes, they can often serve as leaders of community-wide creationist emphases, especially if they will work in cooperation with pastors of other churches and denominations.

Pastors are especially capable at the arts of persuasion and instruction, and this is exactly what is needed. They should be able to arrange opportunities to talk with school administrators at such length as necessary to present the case for creation adequately to them on a personal basis.

In his own church, the pastor should see that his own communicants are well instructed in the scientific, as well as Biblical, aspects of creationism. It is especially important that the children and young people in his church be well equipped with factual evidence for creation.

He can accomplish such instruction through a series of special messages, through using creationist Sunday School literature, through having special speakers, by providing creationist literature in the church library and for his members, and by various other means.

Scientists

Scientists and other professionally trained people (engineers, lawyers, medical doctors, etc.) are often capable of special leadership in creationist efforts. Young people are often led to believe that all scientists and other educated specialists are evolutionists, and the best argument against this fallacious claim is the personal testimony of scientists who are *not* evolutionists. The fact is, of course, that today there are thousands of scientists who are creationists, and usually there are at least several in every

community.

Scientists and other professionals who are Christians have a peculiar trust from the Lord. At the same time, the atmosphere of their professions, emphasizing intellect and prestige as they do, poses a real temptation and danger. People in these positions are especially sensitive to academic ridicule and ostracism and therefore especially vulnerable to intellectual compromise. Furthermore, Christian scientists who have themselves taken a compromising position toward evolution seem particularly antagonistic toward those Christian scientists who will *not* compromise. Somehow an attitude of sweet tolerance toward the unbelieving philosophies of anti-Christian scientists is often accompanied by a bitter intolerance toward creationist scientists, whose very existence is a condemnation of such unnecessary compromise.

Nevertheless, creationist scientists must not be swayed by the objections of their evolutionist Christian colleagues. The facts of science, as well as the teachings of Scripture, are squarely against the evolutionary system and there is no reason whatever (except the fear of men) for yielding to such compromise.

Informed creationist scientists are perhaps the best qualified people in the community to deal publicly with evolutionists' objections to creation in the school, to serve as special speakers and consultants on scientific creationism where needed, and to engage in other similar activities. They should be conversant with all the literature on creationism, be active members in the Creation Research Society and generally serve as the scientific spokesmen for the creationist movement in their own communities. They can also help other creationists in the community who are not scientists avoid making unscientific statements which could react negatively against their cause.

Parents and Other People

The majority of concerned Christians and other creationists do not come directly under any of the above categories. Nevertheless each person is very important. The larger the group of vocal creation-ists in the community, the more probable it is that they can get a sympathetic hearing from school officials.

Parents are especially important, if they have children in the public schools of the district. Through personal conversations with teachers, principals, and school board members, in an atmosphere of friendly helpfulness, but also one of well-informed confidence in the soundness of their arguments, parents often can exert a very significant influence on classroom teachings and attitudes.

If feasible under the particular local circumstances, such citizens should establish a formal community organization, with some appropriate name (Citizens for Scientific Creationism, Parents Concerned for Educational Integrity, Civil Rights for Creationists, Committee for the Improvement of Education, etc.). Someone can be placed in charge of promotion and publicity, with a view to arousing community concern over the problem. Sympathetic news and television reports can be very valuable; on the other hand, a sarcastic news story on creationism can do a great deal of harm, so the search for publicity should proceed cautiously, and the Committee should be as certain as possible that the reporter really has an understanding of the whole issue.

One very worthwhile project which the organization might undertake would be a community census or poll, in which the feelings of the people in the school district on the subject at hand could be determined. Those that have been taken so far confirm that the large majority of citizens do want to see both creation and evolution (rather than either one exclusively) taught on a scientific level in their public schools.

Another project might well be to raise funds to provide creationist books for the classroom libraries in their schools. Another would be to underwrite and promote a Creationism Workshop for teachers, as well as a Creation Seminar for people in general. Debates between evolutionists and knowledgeable creationists might be arranged. Advertisements for creationism can be placed in campus and community newspapers. Many other such projects might well suggest themselves in the particular area.

Students

Finally, we come to those who are the most affected by this controversy, the students themselves. What can creationist students do to counteract the evolutionary teaching in their own classes and schools?

There are many things such students can do, but one thing they should *not* do is to react belligerently or sarcastically against the teacher. As students, their purpose is primarily that of learning rather than of teaching or witnessing. They are both legally and morally under the authority of the school and the teacher, and whatever witness they may be able to give will carry far more weight if done in the proper way and through the established chain of command.

Also, there is no doubt that a teacher will pay more attention to the suggestions and criticisms of a good conscientious student than to those of a lazy and indifferent student. In any kind of effective Christian witnessing, the witness must know what he is talking about, be winsome and tactful, kind and patient, and especially where someone of higher authority is involved, respectful and courteous. Cleanliness and neatness don't hurt, either.

Assuming the above conditions as prerequisites, then the opportunities available to such students might include: raising questions, or offering alternative suggestions, in class discussions; using a creationist approach in speeches and special papers and projects; talking to the teacher privately about available creationist literature and speakers; inviting the teacher and classmates to attend creation seminars or similar meetings; suggesting a classroom debate on the creation-evolution question; giving sound creationist periodical literature or tracts to the teacher; and other similar actions.

Even if the teacher does not respond favorably, the student can still consider it a profitable learning experience. If there is a problem relative to passing tests in the course, the student can usually handle it adequately by prefacing his answers by some such assertion as "Evolutionists believe that—. "

In those few cases where the teacher seems intolerably and rigidly bigoted, insisting that the student not only know the arguments for evolution but also believe them himself, it may be necessary for the student to ask his parents or pastor for help in the situation. If this likewise fails, there may finally be no recourse except to withdraw from the course, giving a courteous written explanation as to reasons. Such a last resort, however, should seldom be necessary or desirable. Reports of student experiences around the country indicate, on the other hand, that one or two creationist students have often been able to make a tremendous impact on the class, and even on the teacher, through their careful, courteous, consistent Christian testimony.

1. Estimated publication date April 1975.

2. Now available in both a Public School Edition (no Biblical or other religious material) and in a General Edition (including extensive section on Biblical aspects of creationism).

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Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

IMPACT No. 67

CREATION SCIENCE AND THE LOCAL SCHOOL DISTRICT

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"Vital Articles on Science/Creation" January 1979
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Efforts to introduce the teaching of the scientific evidence for the creation model of origins, distinctly apart from the use of any part of the Bible, along with the evolution model at the state and local level is meeting with increasing success. The scientific, educational, and Constitutional basis for this approach has been set forth in a number of Impact articles[1-4] and in booklet form.[5] It has recently been given strong support by an article in the Yale Law Journal.[6] Action to implement the teaching of the creation model along with the evolution model has been taken by the Columbus, Ohio[7] and the Dallas school districts,[8] among others. Some action has been taken at the state level in several states, most recently in South Carolina, as described later in this article.

Mr. Paul Ellwanger of Anderson, South Carolina, after many months of effort, appears to have succeeded in efforts to have the scientific evidence for the creation model presented in his school district. The school board of the local district, apparently due mainly to the opposition of the district superintendent, refused several requests even to hear Mr. Ellwanger's proposal. Mr. Ellwanger refused to be discouraged, and his persistence is now being rewarded. The chronicle of events is documented by the following series of articles and may serve as an aid and encouragement to others.

The Anderson Daily Mail

Anderson, S.C.
Tuesday, March 14, 1978
Page 1-B

Creation theories

Anderson wants students to have choice

From staff reports

Did man evolve from apes or from primitive microorganisms? Or was man created by a supreme being?

Opinions differ, and Paul Ellwanger of 2820 LeConte Road believes that schools have a responsibility to acknowledge more than one theory. He says children should have the opportunity to learn the theory that life was created all at once, as well as the theory of evolution.

He plans to ask the Anderson District 5 trustees in today's 5:15 p.m. meeting to make literature on both theories available to its students.

But the district superintendent, Dr. William B. Royster, says that including the religious theory of creation in the school curriculum would be breaking the law. Because of this, he said the school board probably will receive the proposal as information and not take action.

Materials used in the district are on a list of books approved by the State Department of Education, he explained. And the law says public school districts must select their books from that list.

He said the theory of evolution is contained in materials on the adopted list but the religious concept of creation is not included.

"Until it is put on the adopted list," Royster said, 'we would be in violation of the law, if we considered using it (creation)."

Ellwanger says instruction in the creation theory through a scientific context without use of the Bible would not violate the U.S. Constitution.

In the written proposal he will offer, Ellwanger says he favors allowing students to consider all the evidence on the theories of origin before deciding what to believe.

Ellwanger, chief respiratory therapist at Anderson Memorial Hospital, proposes that the subject be approached scientifically, rather than from a religious standpoint.

He includes in the proposal a list of books that he would be willing to either loan or give to the district if the board favored his plan. He said these instructional materials do not expound the Bible but instead, "employ scientific discussion by authors highly trained in science."

His presentation is listed as first in order on the agenda of the trustees' meeting. Ellwanger would make no comment other than to refer to the written proposal which will be presented.

Other items listed on the agenda for the board meeting include a report by Trustee Marshall Walker, chairman of the building committee, on the Whitehall Elementary School addition bids and reports from various committees.

Proposal To Anderson School District #5 Board Of Trustees

by Paul Ellwanger
03/14/78

Whereas, the Constitution prohibits government from infringing upon free exercise of an individual's religion, and

Whereas, an infringement occurs when a state program has content contrary to religious precepts, and

Whereas, exclusive instruction by public secondary and elementary schools in the general theory of evolution infringes upon the free exercise of creationist students and parents, and

Whereas, many citizens of this community believe in the special creation concept of origins and are convinced that exclusive indoctrination of their children in the evolutionary concept is inimical to their religious faith and to their moral and civic teachings, as well as to scientific objectivity, academic freedom, and civil rights, and

Whereas, even most citizens who are not opposed to the evolution concept at least favor a balanced treatment of these two alternative views of origins in their schools, so as to allow students to consider all of the evidences favoring each concept before deciding which to believe, and

Whereas, instruction in creation in a scientific context without use of the Bible would not violate the establishment clause of the Constitution, and

Whereas, there are now available, though quite limited in options, instructional material which do not expound the Bible in presenting creation science, but instead, employ scientific discussion by authors highly trained in science,

I hereby propose that the Board of Trustees of Anderson School District #5 take whatever steps necessary to have objectively presented in the public classrooms of District #5 a balanced treatment of evolution and creation in all courses and library materials dealing in any way with the subject of origins, such treatment to be limited to the scientific, rather than the religious aspects of the two concepts.

In the event this Board goes on record in favor of this proposal, I respectfully suggest ...

1. That only those instructional materials be considered which would supplement current State-adopted texts in providing unbiased information about these two explanations for origins.
2. That only instructional materials be considered for selection which give an objective and nondogmatic treatment of the creation model, so as not to violate the establishment clause of our Constitution.

The following resource/reference items are immediately available, upon request, and offered as a courtesy/convenience, from Paul Ellwanger, 2820 LeConte Road, Anderson, either as a complimentary copy or loan-item (as indicated): [This section is summarized as follows]

- article by Bird[6]
- an unpublished article by Gish, "Creation, Evolution and Public Education" (available from ICR)
- a news article about Dr. John N. Moore and one of his Impact articles (No. 52, published October, 1977).
- Impact article No. 51, September, 1977, by Henry Morris.
- Impact article No. 36, June, 1976, by Richard Bliss.
- the student's book, teacher's guide, and transparencies entitled *Origins: Two Models, Creation/Evolution* by Richard Bliss.
- *Scientific Creationism,* Public School Edition, by Henry Morris.

WEDNESDAY MORNING
MARCH 15, 1978

Creationism To Be Given 'Further Thought'

By MARY LASSWELL
Staff Writer

After months of trying, an Anderson man seeking to have creationism taught alongside evolutionism in District 5 schools went before the board Tuesday.

The board said it would give his idea "further thought."

Since last summer, Paul Ellwanger of 2820 LeConte Road has been attempting to get creationism taught in addition to the evolution theory in Anderson schools.

It is possible to teach creationism in a scientific context, without involving the accompanying religious issues or using the Bible, he said.

After Tuesday's meeting, Ellwanger said he hoped the board would give his proposal "very serious consideration" and ultimately accept it.

"I would hope that the board would not take the matter lightly and would not let it rest," he said.

"Too many people who have not really studied the various legal ramifications of this subject have emphasized, and possibly overemphasized the religious overtones," said Ellwanger, giving trustees copies of the typed, three-page proposal.

Reading from a Yale Law journal he brought to the meeting, Ellwanger said creationists believe, among other things, in special creation; in the stability of plant and animal kinds—the idea that one species has not evolved into another over time; and in "catastrophism"—the idea that the earth has undergone sudden rather than gradual changes in the past.

By teaching only the evolutionist model of origins, schools are not giving students a balanced presentation of the ideas that exist on the subject, Ellwanger said.

Both viewpoints should be presented "in all courses and library materials dealing in any way with the subject of origins, such treatment to be limited to the scientific, rather than the religious aspects of the two concepts."

If the board does not take action on his proposal, he said "I really do not know, because it depends on which bridge I have to cross as to how I'm going to cross it." He said there were several options available to him, but he was not specific.

District 5 Supt. Dr. W. B. Royster has said in the past that if creationist literature were used in the schools, the question whether its use violates the principle in the U.S. Constitution of separation of church and state must first be resolved.

Ellwanger had asked to speak to the school board on this subject last summer, but had been referred to the state department of education, first by then-assistant superintendent for instruction Dr. James P. Mahaffey and later by Royster.

Royster said Tuesday that the state board of education, by law, has authority to decide what textbooks may be used in the public schools, and that if creationist materials were to be used in District 5 schools, they would first have to be approved by the state board.

A standing committee of the state board periodically reviews textbooks on the subjects taught in schools and invites publishers to submit texts they want considered for adoption, Royster said, adding that biology and related materials are among subjects in which books are currently up for review.

Ellwanger said he had not polled Anderson-area residents on how they felt about

presentation of creationism as well as evolution, but he said that in polls taken elsewhere, "Never has a poll dropped below 70 percent of those polled being in favor of both sides being presented."

Final Approval Granted by the State

An article carried in the Anderson newspaper on April 22, 1978, included a copy of a letter from Henry G. Hollingsworth, Jr., Director, Office of General Education of the South Carolina Department of Education, stating that Mr. Ellwanger's proposal to the Anderson School Board is within the authority of the local school district and requires no further approval by the State.

Mr. Ellwanger reports that Dr. William W. Duke of Lancaster presented a resolution for introducing creation-science in public classrooms to the South Carolina Board of Education. The resolution was adopted with no dissenting votes. The Curriculum Committee and Policy Committee of the South Carolina Board of Education have been charged with implementing the resolution. An ad hoc committee from around the state of citizens interested in following through on the effort to implement the teaching of creation in the public schools of South Carolina has been formed and follow-up action is being taken. Part of this follow-up action will be an address by Dr. Richard Bliss to the South Carolina Association of School Superintendents at their Fall Conference at Myrtle Beach on October 9. Dr. Bliss will also conduct a workshop on scientific creationism for the science teachers of Lancaster County, South Carolina on October 6;

[1] "Evolution, Creation, and the Public Schools," H. M. Morris, ICR "Impact," No. 1.
[2] "Introducing Creationism into the Public Schools," H. M. Morris, ICR "Impact," No. 20.

[3] "Resolution for Equitable Treatment of Both Creation and Evolution," H. M. Morris, ICR Impact Series #26.
[4] "A Two-Model Approach to Origins: A Curriculum Imperative," R. Bliss, ICR "Impact," No. 36.
[5] "Introducing Scientific Creationism into the Public Schools," H. M. Morris, Institute for Creation Research, San Diego, 1975.
[6] Wendell Bird, "Freedom of Religion and Science Instruction in Public Schools," *The Yale Law Journal*, Vol. 87, pp. 515-570 (1978).
[7] See *Acts and Facts,* Vol. 5, No. 12, December, 1976.
[8] See *Acts and Facts,* Vol. 6, No. 4, April, 1977.

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All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for

Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

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IMPACT No. 93

ESTABLISHING SCIENTIFIC GUIDELINES FOR ORIGINS — INSTRUCTION IN PUBLIC EDUCATION*

by Judith Tarr Harding

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"Vital Articles on Science/Creation" March 1981
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Two major challenges face creationists who wish to see the scientific content of creationism penetrate into educational circles and public school curricula.

The first task is to find the most efficient means of obtaining a hearing. Approaches will vary according to the organizational structure of each school district. An impressively growing number of creationists are exploring many avenues—editorials, personnel workshops, lectures, writing, etc.

But a second challenge is far more problematic: how does one achieve communicative dialog about the science involved in creationism when a good number of educators may not be willing to seriously discuss scientific issues? What if those evaluating curricula expansion insist instead upon debating the philosophical-religious overtones of a creationist explanation as an infringement of the separation of church and state? Deadlocks are then inevitable.

A teacher workshop in Baltimore County (Winter, 1978) stalemated at this precise juncture. Creationists were graciously allowed a 40-minute presentation, during which time comments were confined to scientific material. (Previous months were spent preparing supplemental written materials for take-home review after the workshop.) A teacher-panel with questions and answers followed that barely skimmed scientific issues. Most of that time was consumed with topics unrelated to a science workshop—a critique of Christian Heritage College, the religious dignity of evolutionists, the size of Noah's ark, textbook controversies, etc!

Many creationists have been disappointed by such *a priori* dismissal of creationism as a valid scientific model. Such unfortunate communication breakdowns show the imperative of developing clear guidelines by which groups can assess creationist material in a scientific manner. Initially, certain philosophical tenets must be thought through, before scientific material is even introduced.

If at all possible, it would be well if the following suggested criteria, formulated into a ballot, were *voted* upon by educators BEFORE any scientific data is presented for evaluation:

A vote of "no" indicates that our group will not use such an argument as grounds for rejecting either evolution or creation as suitable curricula material, provided that either origins model can meet the scientific requirements we will collectively establish. A vote of "yes" means such logic may be used as we evaluate the scientific content of our origins curricula.

YES __ NO __ 1. Is evolutionary theory a teaching that is strictly a matter of science, with no other influence on the philosophical or religious beliefs of others?

2. Should the religious views of evolu- tionists, or the uses to which evolutionary theory has been employed politically, philosophically, or religously...

YES __ NO __ a) dictate its suitability for public education, or

YES __ NO __ b) determine its scientific validity?

YES __ NO __ 3. Does evolutionary theory have empirical proof for all its postulates?

YES __ NO __ 4. Should scientific creation be rejected for curricula on the grounds of one or more of the first four questions just cited (inserting "creation" for "evolution")?

YES __ NO __ 5. Do the approaches catalogued in Table I constitute scientific arguments that should be resorted to in evaluating any model of origins as a valid science, model?

YES __ NO __ 6. Should evolutionary theory be taught in classrooms as the only correct view, without giving scientific material for any other view?

YES __ NO __ 7. Does the rational approach involved in the scientific method rule out any hypothesis concerning origins before the evidence amassed to support that hypothesis has been heard?

YES __ NO __ 8. Do both evolutionary and creationist views allow for belief in God or other religious interferences?

YES __ NO __ 9. The main evolutionary hypothesis (based on observable natural phenomena to be supported by class room data is that natural laws, acting mechanistically through time, have produced the variety of organisms we see.

YES __ NO __ 10. Does this evolutionary hypothesis have philosophical religious inferences?

YES __ NO __ 11. The main creationist hypothesis (raised on observable natural phenomena) to be supported by classroom data is design ... pre-programmed pattern.

YES __ NO __ 12. Doe this creationist hypothesis have philosophical religious inferences?

YES __ NO __ 13. The hypothesis of design can be inferred from empirical evidence, not just religious writings (e.g., ecological interdependence, mathematical probabilities of cell assemblage, synchronization of chemical activities within a cell, etc.). (This question should be explored further as scientific guidelines are set.)

YES __ NO __ 14. Many evolutionist educators believe in God, or have other philosophical beliefs regarding the nature of the world, but avoid

state-church conflicts by limiting their teaching to empirical evidence.

YES __ NO __ 15. If you answered #14 "yes" is it parallel logic to grant that those of creationist persuasion could maintain church-state separation in the same manner as an evolutionist teacher might, so long as they teach both views of origins and limit their approach to empirical evidence?

If educators are willing to try a ballot approach, the above questions may clear up erroneous concepts that exist in the minds of a policy-making group concerning which many creationists may not be aware. If the evaluators agree to use the ballot approach, the next decision is to set rules that qualify any origins view as a scientific model. The following three guidelines seem logically applicable. The same general principles could also be used to solidify the evolutionary model as a science model:

I. CAN THE CHIEF CREATIONIST HYPOTHESIS—DESIGN (pre-programmed pattern) BE INFERRED FROM EMPIRICAL DATA WITHOUT REFERENCE TO RELIGIOUS WRITINGS? (The complexities involved in the origin of a single cell must be thoroughly discussed.)

II. CAN THIS DESIGN HYPOTHESIS INCORPORATE THE MAJOR KNOWN EMPIRICAL DATA USED BY EVOLUTIONISTS AND CREATIONISTS INTO A COHERENT SYSTEM? (Scientifically demonstrable facts — empirical evidence — must be separated from ideas that may have logical supporting evidence, depending on one's interpretation. If, for example, the creationist hypothesis were to deny that fossils are arranged in depositional sequences in many instances, it would be ignoring obvious, empirical evidence. However, uniformity of process rates and dating methods must be shown to admit varied interpretations and conflicting data. They do not fall into the category of hard-core scientific *proof*.)

III. CAN THESE DATA (including the need for local or more widespread catastrophism to interpret the fossil record) BE DRAWN FROM THE VISIBLE WORLD, AND NOT FROM RELIGIOUS WRITINGS?

Those who believe that the catastrophism of the creationist model can only be inferred from the Genesis flood account should bear in mind that:

1. Almost all fossils are buried in sedimentary strata.
2. The process of fossilization requires some form of catastrophism in most cases: i.e., quick burial (often of whole herds) in aqueous sediment or volcanic outpourings, to prevent destruction of remains by decay.
3. A scientific attempt is made to explain worldwide climate changes and glaciation. Such drastic changes, documented by geologic history, cannot be adequately accounted for by local catastrophic events, and thus the model postulates larger-scaled events.
4. A scientific hypothesis of catastrophism seems needed to explain anomalous fossils and "out-of-order" geologic layers of thousands of square miles, where physical evidence for over-thrusting is lacking.
5. An examination of the geologic column shows earmarks of fixed life forms without transitional forms, and catastrophic annihilation.

No one should assume that agreement upon the logical sequences of the first ballot will be easily achieved, and that further discussion of evidence related to the three scientific assessment guidelines will always be objective dialog. If educators will consent to use the ballot approach,

however, it will help objectivity on both sides.

Educators should remember at all times that *science is a communications system*. Scientific "facts" are not in themselves magic wands to settle issues. "Facts" are perceived by each listener through his own sets of educational experiences, interpretive systems, biases, skepticism, and motivational stance. Motivation is extremely crucial; when all has been argued and set forth, the educator may simply yawn and reply, "So ... who cares?"

Such varied interpretive equipment is brought into an arena of almost endless scientific arguments for or against either view. Complicating the situation even further, deep religious-philosophical world-life beliefs are operating in each individual. Misunderstandings and skepticism are not surprising! (See Table 1)

If, however, a solid majority vote on the proposed ballots can be achieved, the stage is at least set for better communication. The creationist's task is then to *carefully confine* his workshop or petitionary material to the three scientific assessment guidelines. The first ballot can be used as a sort of parliamentary reference point if discussion strays from the science of origins into sociological opinions about origins.

Since the Scopes trial, origins in public education has been riddled with communication barriers. Hopefully the approach just set forth could minimize the unfortunate tactics of the past — innuendo, mud-slinging, ridicule. Perhaps the use of such parliamentary scientific rules could stimulate personal scientific growth through more dispassionate investigation into diverse scientific views.

TABLE I

IDEOLOGICAL STALEMATES IN THE ORIGINS DEBATE

1. ABUSE OF A THEORY

Creationist: "Evolution has been used to support many evils, such as Communism, Nazism, racism, etc,"

Evolutionist: "Creationists are divisive, and resort to name calling, quoting out of context, and other dubious tactics."

2 . A PRIORI ASSUMPTIONS

Creationist: "Evolution begins by the unproven assumption that a mechanistic view is the only approach that can be considered scientific. This fosters a Climate of freedom *from* religion by recognizing scientific respectability only for those who adopt a mechanistic view that leaves God out (even if one believes in God) in order to be 'strictly scientific.'"

Evolutionist: Creationism expects me to believe that God had to make [or, the world was made] as creationists conceive it, rather than what my study of comparative morphology, fossils, etc. convinces me is true."

3. AUTHORITY

Creationist: "My church (or synagogue) teaches creation, so this must be the right view."

Evolutionist: "How many scientists do you know in major universities who support creationism?"

4. DOGMATISM

Creationist: Only creationism should be taught, as it is the true view. Evolution claims to be the only scientific view by defining 'scientific' as those who agree with evolutionary ideas."

Evolutionist: "Only evolution should he taught, as it is established fact. Creationism is not science; it's religion."

5. FALSIFIABILITY

Creationist: "No evolutionist can prove lifeless matter became living, without aid of any Designer."

Evolutionist: "No creationist can prove a single act of direct creation occurred."

6. INSENSITIVITY TO BELIEFS AND VALUES OF OTHERS

Creationist: "Evolutionary theory is ridiculous."

Evolutionist: "It's a waste of time for creationists to get so upset over a scientific theory that we spend so little time on in education anyway. The issue's not that important."

7. MAJORITY FACTOR'S

Creationist: Most great scientific advances were at one time minority views.

Evolutionist: "The majority of scientists believe evolution."

8. MISTRUST AND MISREPRESENTATION

Creationist: "Evolutionists do not deal honestly with scientific facts."

Evolutionist: "No competent scientist takes any theory other than evolution seriously. Creationism represents a fringe minority threatened by a changing scientific world."

9. MOTIVES

Creationist: "The fact that so many major evolutionary writers emphasize the lack of purpose, dependence upon chance, and reliance upon evolution in providential ways, proves the unsuitability of the theory for public education, as it influences in atheistic or agnostic beliefs."

Evolutionist: "The fact that you see so many references in creationist publications proves that the Creationist Movement is only concerned with defending certain forms of religion. It has no scientific significance."

10. PAST HISTORY

Creationist: "Modern evolutionism is merely a sophisticated form of ancient Egyptian and Greek mythological evolutionary ideas."

Evolutionist: "Creationism is merely a revival of the old defunct catastrophism taught in pre-Darwinian days, and of former ideas about Genesis."

11. PRIORITIES

Creationist: (Probably in a parochial setting) "We teach only creation, because it is the true view."

Evolutionist: "We teach only evolution, since it is the true view."

12. RELIGIOUS STEREOTYPING

Creationist: "Most evolutionists are atheists."

Evolutionist: "Most creationists are fanatics."

13. RELIGIOUS VIEWS

Creationist: "Evolution presents a mechanistic, naturalistic view of man's origin that conflicts with my belief that man was created in the image of

God, and with the reasons Scripture assigns for suffering and death in the world."

Evolutionist: "Creation incorporates an unproven religious idea that should not be forced upon anyone. My view of religion does not require a *fiat* creation."

14. RIDICULE

Creationist: "The cow just magically grew a tail, and became a whale."

Evolutionist: "To hear a creationist tell it, everybody's against him — the research of 100 years, and careful scientists are all wacky."

15. SECONDARY SCIENTIFIC ASSUMPTIONS

Creationist: "Evolutionists salvage their theory by unproven secondary assumptions."

Evolutionist: "Creationists salvage their theory by unproven secondary assumptions."

*** The material in this article should not be regarded as an official policy or recommendation of ICR, but it represents an approach to school authorities that some have found helpful.**

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As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," just request them by filling out this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians10:4,5).

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IMPACT Nos. 95-96

SUMMARY OF SCIENTIFIC EVIDENCE FOR CREATION

By Duane T. Gish, Ph.D. , Scientist*
Richard B. Bliss, Ed.D. , Science Educator**
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This impact pamphlet was written by a scientist, and a science educator, and reviewed by an attorney, to provide a brief summary of the scientific evidence supporting creation. The text materials and references listed at the end together give a more thorough discussion of this scientific evidence.

Introduction

Public schools in many localities are teaching two scientific models - the creation model and the evolution model of the origin of the universe, of life, and of man. There is apparent scientific evidence for creation, which is summarized in this pamphlet, just as there is apparent scientific evidence for evolution. The purpose of this pamphlet is to summarize the evidence that shows that:

> **"The creation model is at least as scientific as the evolution model, and is at least as nonreligious as the evolution model."**

This scientific evidence for both models can be taught in public schools without any mention of religious doctrine, whether the Bible or the Humanist Manifesto. There are text materials and teacher handbooks that have been prepared for a fair presentation of both models, creation and evolution. There are also seminars and audiovisuals for training teachers to offer both models of origins.

> **"This scientific evidence both for creation and for evolution can and must be taught without any religious doctrine, whether the Bible or the Humanist Manifesto."**
> **"Creation-science proponents want public schools to teach all the scientific data, censoring none, but do not want any religious doctrine to be brought into science classrooms."**

Definitions of the Creation Model and the Evolution Model

The scientific model of creation, in summary, includes the scientific evidence for a sudden creation of complex and diversified kinds of life, with systematic gaps persisting between different kinds and with genetic variation occurring within each kind since that time. The scientific model of evolution, in summary, includes the scientific evidence for a gradual emergence of present life kinds over aeons of time, with emergence of complex and diversified kinds of life from simpler kinds and ultimately from nonliving matter. The creation model questions vertical evolution, which is the emergence of complex from simple and change between kinds, but it does not challenge what is often called horizontal evolution or microevolution, which creationists call genetic variation or species or subspecies formation within created kinds. The following chart lists seven aspects of the scientific model of creation and of the scientific model of evolution:

The creation model includes the scientific evidence and the related inferences suggesting that:	**The evolution model includes the scientific evidence and the related inferences suggesting that:**
I. The universe and the Solar system were suddenly created.	I. The universe and the solar system emerged by naturalistic processes.
II. Life was suddenly created.	II. Life emerged from nonlife by naturalistic processes.
III. All present living kinds of animals and plants have remained fixed since creation, other than extinctions, and genetic variation in originally created kinds has only occurred within narrow limits.	III. All present kinds emerged from simpler earlier kinds, so that single-celled organisms evolved into invertebrates, then vertebrates, then amphibians, then reptiles, then mammals, then primates, including man.
IV. Mutation and natural selection are insufficient to have brought about any emergence of present living kinds from a simple primordial organism.	IV. Mutation and natural selection have brought about the emergence of present complex kinds from a simple primordial organism.
V. Man and apes have a separate ancestry.	V. Man and apes emerged from a common ancestor.
VI. The earth's geologic features appear to have been fashioned largely by rapid, catastrophic processes that affected the earth on a global and regional scale (catastrophism).	VI. The earth's geologic features were fashioned largely by slow, gradual processes, with infrequent catastrophic events restricted to a local scale (uniformitarianism).
VII. The inception of the earth and of living kinds may have been relatively recent.	VII. The inception of the earth and then of life must have occurred several billion years ago.

I. The Universe and the Solar System Were Suddenly Created.

The First Law of Thermodynamics states that the total quantity of matter and energy in the universe is constant. The Second Law of Thermodynamics states that matter and energy always tend to change from complex and ordered states to disordered states. Therefore the universe could not have created itself, but could not have existed forever, or it would have run down long ago. Thus the universe, including matter and energy, apparently must have been created. The "big-bang" theory of the origin of the universe contradicts much physical evidence and seemingly can only be accepted by faith.[1] This was also the case with the past cosmogonies theories of evolutionists that have been discarded, such as Hoyle's steady-state theory. The universe has "obvious manifestations of an ordered, structured plan or design." Similarly, the electron is materially inconceivable and yet it is so perfectly known through its effects," yet a "strange rationale makes some physicists accept the inconceivable electrons as real while refusing to accept the reality of a Designer." "The inconceivability of some ultimate issue (which will always lie outside

scientific resolution) should not be allowed to rule out any theory that explains the interrelationship of observed data and is useful for prediction," in the words of Dr. Warner on Braun, the renowned late physicist in the NASA space program.

II. Life Was Suddenly Created.

Life appears abruptly and in complex forms in the fossil record,[2] and gaps appear systematically in the fossil record between various living kinds.[3] These facts indicate that basic kinds of plants and animals were created. The Second Law of Thermodynamics states that things tend to go from order to disorder (entropy tends to increase) unless added energy is directed by a conversion mechanism (such as photosynthesis), whether a system is open or closed. Thus simple molecules and complex protein, DNA, and RNA molecules seemingly could not have evolved spontaneously and naturalistically into a living cell;[4] such cells apparently were created. The laboratory experiments related to theories on the origin of life have not even remotely approached the synthesis of life from nonlife, and the extremely limited results have depended on laboratory conditions that are artificially imposed and extremely improbable.[5] The extreme improbability of these conditions and the relatively insignificant results apparently show that life did not emerge by the process that evolutionists postulate.

"One example of the scientific evidence for creation is the sudden appearance of complex fossilized life in the fossil record, and the systematic gaps between fossilized kinds in that record. The most rational inference from this evidence seemingly is that life was created and did not evolve."

III. All Present Living Kinds of Animals and Plants Have Remained Fixed Since Creation, Other than Extinctions, and Genetic Variation in Originally Created Kinds Has Only Occurred within Narrow Limits.

Systematic gaps occur between kinds in the fossil record.[6] None of the intermediate fossils that would be expected on the basis of the evolution model have been found between single celled organisms and invertebrates, between invertebrates and vertebrates, between fish and amphibians, between amphibians and reptiles, between reptiles and birds or mammals, or between "lower" mammals and primates.[7] While evolutionists might assume that these intermediate forms existed at one time, none of the hundreds of millions of fossils found so far provide the missing links. The few suggested links such as Archoeopteryx and the horse series have been rendered questionable by more detailed data. Fossils and living organisms are readily subjected to the same criteria of classification. Thus present kinds of animals and plants apparently were created, as shown by the systematic fossil gaps and by the similarity of fossil forms to living forms. A kind may be defined as a generally interfertile group of organisms that possesses variant genes for a common set of traits but that does not interbreed with other groups of organisms under normal circumstances. Any evolutionary change between kinds (necessary for the emergence of complex from simple organisms) would require addition of entirely new traits to the common set and enormous expansion of the gene pool over time, and could not occur from mere ecologically adaptive variations of a given trait set (which the creation model recognizes).

IV. Mutation and Natural Selection Are Insufficient To Have Brought About Any Emergence of Present Living Kinds from a Simple Primordial Organism.

The mathematical probability that random mutation and natural selection ultimately produced complex living kinds from a simpler kind is infinitesimally small even after many billions of years.[8] Thus mutation and natural selection apparently could not have brought about evolution of present living kinds from a simple first organism. Mutations are always harmful or at least nearly always

harmful in an organism's natural environment.[9] Thus the mutation process apparently could not have provided the postulated millions of beneficial mutations required for progressive evolution in the supposed five billion years from the origin of the earth until now, and in fact would have produced an overwhelming genetic load over hundreds of millions of years that would have caused degeneration and extinction. Natural selection is a tautologous concept (circular reasoning), because it simply requires the fittest organisms to leave the most offspring and at the same time it identifies the fittest organisms as those that leave the most offspring. Thus natural selection seemingly does not provide a testable explana- tion of how mutations would produce more fit organisms.[10]

V. Man and Apes Have a Separate Ancestry.

Although highly imaginative "transitional forms" between man and ape-like creatures have been constructed by evolutionists based on very fragmentary evidence, the fossil record actually documents the separate origin of primates in general,[11] monkeys,[12] apes,[13] and men. In fact, Lord Zuckerman (not a creationist) states that there are no "fossil traces" of a transformation from an ape-like creature to man.[14] The fossils of Neanderthal Man were once considered to represent a primitive sub-human (Homo neanderthalensis), but these "primitive" features are now known to have resulted from nutritional deficiencies and pathological conditions; he is now classified as fully human.[15] Ramapithecus was once considered to be partially man-like, but is now known to be fully ape-like.[16] Australopithecus, in the view of some leading evolutionists, was not inter- mediate between ape and man and did not walk upright.[17] The strong bias of many evolutionists in seeking a link between apes and man is shown by the near-universal acceptance of two "missing links" that were later proved to be a fraud in the case of Piltdown Man (Eoanthropus) and a pig's tooth in the case of Nebraska Man (Hesperopithecus).[18]

VI. The Earth's Geologic Features Were Fashioned Largely by Rapid, Catastrophic Processes that Affected the Earth on a Global and Regional Scale (Catastrophism).

Catastrophic events have characterized the earth's history. Huge floods, massive asteroid collisions, large volcanic eruptions, devastating landslides, and intense earthquakes have left their marks on the earth. Catastrophic events appear to explain the formation of mountain ranges, deposition of thick sequences of sedimentary rocks with fossils, initiation of the glacial age, and extinction of dinosaurs and other animals. Catastrophism (catastrophic changes), rather than uniformitarianism (gradual changes), appears to be the best interpretation of a major portion of the earth's geology. Geologic data reflect catastrophic flooding. Evidences of rapid catastrophic water deposition include fossilized tree trunks that penetrate numerous sedimentary layers (such as at Joggins, Nova Scotia), widespread pebble and boulder layers (such as the Shinarump Conglomerate of the southwestern United States), fossilized logs in a single layer covering extensive areas (such as Petrified Forest National Park), and whole closed clams that were buried alive in mass graveyards in extensive sedimentary layers (such as at Glen Rose, Texas). Uniform processes such as normal river sedimentation, small volcanoes, slow erosion, and small earthquakes appear insufficient to explain large portions of the geologic record. Even the conventional uniformitarian geologists are beginning to yield to evidences of rapid and catastrophic processes.[19]

VII. The Inception of the Earth and of Living Kinds May Have Been Relatively Recent.

Radiometric dating methods (such as the uranium-lead and potassium-argon methods) depend on three assumptions: (a) that no decay product (lead or argon) was present initially or that the initial quantities can be accurately estimated, (b) that the decay system was closed through the years (so that radioactive material or product did not move in or out of the rock), and (c) that the decay rate was constant over time.[20] Each of these assumptions may be questionable: (a) some

nonradiogenic lead or argon was perhaps present initially;[21] (b) the radioactive isotope (uranium or potassium iso topes) can perhaps migrate out of, and the decay product (lead or argon) can migrate into, many rocks over the years;[22] and (c) the decay rate can perhaps change by neutrino bombardment and other causes.[23] Numerous radiometric estimates have been hundreds of millions of years in excess of the true age. Thus ages estimated by the radiometric dating methods may very well be grossly in error. Alternate dating methods suggest much younger ages for the earth and life. Estimating by the rate of addition of helium to the atmosphere from radioactive decay, the age of the earth appears to be about 10,000 years, even allowing for moderate helium escape. Based on the present rate of the earth's cooling, the time required for the earth to have reached its present thermal structure seems to be only several tens of millions of years, even assuming that the earth was initially molten.[24] Extrapolating the observed rate of apparently exponential decay of the earth's magnetic field, the age of the earth or life seemingly could not exceed 20,000 years.[25] Thus the inception of the earth and the inception of life may have been relatively recent when all the evidence is considered.[26]

"There is scientific evidence for creation from cosmology, thermodynamics, paleontology, biology, mathematical probability, geology, and other sciences."
"There are many scientists in each field who conclude that the sci- entific data best support the creation model, not the evolution model."

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2. *E.g.*, Kay, Marshall & Colbert, Edwin H, *Stratigraphy and Life History*, New York: John Wiley & Sons, 1965, p, 102;
Simpson, George G., *The Major Features of Evolution*, New York: Columbia University Press, 1953, p 360: [Paleontologists recognize] that most new species, genera and families, and that nearly all categories above the level of families, appear in the record suddenly and are not led up to by known, gradual, completely continuous transitional sequences.
3. Note 6 *infra*.
4. *E.g.*, Smith, Charles J. "Problems with Entropy in Biology," *Biosystems*, V.7, 1975, pp 259, 264. "The earth, moon, and sun constitute an etsentiaty closed thermodynamic system..." Simpson, George G., "Uniformitariarisrn," in Hecht, Max A. & Steeres, William C., eds., *Essays in Evolution and Genetics*, New York: Appleton-Century-Crofts, 1970, p. 43.
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6. *E.g.*, Smpson, George G., "The History of Life," in Tax, Sol, ed. *Evolution after Darwin: The Evolution of Life*, Chicago:Univ. of Chicago Press, 1960 pp. 117, 149: Gaps among known orders, classes, and phyla are systematic and almost always large.
7. *E.g.*, Kitts, David S., "Paleontology and Evolutionary Theory," *Evolution* V. 28 1974, pp.458, 467:
Evolution requires intermediate forms betvveen species and paleontology does not provide them. For examples of the lack of transitional fossils, Ommaney, F. D. *The Fishes,* New York: Time Life, Inc., 1964, p 60 (invertebrates to vertebrates); Romer, Alfred S., *Vertebrate Paleontology,* Chicago Univ. of Chicago Press, 31 ed., 1966, p.36 (vertebrate fish to amphibians) Swinton, W.E., *Biology and Comparative Physiology of Birds*, Marshall, A.J., ed., New York Academic Press, V.1, 1960, p.1 (reptiles to birds); Simpson, George G., *Tempo and Mode in Evolution*, New York: Columbia Univ., Press. 1944, p.l05 (reptiles to mammals); Simons, E.L., *Annals N.Y. Acad. Science*, V.167, 1969, p.319 (mammals to primates).

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It is our contention that if 'random' is given a serious and crucial interpretation from a probabilisic point of view, the randomness postulate is highly implausible and that an adequate scientific theory of evolution must await the discovery and elucidation of new natural laws...
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11. *E.g.*, Kelso, A.J., *Physical Anthropology*, 2nd ed., Philadelphia, J.B. Lippincott, 1974. p 142
12. *E.g.*, Ibid., pp.150,151
13. *E.g.*, Simons, E.L., *Annals N.Y. Acad. Science*. V.102, 1962, p.293, Simons, E.L., "The Early Relatives of Man," *Scientfic American*, V.211, July 1964 p 50
14. *E.g.*, Zuckerman, Sir Solly, *Beyond the Ivory Tower*, New York, Taplinger Pub. Co., 1970, p.64.
15. *E.q.*, Ivanhoe, Francis, "Was Virchow Right about Neandert[h]al?", *Nature* V. 227, 1970, p. 577
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18. *E.g.*, Straus, William L., "The Great Piltdown Hoax," *Science*, V.119, 1954, p.265 (Piltdown Man); Gregory, William K., "Hesperopithecus Apparently Not an Ape Nor a Man," Science, V.66,1927, p. 579 (Nebraska Man).
19. *E.g.*, Bhattacharyya, A., Sarkar, S. & Chanda, S.K., "Storm Deposits in the Late Proterozoic Lower Bhander Sandstone of ... India," *Journal of Sedimentary Petrology*. V.50,1980, p. 1327:
Until recently, noncatastrophic uniformitarianism had dominated sedimentologic thought reflecting that sediment formation and dispersal owe their genesis chiefly to the operation of day-to-day geologic events. As a result, catastrophic events, e.g.. storms, earthquakes, etc., have been denied their rightful place in ancient and recent sedimentary records. Of late, however, there has been a welcome rejuvenation of [the] concept of catastrophism in geologic thought.
J. Harlan Bretz recently stated, on receiving the Penrose Medal (the highest geology award in America), "Perhaps, I can be credited with reviving and demystifying legendary Catastrophism and challenging a too rigorous Urniformitarianism." Geological Society of America, "GSA Medals and Awards," *GSA News & Information*, V. 2, 1980, p.40.
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21. *E.g.*, Kerkut, G.A., *Implications of Evolution*, New York: Pergamon Press, 1960, pp.138,139.
22. *E.g.*, Faul, p.61.
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Name: Evolution

Discipline: Legislation

Category: 1st Amendment

Key Words:

Abstract:

Q 1: What is the current law on the restriction of individual rights to practice one's faith in a classroom setting?

A 1: ICR is not a law firm, does not practice law, and is not in a position to give legal advice. However, the U.S. Congress and the President of our country have passed into law a new education bill entitled "No Student Left Out Education Bill" on January 8, 2002. Details of this law and its intent are found in the following URL's:

URL: http://www.susvalley.bhcom1.com/cgi-bin/db.cgi/7/5/2001?db=newsfaxes
URL: URL://www-acs.ucsd.edu/~idea/senate.htm
URL: http://www.adl.org/religion_ps/evolution.asp
URL: http://www.edweek.org/ew/ew_printstory.cfm?slug=28esea.h21
URL: http://www.infidels.org/activist/state/evolution.shtml
URL: http://www.natcenscied.org/resources/articles/5445_eight_significant_court_decisi_2_15..
URL: List of Colleges and Universities that Support Creationism - 28k
URL: http://www.icr.org/newsletters/btg/btgjune02.html - 25k
URL: http://www.icr.org/pubs/imp/imp-020.htm - 36k
URL: http://www.icr.org/pubs/imp/imp-279.htm - 28k
URL: http://www.icr.org/pubs/imp/imp-071.htm - 29k
URL: http://www.icr.org/pubs/btg-b/btg-114b.htm - 15k
URL: http://www.icr.org/pubs/btg-a/btg-103a.htm
URL: http://www.icr.org/creationproducts/creationscienceproducts/Teaching_Creation_Science_in_Public_Schools.html - 3k
URL: http://www.icr.org/pubs/president/prz-0205.htm - 25k
URL: http://www.icr.org/pubs/btg-a/btg-161a.htm - 30k
URL: http://www.icr.org/pubs/imp/imp-069.htm - 28k
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URL: http://www.icr.org/newsletters/btg/btgmay02.html - 27k
URL: http://www.icr.org/pubs/imp/imp-306.htm - 26k
URL: Creation Science and the Local School District
URL: http://www.icr.org/pubs/imp/imp-080.htm - 35k
URL: ICR And The Future
URL: http://www.icr.org/pubs/btg-b/btg-028b.htm - 15k
URL: http://www.icr.org/pubs/imp/imp-332.htm - 29k
URL: http://www.icr.org/pubs/btg-b/btg-069b.htm - 16k
URL: http://www.icr.org/pubs/btg-b/btg-131b.htm - 15k
URL: http://www.icr.org/pubs/imp/imp-282.htm - 29k
URL: http://www.icr.org/pubs/president/prz-0205.htm
URL: http://www.freedomforum.org/templates/document.asp?documentID=3924
URL: http://www.icr.org/pubs/imp/imp-080.htm
URL: http://www.icr.org/pubs/imp/imp-303.htm

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URL: http://www.icr.org/pubs/imp/imp-105.htm - 27k
URL: http://www.icr.org/radio/fuf/speakers.htm
URL:http://www.icr.org/pubs/imp/imp-001.htm
URL: http://www.icr.org/newsletters/pc/pcjune02.html - 26k

In addition, the following books are recommended:
Teaching Creation Science in Public Schools, by Dr. Duane Gish
Kansas Tornado, by Dr. Paul Ackerman & Bob Williams
The Origin of Species Revisited, Vol 1 & 2, by Wendall R. Bird

I have also included some information on selecting a Christian University and the related information on legal precedents (from an evolutionary perspective), the new education bill, etc. If you need further assistance please call on us.

"There are text materials and teacher handbooks for public schools that have been prepared for a fair presentation of the scientific evidences for both the creation model and the evolution model. There are also seminars and audiovisuals for training teachers to offer both models of origins."

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***Mr. Bird earned his J.D. from Yale Law School with numerous studies in Constitutional Law, publishing legal articles in the Yale Law Journal and the Harvard Journal of Law & Public Policy on the constitutionality of public schools teaching the scientific evidince for creation along with that for evolution. He was an Editor of the Yale Law Journal, and was the recipient of the Egger Prize of Yale Law School for his article published there.

This "Impact" was converted to HTML, for Web use, from the original formatted desktop article. Comments regarding typographical errors in the above material are appreciated. **Webmaster**, ICR Systems Administrator Fax: (619) 448-3469

All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

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A Christ-Focused Creation Ministry

As he spake by the mouth of his holy prophets, which have been since the world began. Luke 1:70

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CREATION AND FIRST AMENDMENT RIGHTS - PRESIDENT'S COLUMN June 2002

by John D. Morris, Ph.D.

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Early in 1992, ICR won a stunning victory in Federal Court. The state of California had attempted to close the ICR Graduate School, branding those who believed in creation as non-scientists regardless of their scientific credentials and accomplishments. But, by God's grace and with His help, we eventually won three court battles reestablishing Christian/creationist education on a strong legal foundation.

Today many Christian schools and even attorneys are unaware of this precedent-setting ruling and its benefits for all Christian schools. Thus, the time seems right for a rehearsal of the events and details of the ruling of this important case.

The ICR Graduate School was founded in 1981 and given official state "approval" to operate in July. As it grew in size and matured in quality it pursued "accreditation" from the Transnational Association of Christian Schools. Its influence through publications, debates, and research was widening. Meanwhile, unbeknownst to us various doctrinaire anti-creationists (i.e., anti-Christian also) launched an international campaign to stifle the Institute and its Graduate School, viewed by Isaac Asimov as "public enemy number one." Rightly assuming that a strong creation movement gives "credibility" to Christianity and dangerously weakens evolutionist control over America's worldview they stacked the files of the Department of Public Instruction in Sacramento with what one state employee called a "two-foot thick stack of outrage" against us. Chief perpetrator was Superintendent of Public Instruction, Bill Honig, darling of the teacher unions and political left in general.

At this same time, Honig was recruiting prominent evolutionists to produce California's new "science framework" for teaching science in the public schools. This document, aggressively integrated evolution throughout the entire curriculum and has led to similar documents across the country. It led to the uproar in Kansas in 1999, for instance, and is the basis for the current argument in Ohio. A masterpiece of propaganda and deceit it has done incalculable harm. A major offensive against Christianity was underway and they felt ICR, with its bevy of strong arguments and qualified spokesmen, had to be silenced.

In August of 1988 a team of scientists arrived at ICR to evaluate our application for the state's newly mandated "re-approval." Even though the team was predominantly evolutionist, including one outspoken evolutionist who had asked to be on the team even though he had contributed to the "two-foot stack" mentioned above, they voted 3 to 2 *in favor of* re-approval. Two months later Honig pressured one member to change his vote and announced to the press that we had been denied by a 3 to 2 vote. Closure loomed! Honig demanded that we take all creation teaching out of our classrooms. But, we are a private Christian school which had never taken one dime of public money. How could they do this?

In an attempt to survive without a lawsuit, we bent as far as we could but refused to buckle. Honig sent another team in August of 1989 to "verify" that creation was no longer a part of our curriculum. A team of five investigators was hand-chosen, four of whom were nationally known anti-creationists. They were accompanied by a state lawyer and two anti-creation education bureaucrats, one of whom was well known in humanist circles. Needless to say they voted 4 to 1 and issued, in their words, "the death penalty" on ICR's Graduate School.

Coincidentally, ICR's pursuit of full accreditation through TRACS was successful in February of 1990. The TRACS team, fully aware of state scrutiny of ICR, was extremely rigorous in their evaluation, and found ICR's teaching of the highest caliber. Obviously, the problem with the state was of perspective, not of quality. The state was not merely withdrawing our accreditation, they were denying our right to exist regardless of quality and were beginning to squeeze other Christian schools in the state also. Perhaps they expected us to simply accept this ruling and close, but in May of 1990, after every other avenue was exhausted, we filed a lawsuit in Federal Court claiming abridgement of our religious freedom, freedom of speech, academic freedom, and civil rights. Soon similar suits were filed in State District Court and Administrative Law Court, dealing with violation of the State Law and its Education Code, citing numerous improper actions and unprecedented and perhaps illegal "dirty tricks" on the part of the state administrators and lawyers.

Motions to dismiss the case were rejected by each judge in each case, and ICR proceeded to depose employees of the Education Department, visiting committee members, and intervening advocates. Our case, which seemed so strong, was buttressed by documentation of wrong doing and bigotry on the part of the state. Each appearance before the Court was ruled in ICR's favor and soon our approval had been reinstated and the negative reports thrown out. All that remained was the Federal lawsuit, testing whether or not a state regulatory body can require a private school to hold a particular state-mandated philosophy. Sensing great defeat and embarrassing public disclosure, the state attorney offered to settle out of court. We refused. We insisted on a formal "declarative judgment" which would have national application and strong precedent. A wonderfully deep and wide ruling resulted which stands as firm testament to God's sovereign power and His gracious answer to prayer.

The ruling is reproduced **below**. However, let me call your attention to a few points in particular.

> **Point C:** Allows any private school to design its curriculum and course content as it desires.
>
> **Point E:** A private school may specify statements of belief and purpose and use them as a guideline for hiring faculty and accepting students.
>
> **Point F:** Specifically reaffirms that First Amendment rights extend to Christian schools.

Point G: Private schools may teach creation as correct. Also required is education in evolution. This was at Honig's insistence, but it would be irresponsible for a school not to teach about this dominant view of scientists. (They also should teach why it is not correct!)

Point H: Extends the ruling to private K-12 schools and home schools.

These statements, while they do reflect some give and take typical of court actions, nevertheless provide powerful protection for all schools. The Lord powerfully intervened on behalf of all Christian education. Throughout the process we had prayed that these enemies of the cross would themselves fall into the pit they had dug for us (Proverbs 28:10). It happened just that way.

Civil No. 90-0483-B (M)
JUDGEMENT GRANTING
DECLARATORY JUDGEMENT BY STIPULATION

Institute for Creation Research Graduate School, et al., -vs.- Honig, et al.

The parties having stipulated that the Court may enter judgement in this matter,

IT IS ORDERED AND ADJUDGED THAT:

1. A declaratory judgement shall issue from this Court. The judgement declares the following:

A. That defendants acknowledged that the 1989 Visiting Committee report should be rescinded and should have no force and effect, and that defendants will recommend to the Council for Private Postsecondary and Vocational Education that it should withdraw by physical removal or notation the 1989 Visiting Committee report and that the 1988 Visiting Committee report that was prepared or accepted after Dr. Kovach decided to change his recommendation from approval to denial.

B. That defendants acknowledge that the August 1988 Visiting Committee report should be considered the final official report concerning the Institute for Creation Research Graduate School. Defendants will recommend to the Council for private Postsecondary and Vocational Education that the August 1988 Visiting Committee report favorable to the approval of ICRGS should be the last official document in the official school file.

C. That defendants acknowledge that a private postsecondary educational institution that meets the statutory standards and its implementing regulations can be approved as a degree granting institution. Except as provided by statute and implementing regulations, an institution may teach any curriculum or include any material in a course's content without being penalized.

D. That defendant Louis ("Bill") Honig agrees that until his present term of office expires on January 20, 1995, that he and his designee to the Council for Private Postsecondary and Vocational Education will abstain from voting on ICRGS's application for approval to grant science degrees.

E. That defendants acknowledge that a private postsecondary educational institution may specify a statement of belief and a statement of purpose for both faculty and students that complies with a national accrediting association recognized by the United States Department of Education.

F. That defendants acknowledge that a private postsecondary educational

institution has First Amendment rights of free speech, religious freedom, and academic freedom. Defendants further acknowledge that a private postsecondary educational institution's First Amendment rights must be considered during the institution's approval review.

G. That defendants acknowledge that a private postsecondary educational institution may teach the creation model as being correct provided that the institution also teaches evolution.

H. That defendants acknowledge that a private K-12 school is not within the jurisdiction of the State Department of Education for the purpose of approval of courses or course content or issuance of regulations, except as provided by law.

Dated: January 29, 1992

s/s Rudi Brewster

Honorable Rudi Brewster

US District Court; Southern District of California

*** Dr. Morris is President of ICR.**

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- Press Release by William Dembski on Statements by Senator Edward Kennedy (3/21/02)
- A critical response to the amendment from the NCSE
- Website of Senator Santorum who proposed the amendment
- Starting Point for viewing comments on the amendment--Congressional Record for June
- Track the Bill in Congress
- Other news & announcements

U. S. Senate Passes Amendment and Supports Critical Thinking Regarding Evolutionary Theory

Some Democratic and Republican Senators Feel Questioning of Evolutionary Theory in Schools is legitimate

On June 13, 2001, the United States Senate strongly supported an amendment which states,

> "(1) good science education should prepare students to distinguish the data or testable theories of science from philosophical or religious claims that are made in the name of science;
> (2) where biological evolution is taught, the curriculum should help students to understand why this subject generates so much continuing controversy, and should prepare the students to be informed participants in public discussions regarding the subject."

This amendment 799 to S.1 was introduced by Senator Rick Santorum (R-Pennsylvania) to be part of the Better Education For Students and Teachers Act, and was strongly supported by a 91-8 vote of the Senate.

Some noteworthy comments on the ammendment were made by various senators including those from Senator Ted Kennedy (D-Massachussetts), who supported the ammendment because it encouraged critical thinking:

> "the language itself, is completely consistent with what represents the central values of this body. We want children to be able to speak and examine various scientific theories on the basis of all of the information that is available to them so they can talk about different concepts and do it intelligently with the best information that is before them."

Another Senator, Robert Byrd from West Virginia (D), said, "[this] amendment will lead to a more thoughtful treatment of this topic in the classroom. It is important that students be exposed not only to the theory of evolution, but also to the context in which it is viewed by many in our society." He also supported critical thinking and the need to discuss viewpoints of many kinds on this issue by saying:

> "I think, too often, we limit the best of our educators by directing them to avoid

controversy and to try to remain politically correct. If students cannot learn to debate different viewpoints and to explore a range of theories in the classroom, what hope have we for civil discourse beyond the schoolhouse doors? Scientists today have numerous theories about our world and its beginnings. I, personally, have been greatly impressed by the many scientists who have probed and dissected scientific theory and concluded that some Divine force had to have played a role in the birth of our magnificent universe. These ideas align with my way of thinking. But I understand that they might not align with someone else's. That is the very point of this amendment--to support an airing of varying opinions, ideas, concepts, and theories. if education is truly a vehicle to broaden horizons and enhance thinking, varying viewpoints should be welcome as part of the school experience."

Finally, Senator Brownback (R) from Kansas took the opportunity of having the theory of evolution as the topic on the floor to "clear the record about the controversy in Kansas." He noted that the actions taken by the State of Kansas School board have been misrepresented by the media and were not out of line:

"In August of 1999 the Kansas State School Board fired a shot heard 'round the world. Press reports began to surface that evolution would not longer be taught. The specter of a theocratic school board entering the class to ensure that no student would be taught the prevailing wisdom of biology was envisioned. Political cartoons and editorials were drafted by the hundreds. To hear the furor, one might think that the teachers would be charged with sorting through their student's texts with an Exacto knife carving out pictures of Darwin.

"However, the prevailing impression, as is often the case was not quite accurate. Here are the facts about what happened in Kansas. The school board did not ban the teaching of evolution. They did not forbid the mention of Darwin in the classroom. They didn't even remove all mention of evolution from the State assessment test. Rather, the school board voted against including questions on macro-evolution--the theory that new species can evolve from existing species over time--from the State assessment. The assessment did include questions on micro-evolution--the observed change over time within an existing species.

"Why did they do this? Why go so far as to decipher between micro and macro-evolution on the State exam? How would that serve the theocratic school board's purpose that we read so much about? Well, the truth is . . . their was no theocratic end to the actions of the school board. In fact, their vote was cast based on the most basic scientific principal that science is about what we observe, not what we assume. The great and bold statement that the Kansas School Board made was that simply that we observe micro-evolution and therefore it is scientific fact; and that it is impossible to observe macro-evolution, it is scientific assumption.

"The response to this relatively minor and eminently scientific move by the Kansas school board was shocking. The actions and intentions of the school board were

routinely misrepresented in the global press. Many in the global scientific community, who presumably knew the facts, spread misinformation as to what happened in Kansas. College admissions boards, who most certainly knew the facts, threatened Kansas students. The State Chamber of Commerce and Industry, and the State universities were threatened based on the actions of school board. All of these effects caused by a school board trying to decipher between scientific fact and scientific assumption. The response to the actions of the board, appeared to many as a response to the commission of heresy.

"For this reason, I am very pleased that my friend from Pennsylvania offered this amendment. He clarifies the opinion of the Senate that the debate of scientific fact versus scientific assumption is an important debate to embrace. I plan to support the amendment and urge my colleagues to join me. "

To view these comments on the online Congressional Record for June 13, 2001, and the supporting statements, carefully follow the following directions:

Go to "http://thomas.loc.gov/r107/r107.html" and click on "Senate" for June 13. The table of contents for the Senate for that day appears. Item number 4, the "BETTER EDUCATION FOR STUDENTS AND TEACHERS ACT" should be clicked on. Scroll down about 20% of the page to the first listing for Mr. SANTORUM and click on the link "Page:S6148".

After reading Mr. Santorum's statement you will have to scroll all the way to the bottom of the page, past discussion of a different amendment, and click on "Forward" in the second column of links. Scroll down about a third of the way to the first statement of Mr. KENNEDY on this page.

Then scroll all the way down and again click on "Forward". On the new page, scroll down about a quarter of the way to the first mention of Mr. BYRD. Read his statement and that of Mr. BROWNBACK and the vote follow one after another from this point.

To follow progress of this bill, go to Thomas (http://thomas.loc.gov) and search on S.1 or H.R. 1.

Dr. Roland Hirsch is to be kindly thanked for providing the directions for finding this information.

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"Give thanks to the LORD, for he is good; his love endures forever." (Psalm 118:1)

What Could Happen Next?

An Analysis of the Ninth Circuit's Recent Pledge Ruling

Exactly forty years after the United States Supreme Court first declared that official public school opening prayers were an unconstitutional violation of the "separation of church and state," the Ninth Circuit federal court took that line of judicial reasoning to its logical conclusion and declared that the mention of God in the Pledge of Allegiance is also unconstitutional in public schools. ***Newdow v. U.S. Congress et. al.,*** 292 F.3d 597 (9th Cir. 2002). (View more information on the history and importance of the Pledge of Allegiance.)



The Ninth Circuit may have gone one step too far in its latest ruling, however, and may have inadvertently demonstrated the full extent of the federal courts' modern (mis)interpretation of the Establishment Clause. If the name of God cannot be spoken in public discourse and is unconstitutional in the Pledge of Allegiance, then the Declaration of Independence and numerous other founding documents, including the Constitution itself, must also be found to be unconstitutional. The Declaration mentions God four times and specifically states that all American freedoms come from God and not from the State. The Constitution recognizes the Biblical day of rest.

The real irony of the California Pledge case, which will almost certainly be overturned after the public outcry it engendered, is that Mr. Newdow, the Plaintiff, does not seem to realize that the only reason he is permitted to be an atheist without penalty in the United States is because the right to believe or not to believe was granted to him by the very God he is seeking to censor. Mr. Newdow is a medical doctor who also holds a law degree and who previously attempted to sue the President of the United States in an attempt to stop him from using God's name in public. Fortunately, that earlier case was dismissed, as most modern Establishment Clause cases should be.

The real issue raised by the controversy over the Ninth Circuit's Pledge case decision should be whether courts will now see the folly of their previous Establishment Clause decisions. Will the courts now begin to walk back the long road they have traveled over the last forty years to establish some balance in constitutional Establishment Clause jurisprudence? Attorneys for the Christian Law Association conducted numerous media interviews explaining the issues involved, and we provided legal opinions to many who were concerned that with the pledge decision, what would happen next? Would all public prayers be stopped? Would all historical references to God be challenged? The Ninth Circuit decision certainly opened the door to the possibility of a radically different America—one that would sterilize out all references to God in public life.



According to the majority opinion in the California case, the government—which includes public schools—must avoid practicing, teaching, or supporting any religious or moral views of any kind or risk violating the Establishment Clause

of the Constitution's First Amendment ("Congress shall make no law respecting an establishment of religion..."). That is the logical outcome of the last forty years of Establishment Clause decisions.

Prior to the first court decisions outlawing prayer in public schools, however, the Establishment Clause was never understood by either judges or ordinary Americans to prohibit the government from promoting God, religion and morality. To the contrary, the men who framed and ratified the Constitution and the Bill of Rights correctly recognized that political freedom and good government require a moral citizenry capable of governing their own persons in a moral and upright manner. Indeed, our Founders and numerous other political leaders for more than two hundred years rightly pointed out that only citizens who are capable of governing themselves will be able to retain the freedoms granted to us by God in our founding documents. When citizens can no longer morally govern themselves, they must necessarily have more and more rules imposed upon them by an ever expanding and oppressive outside governing force—as we see happening in every area of government today. Indeed, our Founders, along with judges and ordinary citizens for two hundred years, promoted religion and education as the most powerful means of developing the self-governing morality required to maintain a free nation. Government, until forty years ago, has openly espoused the encouragement of religion, morality and education among the citizenry as the most useful means of maintaining the freedoms given to us by God.

For example, the first Congress (which adopted the First Amendment with its anti-Establishment Clause) passed the Northwest Ordinance, stating: "Religion, morality, and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." While prohibiting an "establishment" of any particular religion, for two hundred years the government saw itself as generally encouraging the practice or the "free exercise" of religion (another right protected by the First Amendment). Clearly, the first Congress, and succeeding Congresses in the last two hundred fifty years, saw no conflict between the Establishment Clause and the encouragement of religion and morality in public observances or in public schools. That conflict is a recent judicial interpretation that has been imposed by our legal system beginning only a half century ago.



President George Washington was typical of the common sense combination of religion, morality, and freedom that was encouraged for more than two hundred years in America. In his Farewell Address, Washington remarked that "of all the dispositions and habits which lead to political prosperity, religion and morality are indispensable supports." He further warned against demagogues who would "claim the tribute of patriotism," yet "labor to subvert these great pillars of human happiness, these firmest props of the duties of men and citizens." Washington's words were prophetic with regard to the logical outcome of forty years of anti-God judges and lawyers that came to fruition in the Ninth Circuit Pledge case decision.

What the Ninth Circuit judges have forgotten is that the American cause is foundationally a moral and religious cause, stated perhaps most clearly and eloquently in the assertion of the Declaration of Independence that the "laws of nature and of nature's God" are the source for all of our rights as Americans. It logically follows that the public recognition of religion, morality, and God, particularly the Biblical God recognized in the Declaration of Independence, is absolutely necessary to the continuance of liberty. In that sense, the continuing

recognition of the Creator God, even in public schools, protects the rights of all men and women, including those atheists who seek to challenge God in our courts. If it is the purpose of government "to secure these (God-given) rights," it logically follows that it must also be the duty of government to promote the public recognition of God, religion and morality as found in the Declaration of Independence and in the Pledge of Allegiance—perhaps most especially in the field of education.

Has the sleeping giant of religious America finally been awakened by this outrageous decision? Temporarily for certain, but much of this outrage is still fueled by the patriotic sentiment engendered by the terrible tragedies of September 11th. Unfortunately, most Americans will be happy to go back to sleep when the Ninth Circuit reverses itself and steps back to a level of anti-God jurisprudence that most Americans have grown accustomed to accepting without outrage.

<< View the full text of the Ninth Circuit's opinion in *Newdow v. U.S. Congress et. al.*, 292 F.3d 597 (9th Cir. 2002). >>

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Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

BTG No. 131b

What Really Happened on the Kansas School Board?

by John D. Morris, Ph.D.*

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"Be sober, be vigilant; because your adversary the devil, as a roaring lion, walketh about, seeking whom he may devour" (I Peter 5:8).

It's now common knowledge that on August 11, 1999, the Kansas Board of Education (KBOE) voted to de-emphasize evolution in Kansas public school science classes. Unfortunately, what we *think* we know as portrayed by the media is contrary to the actual facts.

Once the news broke, it was obvious that evolutionists were in a frenzy, and you would think their world had collapsed. But my investigation quickly showed that neither the media nor the evolutionary "experts" were presenting the facts accurately.

Reading the standards without the discernment borne of years in creation ministry would lead one to wonder why the evolutionists were so upset. Evolution-related concepts are prominent throughout, with specific recommendations that students learn the details of natural selection, mutation, genetic recombination, etc. Evolution-related concepts are actually more prevalent than before. Why were evolutionists raising such a fuss?

Perhaps it was because on tests, students would no longer be required to answer as if they personally believed in evolution. Students are, however, still required to understand evolutionary related concepts.

Perhaps it was because careful definitions of science and the limitations of science were given. No longer were small variations (*micro*evolution) within the species paraded as if they were evidence for large-scale *macro*evolution. All of the standard evidences for *micro*evolution were repeated

(unfortunately there are no evidences for *macro*evolution, so none were included). Present also were scientific discussions of some of the evidence which doesn't point toward evolution, all of which had been systematically censored from previous documents.

Earlier, the KBOE had commissioned a group of science teachers and writers to update teaching standards for the schools, and no confrontation was intended. But when the draft reached the board, it was noticed that in a statement promising non-discrimination to different belief systems and students, any mention of "creed" or "religious belief" was conspicuously omitted. This led to closer inspection of the document, which revealed the writers group had followed the lead of the abusive California science framework and a later one by the National Academy of Sciences in that it contained abundant, aggressive teaching of *macro*evolution and potential violations of the rights of students and teachers of other viewpoints. So, the board commissioned a second group of writers to amend the work of the first. This revised document was the one which was adopted.

Thus, we see that the work of the KBOE was not motivated by a right-wing power play. Rather, it was the foiled power-play of the evolutionists who were caught trying to gain their ends by stealth.

One good outcome of the decision has been that school boards in several states have begun similar revisions. It would be worthwhile for each state to investigate to see just how many evolutionary stealth campaigns have so far been successful. Can lost ground be recaptured?

* Dr. John Morris is President of ICR.

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," use this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form. at (619) 448-0900.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians10:4, 5).

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"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created**." **Rev 4:11**

IMPACT No. 196

TEACHERS CAN TEACH CREATION SCIENCE IN THE CLASSROOM

by Robert L. Simonds, Th.D.*

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Today, many in public education are attempting to use the government to censor scientific evidence that refutes evolution and advances the concept of special creation. It is widely believed that scientific creationism cannot be taught in a public school science classroom. This **is** not true.

The U.S. Supreme Court developed a three-prong test in Lemon v. Kurtzas to when government involvement in religious activity does not violate the establishment clause: (1) The activity must have a secular purpose; (2) its primary effect must be neither to advance nor inhibit religion; (3) it must not constitute excessive entanglement of government with religion.

THE BATTLEGROUND

One would think that rational men of science would want to test, evaluate, and discuss any reasonable scientific theory on any given subject, to ascertain probable, testable data to move the theory to the level of a scientific law.

However, the established scientific community has built an entire system around a straw house. The irrationality of this position has created a scientific "house divided," as Dr. Henry Morris has thoroughly documented.[1]

Not only does the theory of evolution not conform to the criteria for science, it is also the foundation of many religions, and it totally fails the Supreme Court test of government non-involvement in religion.

This is nothing less than a spiritual battle for the minds of all America's children. Evolution,

consistently applied, denies God's existence and His creative acts. It is the central theme of all humanist theory. Without evolution, the entire atheist religion of humanism would fall.

HOW ABOUT THE CHURCH AND STATE ISSUE?

Dr. John Moore, Professor of Natural Science at Michigan State University for over 30 years, pointed out that in creation science:

No new laws are necessary, there is no possible violation of so-called separation of church and state, since no religious teaching is involved.[2] But would the United States Supreme Court buy that? Yes. In Edwards vs. Aguiliard, 482 U.S. 96 (1987), they said:

> ... teaching a variety of scientific theories about the origins of mankind to school children might be done with the clear secular intent of enhancing the effectiveness of science instruction.

That ruling also sustained the finding of the Fifth Circuit Court of Appeals, as follows:

> No court of which we are aware had prohibited voluntary instruction concerning purely scientific evidence that happens, incidentally, to be consistent with a religious doctrine or tenet.

Therefore, the teaching of creation science is solidly supported by law—as long as the court's rules are followed.

HOW ABOUT ACADEMIC CREDIBILITY?

The main argument of the ACLU in the Scopes Trial in 1925 was that "it is bigotry for public schools to teach only one theory of origins (creation)." The argument was against "censorship" of evolution. Now the tables have turned.

A liberal educaton, by definition, requires all sides of every issue to be aired. Truth from any source should not be feared. That is another academic reason to teach "creation science." Academic freedom permits a teacher to present whatever views he or she deems necessary to clarify a subject.

Censoring out creation science in favor of a religious view of evolution would violate academia's rules against censorship. *Not to allow another valid theorv would also uiolate the academic idea of a liberal* education, and to suppress a teacher's right to freedom in learning would violate the concept of *academic freedom*.

HOW ABOUT SCHOOL OR STATE POLICIES?

The ACLU and NEA (National Education Association) have spent millions on giving school boards, administrators, and teachers the false perception that Creation Science is a religious doctrine, not science. However, the Institute for Creation Research has strongly challenged that perception and has started the decay of the evolutionary death grip on science. The constituents of ICR are privileged to support and participate in possibly the greatest single movement in American church history in this century.

Until 1989, no state, to my knowledge, ever put in writing that it was permissible to teach "creation science," "divine creation," "ultimate purposes," or "ultimate causes" in a public-school classroom. However, the proposed new "California State Board of Education Policy Statement on

the Teaching of Natural Sciences" says:

Discussions of *any scientific fact, hypothesis,* or *theory* related to the origins of the universe, the earth, and of life (the "how") are appropriate to the *scientific curriculum*. Discussions of *diuine creation, ultimate purposes*, or *ultimate causes* (the "why") are appropriate to the history/social science and English/language arts curricula: (emphasis mine).

The first sentence affirms that any valid scientific fact ' theory, or hypothesis can be taught. That policy should qualify the theories of creation science. Evolution is no more "testable" or "faisifiable" than creation.

The second sentence opens up the legitimate teaching of Biblical divine creation, ultimate purposes, and ultimate causes, not in only one major discipline, but four (history, social sciences, English, and English literature).

The recent Texas "Proclamation 66" requires all textbooks to:

1. Present more than one theory of evolution (this shows up the internal divisions on evolution dogma);
2. Examine alternative scientific evidence and ideas on origins (this forces the discussion of scientific creationism both as an idea and a theory);
3. Present evidence to test, verify, modify, or refute each theory of evolution discussed;
4. Present any other reliable scientific theories of origins.

It does seem that the educational pendulum could be swinging back to center. However, the battle is not over, by any means.

SUPPORTING THE INTEGRITY OF SCIENCE

Public school curricula should stay within the true realm of science: the observable, the testable, and the predictable. However, this would preclude the dogmatic teaching of evolution. All Christians should insist on this in their public schools.

Science involves methods, procedures, and practices limited by specific principles of investigation. These principles are often violated by evolutionists. You should be kept well informed on evolution's weaknesses. For example, Dr. Moore writes:

> The concept of natural selection by survival of the fittest is the basic evolutionary mechanism. This concept does not qualify as a scientific principle ....
>
> The concept of survival of the fittest itself does not necessarily imply any evolution. Would not the fittest survive, whether they evolved or were created?"[3]

Science functions in the realm of the testable, i.e., the falsifiable. Any proposed scientific explanation must be amenable to a testing process.

GUIDELINES FOR TEACHERS

If you are a teacher, you should *take a step-by-step approach to maintaining the integrity* of science in your classroom.

1. Realize that many school administrators, school board members, and teachers are closet

creationists. In their hearts they believe in a Creator and many want to support such views but feel their hands are tied. Your task is to show them that both evolution and scientific creationism should be presented in the classroom.

2. Provide solid secular information on scientific creationism such as *What is Creation Science?* (published by the Institute for Creation Research, P.O. Box 2667, El Cajon, CA 92021).
3. Document the legality of teaching scientific creationism. In 1987, the U.S. Supreme Court ruled in Edwards v. Aguillard (Case No. 85-1513) that a Louisiana law demanding a "balance" of evolution and creationism be taught, had an unconstitutional purpose of advancing a religious opinion. However, the Court also clarified that:

   Teaching a variety of scientific theories about the origins of humankind to school children might be validly done with the clear secular intent of enhancing the effectiveness of science instruction (p. 14) (previously cited).

   The Supreme Court noted that teachers "already possess" the flexibility to supplement the present science curriculum with the presentation of theories, besides evolution, about the origin of life (p. 8), and are "free to teach any and all facets of this subject" of all scientific theories about the origins of humankind" (p. 9).

   This is clearly a "green light" for scientific creationism to be taught, even though its teaching cannot be mandated, and even though it prohibits the teaching of Biblical Creationism.
4. Sponsor a lecture series at a local public library or auditorium (not a church) on scientific creationism. Invite teachers, administrators, and school board members. Organize the local churches for support of this event.

As a teacher, you are a unique minister of "light." Your work will "salt" the education process. ICR materials have helped our CEE parents' groups win scores of creation/evolution-policy battles across America. Those same materials will strengthen every teacher's resolve and technical abilities.

The creation/evolution war is for the soul of our nation. Every person will be affected by its outcome.

The Humanist Manifesto I (1933), promulgated by the American Humanist Association, describes the basis for its atheism in its very first Tenet, as follows: "(we) regard the Universe as self-existing and not created."

The Christian Bible supports scientific creation evidence when it says: "In the beginning God created the heaven and the earth" (Genesis 1:1).

What message will America's children hear? It all depends on you.

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Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

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IMPACT No. 270

AN EDUCATIONAL STEP IN THE RIGHT DIRECTION

by Steve Deckard*

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"Beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world, and not after Christ" (Colossians 2:8).

The present generation of students in American schools seem to exhibit more confusion of mind than any other generation in recorded history. This confusion is mostly related to a lack of belief in God and His standard of absolute truth. Fundamentally, I believe the permeating influence of the evolutionary theory is the principle cause of this lack of belief in God and His absolutes. The false philosophy and empty deception of evolutionary theory does not allow for the Biblical admonition of setting our minds upon the things above. This is because of the focus on things of this world.

This state of confusion and lack of belief in absolutes is not limited to secular schools. The problem is also present in the private Christian schools of America and Canada.[1] However, all is not lost; several groups such as the Association of Christian Schools International (ACSI) and the Institute for Creation Research (ICR) are waging the battle against the false theory of evolution and its impact on young people's minds.

One aspect of education where evolutionary theory has had a stranglehold is standardized testing. This is especially true for standardized science achievement tests. These tests have been written from a secular, humanistic, and evolutionary world view. Because of this inherent bias, young people educated in evangelical, Christian, private schools which teach creation science are at a distinct disadvantage.

This situation is changing. ACSI, in cooperation with the developers of the Stanford Achievement Test series, introduced in the fall of 1995 a special Christian School Edition of the Stanford Achievement Test.[2] This test is called the ACSI/SAT-9 Christian School Edition. Copies of this test

may be obtained through ACSI.

Reasons for Development of ACSI/SAT-9 Christian School Edition

Should Christian parents be concerned with the issue of standardized testing? In order to answer this question we Scripture We find that Scripture makes it clear that believers in Jesus Christ will undergo testing as part of the maturing process of a life in Christ (I Thessalonians 2:4; 5:21; Romans 12:2; Hebrews 12:4).

God puts believers to the test in many realms:

(1) Thinking and emotions of heart and mind (Psalm 7:9; 139:23; Proverbs 17:3; I Thessalonians 2:4)

(2) Knowledge (I Peter 1:7; 4:12; James 1:3)

Biblically, parents are responsible for training their children and monitoring the knowledge their children acquire (Genesis 2:9,17; Deuteronomy 6:1-9; Psalm 127:3; Proverbs 22:6; Matthew 15:4; Romans 13:1; Ephesians 6:4; Colossians 3:10).

Clearly (from a Scriptural viewpoint) parents should examine and evaluate their children's progress, both academically and spiritually (Proverbs 20:11).

Another fundamental issue of testing relates to the content base from which the test is to be constructed. Because Psychological Corporation largely serves a secular clientele, the content for their test is based on the curriculum taught in public schools of America. It is no secret that the public school curriculum is mostly evolutionary based. For organizations which serve Christian schools, this is a problem because many of the Christian schools use curricular materials which are creationist-based. This creates a mismatch when the test is used by Christian schools. This can potentially mean that students in Christian schools score lower on the standardized Stanford Achievement Test. The lower scores are not due to achievement-related factors, but rather a built-in bias of the test. This is the issue the new ACSI/SAT-9 Christian School Edition addresses.

Educational Issues and SAT-9

The production of SAT-9 raises some interesting issues and concerns. It also generates some cautions for the Christian educator and concerned parent. Among these are:

(1) The SAT-9 measures achievement only; it does not measure student skill, ability, spirituality, or learning styles. This limitation should be understood by most Christian educators. There is need for a wide range of classroom and school assessments. The same basic caution applies to the homeschooling ogling parent. The axiom is, simply, not to put too much stock in a standardized test score. Remember, standardized tests are limited instruments, even for measuring achievement.

(2) The fact that achievement tests are designed and constructed around what is thought to be the content of school curriculum is of major importance, assuming that Christian textbooks and school curriculum are being sampled for the development of the SAT-9 test and future SAT tests. This is especially important for the developers and writers of Christian school materials to understand. The responsibility and opportunity for these writers and developers has now shifted. The need for high quality, creationist-based textbooks in all disciplines is an imperative.

How Does the Christian School Edition Compare to the Regular SAT-9?

The ACSI/SAT-9 Christian School Edition is known as a custom-made test. It contains the same set of core questions as the regular SAT-9 and will be used for all students taking the SAT-9. The difference lies in the subset of questions outside of the core. These subset questions can be changed to reflect differences in student backgrounds and world views and can be written in a manner which is not offensive to Bible-believing students of Christian schools. The non-core questions of the ACSI/SAT-9 Christian School Edition use a Biblical and traditional-values approach with illustrations, examples, and stories. The core questions provide the link to the national norms of Stanford-9.

What Are Some Benefits of the New Christian Edition?

There appear to be many possible benefits. Among these are:

(1) The new ACSI/SAT-9 Christian School Edition has a science subtest with items which are written from a creationist perspective. The test has also been screened with the intent of removing all questions which are related to a false, evolutionary worldview. Thus the science portion of the new test is compatible with a Christian creationist worldview. The same process was followed for all subtests of the new ACSI/SAT-9 Christian School Edition, including the content areas of reading, mathematics, language, listening skills, science, and social studies.

(2) The new ACSI/SAT-9 test provides an alternative for not only Christian schools, but also for homeschoolers. This is of great importance to homeschool families. Many parents are looking for standardized tests which test what they are teaching. Many homeschooling families are teaching basic creation science and do not wish to have their children indoctrinated in the evolutionary worldview.[3] The development of this new test will have an impact on testing rules and regulations in all fifty states. Many of the states already have some type of testing requirements for those who choose to homeschool their children.[4] Homeschool support groups will now be able to work with state legislators in an effort to get the ACSI/SAT-9 test approved for inclusion in their state's list of approved tests.

(3) The new ACSI/SAT-9 Christian School Edition will be nationally normed, which will allow for the comparison of a student's performance with current national norms. This will be a valuable assessment tool for both Christian school and homeschool children. The fact that the test is nationally normed may benefit homeschoolers in dealing with the issue of reentry into the public school system. Currently sixteen of the fifty states have a rule or regulation governing such an event. Many of the sixteen states require the student to take a standardized achievement test. The state or the delegated local authority makes a determination from the test results for grade placement of the child. Because of the inherent bias in the current standardized tests, many homeschool parents have not been pleased with their child's grade placement; the unfair use of the ACSI/SAT-9 test as an alternative assessment instrument may help to alleviate some of these frustrations. Parents will need to work with their local authorities in order to get permission to use the ACS1/SAT-9 as an alternative test.

(4) The SAT-9 Christian School Edition will also provide a comparison of scores for ACSI students only. This will allow the comparison of one 8th grade ACSI student with other 8th grade ACSI students nationally, and will allow Christian school administrators to compare the levels of achievement of their schools with those of other like-minded institutions. This should provide data from which educational standards and quality can be evaluated, and may also lead to improvement in the quality of the Christian school education.

(5) ACSI/SAT-9 Christian School Edition helps to limit the influence of one of the major criticisms against standardized tests. This criticism is that the content of standardized achievement tests is often a mismatch with the school's curriculum and classroom's teaching. Because many of the questions which were biased or offensive toward a Christian worldview were removed, a portion of

the mismatch problem is removed.

(6) Another criticism of standardized testing has been that teachers "teach to the test." The new ACSI/SAT-9 test will allow Christian educators to "teach to the test" under a whole new perspective. They will be able to teach the children to apply their minds to God's knowledge rather than a man-centered knowledge (Proverbs 22:17). The future of America lies in the hands of the Creator and His children. With the development of the ACSI/SAT-9 Christian School Edition test, the minds of many young people will be affected in a positive manner. In the end, the positive effect will be attributed to the new focus this test helps to establish, which is that true education is centered on "the truth" found in the person of the Creator, Jesus Christ. An educational step for assisting believers in Jesus Christ in *seeing to it that they are not taken captive by the empty deceptions of evolutionary philosophy* has truly been taken.

End Notes

1. For documentation, see Josh McDowell's book, Right from Wrong McDowell surveyed 3,795 evangelical Christian youths from 13 denominations (encompassing both public and private school youth). He concluded there is a difference in behavioral patterns of youth who believe in a standard of absolutes as opposed to those youth who do not hold to a standard of absolutes.
2. This milestone in Christian education was accomplished through the joint efforts of ACSI and Psychological Corporation (publisher of the test). The ICR Science Education Department also had a part in the success of this project. We were asked to write test items for the science portion of the test. The late Dr. Richard Bliss, Fred Willson, Dan Criswell, and I participated in this project. This team constructed several questions which were submitted and accepted by Psychological Corporation for inclusion in SAT-9.
3. The ACSI process for test development included the individual writing of each test item. Each test item was screened on several levels. One of the screens was for evolutionary thinking. Any test item which contained evolutionary thinking was dropped from the test items pool. This process was followed for several thousand test items and included test items in all subject areas (not just the sciences).
4. According to this author's publication, Homeschooling Laws In All Fifty States, thirty-four of the fifty states have some type of requirement for testing home schooled children. Copies of this publication can be ordered from ICR.

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IMPACT No. 306

A Call to Arms for Conservative Christian Science Educators

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The young and growing discipline of science education is at a pivotal point of development. This very important field deals with aspects of how we teach our children and inform society about science. From a young-Earth creationist perspective, there is a major problem within the discipline. This problem is the prevalent and persistent onslaught of the false ideology of the evolutionary perspective or worldview.[1] In an effort to combat this problem and establish a firm Biblical base for the discipline of science education, the following tenets are proposed.

Proposed Tenets for Creationist Based Science Education

1. A student's worldview is an important determinant regarding the learning of specific knowledge (I Corinthians 2:14-16).[2] This is especially true in the scientific disciplines. Worldview development should be an integral part of true science education (and for all education).

2. The makeup of a learner mirrors the Creator and therefore is Trinitarian in nature. The learner uses the senses, the mind, and the spirit in all facets of learning. Complete learning encompasses hands-on (senses), minds-on, and hearts-on (use of spiritual discernment) components. All three components must be in harmony with the Creator for true and complete learning to occur.[3]

3. Because the learner has a three-fold nature, effective teaching must address all three components of learning.

4. Assessment and testing (examinations) in science education should focus on the content being taught and the learner characteristics. Among these are: (1) testing of factual knowledge; (2) testing of student's understanding of God's creation and its purpose and function; (3) testing of the

specific development of the student's worldview; and (4) the testing of the student's abilities in the three component areas of learning as stated in tenet number two.[4]

5. Specific textbook chapters on Biblical and scientific creationism should be included in all science textbooks written for the Christian community. The rest of the textbook content, as well as all other curricular materials, should contain the principles and elements of Biblical and scientific creationism in a fully integrated form.[5]

6. Students should be exposed to evolutionary philosophy *after* they are thoroughly grounded in a creationist worldview. Persons who are competent, knowledgeable, and are able to explain why evolutionary theory is false and how it contradicts a true Christian creationist worldview, should conduct this teaching.

7. Both creationism and evolutionary theory are belief systems. This statement of fact does not make it wrong for either of them to be discussed and taught in the science classroom. Science does not hold within its domain exclusivity of knowledge and does not possess the answer to all of man's questions and problems. Clearly, the study of science and origins is multidisciplinary; therefore, science teaching must not be limited. The process of limiting is not good teaching and does not allow the student to obtain the big picture.

8. Christian teaching points the student toward the source of all knowledge (God) and explains how that knowledge is obtained by revelation and reason. Science is only one method for obtaining knowledge about the world around us and should be presented as such.

9. Creationism must be taught systematically. Basic principles of creationism must be integrated into the textbooks and curricular materials of each scientific discipline. Such principles include the following:

a. Time, space, matter/energy are all created entities and therefore had a beginning.

b. Life was supernaturally created.

c. Teleological considerations (design and purpose) are appropriate and therefore must be integrated throughout science textbooks and curriculum materials.

d. The world which can be observed is not the original created world, but rather the cursed and flooded remnant of that world. Proper interpretation of scientific data must include these considerations.

e. The human mind was formed for the purpose (among others) of exploring and understanding God's creation. Students must be encouraged to recognize this high calling.

f. The Fall in Genesis 3 has affected the human mind. Limited because of its finiteness, the mind is further clouded by the effects of sin and wrong thinking. The teaching of a fully Biblical creationist worldview is thus paramount in attempts to understanding the creation.

g. The human mind was formed to function at its best when focused upon the Creator (Colossians 3:2). It also follows that the student's epistemological beliefs (what the student believes about the nature of knowledge and learning) are developmental in nature. As a student matures physically and mentally, he must also develop spiritually. Because the battle between the two worldviews, creation/evolution, is a spiritual one,

the teacher must be aware of the student's spiritual developmental level.

10. A teacher should understand that a student's spiritual beliefs parallel his or her beliefs about scientific knowledge. Just as scientific beliefs form a trichotomy, so do their spiritual beliefs. The trichotomy consists of a certain percentage of the beliefs being tentative, certain percentage unchanging, and a certain percentage undiscovered. Thus, to some extent both science knowledge beliefs and spiritual beliefs change over time. It is this change and development that the teacher can affect in a Christ-honoring manner.

Discussion and Conclusions

The evidence is indisputable, and the battle lines are drawn. It is past time for the Christian community to defend the Biblical, creation-based worldview. With the abundant evidence for Creation, the Fall, and the Flood available, and the extraordinary resources which now exist, there can be no excuse for Christian teachers and Christian schools to capitulate to the evolutionary worldview so hostile to Christianity. It is also time that all youth were taught real and truthful science. These tenets serve as a starting point for such an objective.

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[1] Although the secular world recognizes the idea of worldview, many do not understand its importance or significance. Therefore it is necessary to define worldview (especially from a Christian young Earth creationist perspective). For the purposes of this document, worldview is an ideology, philosophy, theology, movement, or religion that provides an overarching approach to understanding God and His world, or a set of presuppositions (assumptions which may be true, partially true, or entirely false) which we hold (consciously or subconsciously, consistently or inconsistently) about the makeup of our world (*Developing a Biblical Worldview*, Nehemiah Institute, p. 14).
[2] The importance of this principle has been established by works such as: *Developing a Biblical Worldview*, by Daniel Smithwick, 1996. *The Capabilities of Science in the Formation of a Modern Worldview*, Steve Deckard, 1997.
[3] For example see: Genesis 1:26, Hebrews 5:14, Colossians 3:2, Genesis 6:5, Deuteronomy 4:29, Hebrews 10:22, Matthew 22:37, Acts 17:11, Romans 12:2, and II Timothy 1:7.
[4] For example see: Psalm 26:2, Jeremiah 12:3, II Corinthians 11:28, II Corinthians 13:5, Galatians 6:4, and I Thessalonians 5:21. Also note: the testing of students in domains outside of content knowledge is an area of on-going investigation and the need for further research is great. Current assessment instruments which address some of the issues raised here include: (1) the PEERS Test; (2) SAT-9, Christian School Edition; and (3) Worldview Test (WVT). Information about the PEERS Test can be obtained by calling 1-800-948-3101. Information about the Association for Christian Schools SAT-9 can be obtained by calling 719-528-6906. For information regarding the WVT see: Deckard, Steve W., and Gregory M. Sobko reference listed below.
[5] One textbook that may serve as a model of this approach is *Biology Principles and Perspectives* by John Silvius, published by Kendall Hunt, Dubuque, Iowa.

For further study

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All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," just request them by filling out this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians 10:4,5).

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LEGAL OPINION MEMORANDUM

March 2000

On Legal Issues Involved in the Teaching of Evolution and Creationism

in America's Public Schools

By

The Christian Law Association

Seminole, Florida

Question Presented

May creationism be legally taught in a public school science setting?

Summary

While creationism may not legally be taught in America's government schools, nothing prohibits public school teachers from presenting legitimate evidence in science class that both supports and refutes Darwinism, even if such evidence would tend to support the religious theory of creation.

Legal Analysis

The United States Supreme Court has held that scientific creationism is a religion, while it does not regard evolution as religious. This was the Court's determination in the case of *Edwards v. Aquillard*, 482 U.S. 578 (1987). The key case regarding the teaching of religion in public schools is *Abington v. Schempp*, 374 U.S. 203 (1963), which prohibited the *devotional* use of religious materials in public school classrooms. At the same time, however, the Court affirmed the continuing *educational* use of religious materials, presented objectively.

The Court said:

> Nothing we have said here indicates that such study of the Bible or of religion, when presented objectively as part of a secular program of education, may not be effected consistently with the First Amendment.

Therefore, religion, including the religious belief in creation, is appropriately brought into the public school curriculum wherever it naturally arises—as it does in the study of origins. Scientific evidence pertaining to all theories of origin can be objectively overviewed in a public school science class without the teacher crossing the constitutional line of proselytizing or devotional use of religion. In fact, the student who is only taught to blindly accept the unproven theory of Darwinian macroevolution despite mounting scientific evidence against it is poorly served by the school district.

The real issue regarding the teaching of evolution in public schools is not a legal question. The real question is whether a science teacher who does not recognize that evolution is merely a theory and not a scientifically proven fact is qualified to teach it in a public school science class. Public school teachers should be required to keep up with current scientific data on evolutionary theories of macroevolution. One good starting point for a teacher to update his or her skills would be to read the significant work of Dr. Michael Behe of Lehigh University, who has effectively challenged Darwinian theories based on recent scientific data in his book, Darwin's Black Box. Dr. Behe teaches biochemistry and molecular biology at Lehigh University in Bethlehem, Pennsylvania. In his book, Dr. Behe spells out his theory of "irreducible complexity." Both the book and the theory were favorably reviewed in the New York Times and Dr. Behe was himself asked to produce a column for the Times outlining his theory. Public school teachers of evolutionary theory should be required to keep up with such new information.

Even before Dr. Behe's book appeared, Dr. Charles Thaxton was the first scientist to propose the theory of "intelligent design" as an alternative to evolution. The forward to Dr. Thaxton's groundbreaking book was written by a prominent atheistic scientist. Dr. Thaxton, who now teaches in Czechoslovakia, first presented his views on The Mystery of the Origin of Life at the state university at Austin, Texas, in 1989. He demonstrated that when scientists attempt to prove evolutionary theory, they are required to manipulate the building blocks of life in a manner that actually disproves evolution and points toward the necessity for an intelligent designer of the processes of life. This theory is compatible with religious views of creation, but not with Darwinism. It is this sort of evidence that must be presented to school children in order to educate them sufficiently in the most modern views of evolution. Instead of presenting a religious theory, public school teachers need only present these new scientific evidences and let the students evaluate which theories of origin they best support. Information about what various religions believe about the origins of life can be presented in an objective manner. Evolutionary theories can be weighed objectively against the emerging evidence to see whether they hold up. This is not teaching religion, but teaching good science.

While Dr. Behe and Dr. Thaxton never mention creationism, their theories support the thesis that some intelligent designer must be linked to the origin of life in much the same way that computer programs can be shown to be intelligently designed. Dr. Phillip Johnson and Charles Colson have both authored numerous books analyzing and debunking myths associated with evolution. Mr. Colson's new book, How Now Shall We Live, focuses on the fact that evolution is primarily a philosophy that undergirds a specific secular world view, and is not a science at all.

Evolution's hold on academe is weakening and will likely continue to wan rapidly as new scientific evidence regarding DNA and the building blocks of life are unlocked. The new scientific evidence presented by Dr. Behe and Dr. Thaxton has not been refuted by

evolutionary scientists. Dr. Behe notes that Darwin himself recognized that if some irreducibly complex organism were identified that did not permit gradual evolution, the theory of evolution would become untenable. Dr. Behe has done exactly that in his work on cellular biology. Public school boards need to mandate that evolution be taught by presenting both the scientific pros and cons. There is no question that such a curriculum would be constitutional. The new evidences are not based on God, but on science. Students would need to take the next step on their own if they choose to plug in God as the "intelligent designer." That is as far as teachers can constitutionally go at the present, but it is probably far enough.

The Kansas Board of Education recently voted to omit questions on evolution from the statewide science exam because they did not feel the state recommended science textbook, which only provided a positive view of evolution, was factual. The Supreme Court has never mandated that Darwinism must be taught as fact; nor have they ever prohibited science teachers from teaching scientific evidence disproving evolution to public school students. If such scientific evidence better supports religious views of the origin of life, there is no constitutional foul. Public school science teachers may constitutionally teach the fact that scientists are beginning to take a new critical look at evidence supporting evolution, which is an objective development in the field of science.

By any modern scientific measure, macroevolution is a theory, not a proven fact. Students who are not given arguments that both support and refute this theory are not being given a good science education. This issue transcends the question of whether the Supreme Court would ever permit the teaching of creationism in public schools. The issue really becomes whether public school science teachers are well or ill informed regarding their subject matter from a scientific perspective.

The United States Supreme Court struck down the State of Arkansas' anti-evolution statute that prohibited the teaching of evolution in public schools. The Court found in *Epperson v. Arkansas*, 939 U.S. 97 (1968), that the primary purpose of the Arkansas statute was religious and had no objective secular or scientific basis. The Supreme Court ruled in *Edwards v. Aquillard*, 482 U.S. 578 (1987), that a state could not mandate the teaching of creationism by requiring that creation theories be taught whenever evolutionary theories were taught. But objective presentations of religious views, which are not devotional or proselytizing, have never been banned from the classroom where they logically fit as they do in any analysis of the origins of life.

There are two lower court cases where teachers were prohibited from presenting views contrary to evolution in a science class. In one, *Peloza v. Capistrano Unified School Dist.*, 37 F.3d 517 (9th Cir. 1994), the teacher was combining religious proselytizing with teaching about creation in the classroom. In the other, *Webster v. New Lenox School Dist.*, 917 F.2d 1004 (7th Cir. 1990), the issue was whether the teacher's First Amendment rights were violated by the school curriculum policy regarding evolution. The court held that the teacher "had not been prohibited from teaching any nonevolutionary theories," but was merely prohibited from "religious advocacy." *Id.* at 1008.

Finally, it is entirely constitutional for a teacher to permit a student to bring his or her own religious perspective into the science classroom discussion. It is perfectly appropriate for a teacher to permit students to present scientific evidence against macroevolution, even if that evidence includes discussion of a religious perspective. It is not good educational

policy to advocate a blind adherence to any particular evolutionary scheme. Furthermore, it is religious discrimination to prohibit students from expressing their religious viewpoints objectively in class. Teachers could set up student debates and other assignments where students were invited to evaluate the conflicting scientific evidence that is currently emerging.

The teacher is an agent of the state capable of violating the Establishment Clause if he or she brings religion into the classroom in a non-objective manner. The student, on the other hand, stands outside of an Establishment Clause analysis because the student is not an employee or agent of the state. With respect to student debates or discussions, the issue is placed squarely into a Free Speech analysis where the issues become religious discrimination and the free expression rights of students in school.

The United States Supreme Court held in the case of *Bd. Of Educ. V. Mergens*, 496 U.S. 226, 250 (1990), that "there is a crucial difference between *government* speech endorsing religion which the Establishment Clause forbids, and *private* speech endorsing religion which the Free Exercise and Free Speech Clauses protect." While the teacher's speech is government speech, a student's speech is private speech protected by the Free Speech Clause even in the public school classroom.

Guidelines for Religious Freedom in Public Schools, was a document that was first issued to all school districts in the United States by President Clinton, Attorney General Reno and Secretary of Education Riley in August, 1995. It was reissued by Secretary Riley in May, 1998. In the section regarding the rights of students with respect to class assignments the document states:

> Student Assignments: Students may express their beliefs about religion in the form of homework, artwork and other written and oral assignments free of discrimination based on the religious content of their submissions. Such home and classroom work should be judged by ordinary academic standards of substance and relevance, and against other legitimate pedagogical concerns identified by the school.

It is not a legitimate pedagogical concern for a teacher to prohibit a student from expressing scientific and objective information that refutes evolution, even if such information contains a religious viewpoint. Every school should have a copy of the Religious Expression Guidelines in its school library and educators should abide by its legal conclusions. The Guidelines reflect the current state of the law.

Conclusion

A teacher does not engage in prohibited religious speech when the teacher presents credible scientific information in a public school science class that refutes the theory of evolution. Similarly, a teacher does not violate the Establishment Clause when he or she teaches objectively about various religious beliefs regarding origins. Furthermore, it would be a violation of the First Amendment right of Free Speech in public school if a teacher prohibited students from doing assignments or making class presentations

analyzing which theories of origins best fit with current scientific evidence—whether those theories are secular or religious. Teachers may not chill students' exercise of their own constitutional rights of free speech in completing school assignments. A science teacher may not teach the religion of creationism in the classroom, but may present evidences to objectively support and refute all theories of the origins of life and the universe.

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Department of Education Guidelines for Religious Expression

Student prayer and religious discussion: The Establishment Clause of the First Amendment does not prohibit purely private religious speech by students. Students therefore have the same right to engage in individual or group prayer and religious discussion during the school day as they do to engage in other comparable activity. For example, students may read their Bibles or other scriptures, say grace before meals, and pray before tests to the same extent they may engage in comparable nondisruptive activities. Local school authorities possess substantial discretion to impose rules of order and other pedagogical restrictions on student activities, but they may not structure or administer such rules to discriminate against religious activity or speech.

Generally, students may pray in a nondisruptive manner when not engaged in school activities or instruction, and subject to the rules that normally pertain in the applicable setting. Specifically, students in informal settings, such as cafeterias and hallways, may pray and discuss their religious views with each other, subject to the same rules of order as apply to other student activities and speech. Students may also speak to, and attempt to persuade, their peers about religious topics just as they do with regard to political topics. School officials, however, should intercede to stop student speech that constitutes harassment aimed at a student or a group of students.

Students may also participate in before or after school events with religious content, such as "see you at the flag pole" gatherings, on the same terms as they may participate in other noncurriculum activities on school premises. School officials may neither discourage nor encourage participation in such an event.

The right to engage in voluntary prayer or religious discussion free from discrimination does not include the right to have a captive audience listen, or to compel other students to participate. Teachers and school administrators should ensure that no student is in any way coerced to participate in religious activity.

Graduation prayer and baccalaureates: Under current Supreme Court decisions, school officials may not mandate or organize prayer at graduation, nor organize religious baccalaureate ceremonies. If a school generally opens its facilities to private groups, it must make its facilities available on the same terms to organizers of privately sponsored religious baccalaureate services. A school may not extend preferential treatment to baccalaureate ceremonies and may in some instances be obliged to disclaim official endorsement of such ceremonies.

Official neutrality regarding religious activity: Teachers and school administrators, when acting in those capacities, are representatives of the state and are prohibited by the establishment clause from soliciting or encouraging religious activity, and from participating in such activity with students. Teachers and administrators also are prohibited from discouraging activity because of its religious content, and from soliciting or encouraging antireligious activity.

Teaching about religion: Public schools may not provide religious instruction, but they may teach about religion, including the Bible or other scripture: the history of religion, comparative religion, the Bible (or other scripture)-as-literature, and the role of religion in the history of the United States and other countries all are permissible public school subjects. Similarly, it is permissible to consider religious influences on art, music, literature, and social studies. Although public schools may teach about religious holidays, including their religious aspects, and may celebrate the secular aspects of holidays, schools may not observe holidays as religious events or promote such observance by students.

Student assignments: Students may express their beliefs about religion in the form of homework, artwork, and other written and oral assignments free of discrimination based on the religious content of their submissions. Such home and classroom work should be judged by ordinary academic standards of substance and relevance, and against other legitimate pedagogical concerns identified by the school.

Religious literature: Students have a right to distribute religious literature to their schoolmates on the same terms as they are permitted to distribute other literature that is unrelated to school curriculum or activities. Schools may impose the same reasonable time, place, and manner or other constitutional restrictions on distribution of religious literature as they do on nonschool literature generally, but they may not single out religious literature for special regulation.

Religious excusals: Subject to applicable State laws, schools enjoy substantial discretion to excuse individual students from lessons that are objectionable to the student or the students' parents on religious or other conscientious grounds. However, students generally do not have a Federal right to be excused from lessons that may be inconsistent with their religious beliefs or practices. School officials may neither encourage nor discourage students from availing themselves of an excusal option.

Released time: Subject to applicable State laws, schools have the discretion to dismiss students to off-premises religious instruction, provided that schools do not encourage or discourage participation or penalize those who do not attend. Schools may not allow religious instruction by outsiders on school premises during the school day.

Teaching values: Though schools must be neutral with respect to religion, they may play an active role with respect to teaching civic values and virtue, and the moral code that holds us together as a community. The fact that some of these values are held also by religions does not make it unlawful to teach them in school.

Student garb: Schools enjoy substantial discretion in adopting policies relating to student dress and school uniforms. Students generally have no Federal right to be exempted from religiously-neutral and generally applicable school dress rules based on their religious beliefs or practices; however, schools may not single out religious attire in general, or attire of a particular religion, for prohibition or regulation. Students may display religious messages on items of clothing to the same extent that they are permitted to display other comparable messages. Religious messages may not be singled out for suppression, but rather are subject to the same rules as generally apply to comparable messages.

THE EQUAL ACCESS ACT

The Equal Access Act is designed to ensure that, consistent with the First Amendment, student religious activities are accorded the same access to public school facilities as are student secular activities. Based on decisions of the Federal courts, as well as its interpretations of the Act, the Department of Justice has advised that the Act should be interpreted as providing, among other things, that:

General provisions: Student religious groups at public secondary schools have the same right of access to school facilities as is enjoyed by other comparable student groups. Under the Equal Access Act, a school receiving Federal funds that allows one or more student noncurriculum-related clubs to meet on its premises during noninstructional time may not refuse access to student religious groups.

Prayer services and worship exercises covered: A meeting, as defined and protected by the Equal Access Act, may include a prayer service, Bible reading, or other worship exercise.

Equal access to means of publicizing meetings: A school receiving Federal funds must allow student groups meeting under the Act to use the school media -- including the public address system, the school newspaper, and the school bulletin board -- to announce their meetings on the same terms as other noncurriculum-related student groups are allowed to use the school media. Any policy concerning the use of school media must be applied to all noncurriculum-related student groups in a nondiscriminatory matter. Schools, however, may inform students that certain groups are not school sponsored.

Lunch-time and recess covered: A school creates a limited open forum under the Equal Access Act, triggering equal access rights for religious groups, when it allows students to meet during their lunch periods or other noninstructional time during the school day, as well as when it allows students to meet before and after the school day.

The contents of this website do not constitute legal advice. If you are seeking legal advice, you will need to contact an attorney in regard to your legal matter. If you are unable to obtain an attorney, you may call the ACLJ national headquarters at 1/800-296-4529 and we will attempt to assist you.

LEGALLY TEACHING CREATION SCIENCE IN PUBLIC SCHOOLS
By MATHEW D. STAVER, ESQ.

INTRODUCTION

I'm Mat Staver. As an attorney, I concentrate on constitutional law. Prior to law school, I graduated from seminary and entered the ministry. After pastoring a few years, I began to see how our faith as Christians interacts with the laws around us, either negatively or positively. Through that experience the Lord led me into law school. In 1989 I founded an organization called Liberty Counsel. Liberty Counsel is a religious civil liberties educational legal defense organization. We're based in Orlando, but we operate throughout the entire country. Liberty Counsel provides free legal representation to defend religious freedom. We have found that if Christians have to go out and pay their own attorney to defend their liberties they will give up the fight and walk away.

For example, the Fellowship of Christian Athletes (FCA) in Orlando, wanted to participate in the homecoming parade. The school allowed the student groups to make their own homecoming floats for the parade. The FCA student club had a float like the secular clubs, but they wanted to have a Christian message on the side of the float. Dr. Philips High School said, "You can't have your float because it's religious, and we cannot allow a religious float with the secular floats". If those students did not have a resource like Liberty Counsel and had to obtain an attorney, they would have just simply walked away. But they contacted Liberty Counsel. We resolved the situation. The devil seems to have a way of shooting himself in the foot. If the school would have allowed FCA to have their float like the other secular student floats, the message of Christ would not have reached the larger public. The school tried to resist. However, a couple of students wanted to stand up for Christ, and because there was an organization that was willing to stand beside them, Christ got wide spread media attention. Instead of the FCA float being just one of other floats, the FCA float actually led the homecoming parade. It was the first one in the parade onto the football field. The news cameras were there and the media interviewed the students. The students, and Christ, got a lot more attention than they would have had the school not resisted. That is what happens when Satan tries to suppress the message of Christ. As long as there is somebody willing to stand for their rights, then the thing that the devil meant for evil will actually come out for good.

Liberty Counsel provides free legal representation to defend religious freedom. We have found that if Christians have to go out and pay their own attorney to defend their liberties they will give up the fight and walk away.

One of the areas of constitutional law that is very exciting to me involves teachers. Teachers are the domestic missionaries to America whether in public or private school. Teachers are on the front line over the battle for the heart and soul of America.

TEACHING IN PUBLIC SCHOOLS

Teaching in public school is a fascinating challenge. There is no subject matter that can be adequately addressed without talking about religion.

The public school teacher is a citizen of two worlds. A teacher, on a public school campus, is an individual, and an agent of the state. The Supreme Court, in Tinker v. Des Moines Independent School District, said that teachers, like students, don't shed their constitutional rights when they enter the schoolhouse gate. Teachers have a first amendment right to freedom of speech and a first amendment right to freedom of religion just like any other citizen. However, unlike a student, who is not an employee or agent of the state, a teacher also has certain restrictions. On the one hand, teachers have Free Speech and Freedom of Religion. On the other hand there is the Establishment Clause, which some people refer to when they speak of "separation of church and state." However, the phrase, "separation of church and state," is not in the Constitution.

There is no subject matter that can be adequately addressed without talking about religion, whether it's literature, science, or math.

In the first amendment there are two clauses with regards to religion. One that says Congress shall make no law with respect to the establishment of religion -- the Establishment Clause. The other states that Congress cannot prohibit the free exercise of religion -- the Free Exercise Clause. Also in the first amendment, there is the Free Speech Clause. Since students are not agents of the state, they have the affirmative protections of the Free Speech and the Free Exercise Clauses. They do not have the constraint of the Establishment Clause. The Establishment Clause restrains government, not private individuals. In order to have a Constitutional violation the controversy must involve a private citizen on one side and a public entity on the other side. I cannot violate your right to free speech. I can tell you not to speak, but one private person to another private person creates no Constitutional implications.

A public school teacher operates in both worlds. Teachers are private individuals protected by the Free Speech and Free Exercise clauses, but they are also public individuals, and therefore, they have restrictions imposed by the Establishment Clause. Let me just give you an example of the difference between a student and a teacher. A student can give a gospel tract to another student during non-class time, before or after school or in between class. The tract can be an evangelistic tool advocating that someone accept Jesus Christ. There are no problems with this situation because the Free Speech and Free Exercise clauses protect students. The school would not be involved in the distribution and, therefore, there is no establishment of religion. However, under the Supreme Court's present interpretation of the Constitution, the Establishment Clause would prohibit a public school teacher from passing out the same tract. A student can proselytize, can advocate and can promote their faith. A teacher cannot proselytize or promote their faith, but they can objectively overview religion. A student could say, "If you don't believe in Jesus Christ, you'll go to Hell," and actively advocate their faith. A teacher talking about religion in general would have to say that, "Christianity teaches that if you don't believe in Jesus Christ, then you will go to Hell." Teachers cannot personally advocate, promote or advance Christianity, but can objectively overview Christianity.

TEACHING CREATION LEGALLY

Let's now review several Supreme Court cases. In Epperson v. Arkansas the court considered an Arkansas statute that restricted the teaching of evolution. The Supreme Court struck down the statute. The Court said that it was unconstitutional to prohibit the teaching of evolution. The Court found that the reason this statute was enacted was to prohibit an anti-religious viewpoint. The Court ruled it is unconstitutional for a statute to prohibit evolution.

Edwards v. Aguillard involved a Louisiana statute that said that if you teach evolution, you must teach creation. The Supreme Court ruled it was unconstitutional to require that a schoolteacher teach creation any time evolution was taught. The Court felt in that the statute was attempting to advance a religious viewpoint. I'll explain some of the reasoning later and point out how you can still teach creation in the public schools.

Teachers cannot personally advocate, promote or advance Christianity but can objectively overview Christianity.

A third case is not a Supreme Court case. It is a case called Webster v. New Lennox School District, 917 F. 2d 1004 (7th Cir 1990). The case did go to the United States Supreme Court. This case dealt with a teacher who was teaching creation. The principal told the teacher to stop teaching creation. The teacher sued the principal on the basis that the teacher had the right to teach creation. The teacher lost. It is important to know why the teacher lost, what the court said, and what it didn't say, because you might have somebody cite this case to you to make you stop teaching creation. Basically, the court said that the principal had authority to tell the teachers generally what kind of curriculum to present in the classroom. It really was not an issue of teaching creation versus evolution as it was the principal's authority over employees within the school. The court held that teachers were not free to set their own curriculum at will. The court went on to say that the teacher would be precluded under this opinion from religious advocacy. The teacher, however, was not precluded under this opinion from talking about creation in general. In this case the teacher was actually promoting creation and advocating a specific Christian view on creation. The court made it very clear that the teacher cannot actively promote a religious Christian view while teaching creation. However, a teacher can overview creation within the science curriculum.

The final case does not deal with teaching evolution, but it applies to teaching in general. The case is called Lemon v. Kurtzman. This is the so-called Lemon Test. It requires a three-part analysis. It is very simple once you learn it, but it is kind of complicated as people try to put it into practice. It says when looking at government activity with regard to the Establishment Clause, the government activity involving religion has to pass this three-part test. If it fails any one of the three parts, then the activity is an establishment of religion. If Government action passes all three parts of the test, then there is no

If Government action passes all three parts of the Lemon test, then there is no establishment of religion. The three parts are:

1) ***The activity must have a secular purpose.***
2) ***The activity cannot have as its primary purpose to advance nor inhibit religion.***
3) ***The activity must not create an excessive, and the key word here is excessive, governmental entanglement with religion.***

establishment of religion. Number one, the activity must have a, and underline and emphasize the word "a", secular purpose. Number two, the activity cannot have as its primary purpose to advance or inhibit religion. Number three, the activity must not create an excessive, and the key word here is excessive, governmental entanglement with religion.

Most of the Supreme Court justices have criticized the Lemon test. The Supreme Court, nevertheless, has not thrown it out.

I know the Supreme Court has veered from the original intent of the Constitution, and I know the original understanding of the First Amendment didn't require all these hoops. Nevertheless, these are the hoops we have to go through today. I will use a nativity scene situation to explain how the test works. City Hall, which is a government entity and is governed by the Establishment Clause of the First Amendment, cannot legally establish a religion. Take a nativity scene, standing by itself, on City Hall property with City sponsorship, displaying Jesus, Mary and Joseph. Does it have a secular purpose? The Supreme Court would say, "No." Does it primarily, and the key word here is primarily, advance or inhibit religion? Well, certainly, it doesn't inhibit religion. Does it advance religion? The Supreme Court would say, "Yes." Does it cause excessive governmental entanglement? The Supreme Court would probably say, "No." There is only minimal governmental involvement in keeping and maintaining the nativity scene. It does not involve government making religious decisions. The nativity scene passes number three, but it has already failed numbers one and two. The Supreme Court would rule that a nativity scene standing by itself, sponsored by City Hall, would be unconstitutional.

What happens when you put Santa Claus or a reindeer or a Christmas tree within the context of the display? Now you have Jesus, Mary and Joseph, and Santa Claus surrounding the manger. Looking at this display in the total context, does it have a secular purpose? Does the whole presentation have a secular purpose? The Supreme Court would say, "Yes." Why, because there is a secular symbol of the holiday within this religious context. So at least one of the purposes is secular. It passes number one. Is its primary goal to advance or inhibit religion? It certainly does advance religion, but is that its primary goal? The Supreme Court would say, "No," because now there is a secular symbol nearby. Thus the display has a dual purpose. Number three, does it cause excessive governmental entanglement? No, it's just an administrative task to put up the display and take it down. That's not entanglement. The government is not making religious doctrinal decisions. So it passes number three. All of a sudden Santa Claus or a reindeer or a Christmas tree, all being secular, make this display constitutional. The same principals apply if students sing Christmas carols during the Christmas season. If they only sang Christian Christmas carols, would the Court say the Christmas concert had a secular purpose? Answer, "No. It has only a religious purpose." Now, change the scene. Within the context of the Christian Christmas carols, put in a few secular songs, like Rudolph, the Red Nosed Reindeer or Here Comes Santa Claus, and under this magical interpretation, the presentation is now constitutional.

Within the context of the Christian Christmas carols, put in a few secular songs like Rudolph, the Red Nosed Reindeer or Here Comes Santa Claus, and under this magical interpretation, the presentation is now constitutional.

Now put yourself in the teaching context. Consider the three part test if you were to only open up the book of Genesis and start focusing on the Bible as the basis for creation. Does the

presentation have a secular purpose? No. Does it primarily advance religion? Yes, so you failed number one and two. How do you change that situation? You change it just like we did the nativity scene and just like we did the Christmas carols. Within the context of teaching creation, you also teach or overview other non-creation, non-theistic theories. For example, if you teach creation and at the same time you include the theory of evolution, you have a secular purpose. If somebody came in and saw you teaching creation one day, they might conclude that you only have a religious purpose. But a reasonable observer must look at the overall context, not just focus on one little item. You need to look at the overall curriculum, the overall course. By the way, I would suggest that you refer to creation as abrupt appearance and to the topic as origins rather than creation versus evolution.

TEACHING IN CONTEXT

The three-part test is the test that governs public school teachers when teaching about religion. If you're talking about literature, can you open the Bible, talk about it and read from it as literature? Yes. For example, you might talk about poetry. You might talk about how English poetry is different than Hebrew poetry. Our poetry often rhymes words like ring with thing, or something similar. Hebrew poetry uses thought rhyme or thought parallelism. One thought is juxtapose against another. There are many different examples we could cover. You can discuss religion when addressing any topic. If you pick up a book, you can talk about the origins of the book. The book comes from Christianity. Before the New Testament Christians, there were no books. Writing was done on big bulky scrolls. The New Testament Christians couldn't carry all these big scrolls, so they cut them up in pieces and sewed them together on the edge. That became what was known as the Codex. The Codex was the first book.

The three-part test is the test that governs public school teachers when teaching about religion.

TEACHING CREATION IN CONTEXT

You can overview religion in whatever topic you teach so long as it is relevant. About origins, you can overview different theories of creation. You can discuss evolution some of the counter arguments from a creation or abrupt appearance perspective. While there might be evidence of minor change or adjustment over time, there is no evidence of major change. There is no evidence to support a change in species (i.e. cat to dog). Certainly there is no evidence of flora (plant) and fauna (animal) transfer. You can overview the various theories and then you could say; "Now there are a lot of different theories about evolution and abrupt appearance. Whatever theory you hold, all theories have one thing in common, faith. Whether it is evolution or creation, both require faith. To believe evolution, you need a lot of faith to bridge the huge gaps in the fossil record. There is no evidence of flora and fauna transfer. There is no evidence for "macro-evolution". It takes a major leap in faith to assume that evolution demonstrates how animals and plants originated. The theory of abrupt appearance or creation also requires faith. While there is evidence to support creation, nobody was there at the beginning. Nobody was there for

It takes a major leap in faith to assume that evolution demonstrates how animals and plants originated.

evolution and nobody was there for creation. You still must have faith that something predated the first appearance of animals, plants, and humans. Deciding what that was ultimately relies upon faith. Whichever theory of origins you ultimately accept, neither can be considered a proven fact. Evolution is believed by faith, and creation is believed by faith. Someone who believes in abrupt appearance is not some weird wacko. You must get students to understand that evolution is simply a faith-based theory just like creation is a faith-based theory. Rather than elevating evolution and tearing down creation you can show that both are on the same level – that is, both are theories, not established fact. Indeed, if you discuss the evidence for and against evolution, it becomes obvious that one must have more faith to believe in evolution than in creation.

World religions look at the origin of the world as part of theology.

After you cover the scientific issues regarding origins, you can then consider how world religions view origins. You can also point out that it is important to look at origins, because from a philosophical standpoint, you must know where you originated. You must know who you are, and you must know your destiny. If you do not know one of those three, there is something lacking in your self-understanding. Some scientists have tried to point to evolution as our origin. Other scientists have tried to point to creation as our origin. World religions look at the origin of the world as part of theology. For example, you can discuss the Egyptian theology of creation. The Egyptians in their Memphite Creation writings spoke about God, whom they called Ptah, as the one who brought the world into existence by a word. He spoke and the world came into existence. As for me, I don't mind comparing Christianity to other non-Christian religions. You remember the Old Testament prophet when he prayed to God while several hundred other prophets prayed to Baal to bring fire in a demonstrable way. He did not say, "Do not pray to Baal". He said go ahead and pray to your God. I will pray to my God, and we will see which one answers by fire. You know the result. Whenever you put truth and falsehood beside each other, there is no question in my mind that the truth will win. I have no reservation about using another religion when I'm talking about Christianity. If I am afraid that Jesus is not big enough, powerful enough, and convincing enough to put himself and his word along side some other word or some other false theology, then I do not have enough understanding or faith in my own God. So it does not bother me to allow someone else to have a platform. That is why it does not bother me to have someone teach evolution as long as you have the equal opportunity to teach abrupt appearance or creation.

At any rate, in addition to the Egyptian creation theory you could talk about the Babylonian creation theory. Then you can discuss the creation story in the book of Genesis and you can read from the book of Genesis. Whether it takes one day, several days, or several weeks, you can conclude your presentation by summing up the topic. You can overview the different evolution and creation theories. The bottom line, when all is said and done, is that both theories mut be accepted by faith. When you put all the information before the students, it will probably be the first they've ever heard of origins besides evolution. Until the time they come to your class and hear you speak, they've probably heard one view, and that one view teaches evolution as fact and creation as myth. When they come out of your class they will say that is not true. You've have opened the door for them to make a decision.

IDEAS FOR TEACHING CREATION

While teaching creation and evolution you can ask the students, "How many of you believe that you had apes or monkeys in your ancestry tree?" Of course, you'll probably get a lot of laughter. Open the class for discussion. A teacher can bring outside material into their classroom, whether on creation or other issues. You can bring in an outside speaker. What happens when you bring in an outside speaker? Is the speaker an agent of the state? No, the speaker is an individual citizen you invited. You can also host a debate format, where you have an evolutionist and a creationist debate the topic. Let them debate and let the students ask questions. The main thing is you've opened up the market place in contrast to the narrow view of the market place that they have been taught. You expanded their horizons. You have allowed the students to have contact with another view that they probably never heard of or had contact with before your class.

While teaching creation and evolution you can ask the students, "How many of you believe that you had apes or monkeys in your ancestry tree?"

One particularly good video is the Mt. St. Helens video produced by the Institute for Creation Research. I don't know if you've ever seen this or not, but if you have not seen it, you ought to order a copy. It is one of the most amazing videos I've ever seen on this topic. The video talks about the explosion of Mt. St. Helens. It talks about Spirit Lake and how the petrified forest may have formed. You and your students may think it takes millions of years to create the petrified trees. The video shows how the North Slope of the volcano came down, hit the lake, caused the water to go up the mountain beside it, broke the trees and brought the trees back down into the lake. Then the trees got water logged and some of them turned upright as the root ends were heavier. The trees settled on the bottom at different times and the sediment stabilized these trees in a standing position. In a short period of time a petrified forest can be formed. The video also shows how layering can form in a matter of months rather than millions of years.

CONCLUSION

Teachers have a lot more liberty than you think to teach creation and to teach religious and Christian influences. If you ever have a question, or encounter a problem call Liberty Counsel at 1-800-671-1776. Give us a call at any time. You can also find us on the web at www.lc.org. We provide free information and legal representation

Teachers have a lot more liberty than you think to teach creation and to teach religious and Christian influences.

QUESTIONS AND ANSWERS

The information in this booklet was first provided as a lecture in a teacher's workshop. During the workshop, teachers had the opportunity to ask Mat Staver questions. This section provides those questions and answers. In some cases others made comments at the workshop. To understand who is talking, the initial question will be preceded by "Question" in bold. Mat Staver's answers and comments are preceded by "Staver" in bold. Comments by others at the workshop are preceded by "Comment" in bold without identifying who made the comment.

Question: As far as school clubs like FCA or Youth for Christ, when teachers sponsor those clubs, are the teachers allowed to have an active part or are they just sponsoring the students?

Staver: Under the Equal Access Act of 1984 the teacher is supposed to be essentially in a non-participatory capacity. The teacher is the sponsor, kind of like the chaperone, and generally is not to have an active advocacy role within that club. It is a student led, student-initiated club. A lot of teachers do take an advocacy role. If the school chooses to prohibit the advocacy role or active participation, then a school probably could do so under the Equal Access Act. If a student club met off campus, then a teacher could probably take an active role, but during the school hours, they should take a non-participatory role.

Question: How would the school hours be defined?

Staver: School hours generally are 15 to 30 minutes before or after school is in or out. The general idea is to give the students time to get off campus after school or have enough time before school that not all the students are necessarily on campus.

Question: Is there a particular reason you would not use the word creation, or is it just because it is a hot word?

Staver: Because it is a hot word. There is not any real legal significance to it. But it is a hot word. I think you are presenting the same concept. You could say abrupt appearance. For our purposes talk about abrupt appearance. Something was not there, now it is, spontaneously. One day it is not there. One day it is. It did not evolve through time. Abrupt appearance takes the hot button out of the context of the discussion. Within this context talk about both creation and evolution theories. You have a secular purpose because part of it is secular and part of it is not. Does it have as its primary goal to advance religion? Well, part of it would, but part of it does not, so it is not its primary goal. Does it cause excessive governmental entanglement? No, because you are objectively over-viewing the issue. You are not making doctrinal decisions. You are simply giving an objective overview of the context or the issue.

Question: Do public school teachers need to go to the point where they document that they have attempted to present the material in this fashion. If you get sued and you cannot document this, and it is your word against that student's, what happens?

Staver: I think a teacher would probably be prudent to document in their own personal outline what they are covering each day, so they can go back and say on November the 20th, this is the topic we covered. November 21st, this is the topic we covered, so that you can see the broad parameter that the teacher is covered. I think if you cover this broad parameter, you are going to pass all these three tests.

Comment: Just to add to it. Anything along this line, I try to make Xerox copies, so it is not an argument later about what is said or not said. It is very clear-cut anytime the administrators have questions we can prove what happened in the classroom. The administrators just want to stay out of court. They don't care about the subject. They just want to stay out of court

Staver: Right. A student may come up to you on the day that you talk about the biblical view of creation and complain, or a student may complain to the principal. If you can go to the principal and show that you covered all these different topics, that was only one day. If the principal does not want to get sued and wants to stay out of trouble and if they see that you are being objective and you are being fair, what more can they ask for?

Question: We all know that there are many volumes of printed resources on the evolutionary theory. What strategies might we use in our schools to try to get some of these creation materials into our libraries on an equal opportunity access basis? Do you have any suggestions? Our taxpayer money is being used to buy these materials and our libraries are full of the other side. What can we do to get equal opportunity and equal access for students to be able to find resources on their own? A teacher lecturing from a lectern is not as powerful as a student looking at a book and gathering their own information.

Staver: First of all you can't force the material into your library.

Questioner: I was just thinking about what strategies we could use.

Staver: One of the things that we suggest is that you donate a book to the library. Get a book and donate it to the library. The library would have a harder time refusing a donated book than it would to refuse to pay for a book. Then if they refuse a donated book, you would have to put them on the spot as to why they are refusing the book. Get a reputable book that is going to be a reputable source of information. One particular book I like is called "The Origin of Species Revisited" by Wendell Bird. This is a reputable book in my opinion. There are a lot of other reputable books out there. There are reputable videos also that present the issue from an objective viewpoint. So try to donate. Talk to the librarian to see what the process or procedure is to get new books added if they want to purchase them.

Now, once you get the books into the library, then you have a foot in the door because the school cannot remove the book. There is a constitutional implication for removing the book. The school cannot remove the book for anything other than the fact that it is educationally unsuitable. Educational unsuitability would be that you may have students that are kindergarten and you have a book that is way above their heads. Or you may have a book that's out of date or the book cover is torn and tattered. If the school tries to get a book out because of the content of the message, like because it's religious or Christian specifically, then that action violates the right to Free Speech. Remember you have the right to Free Speech that allows you to obtain information from the government to read. The students have a right to Free Speech to prevent the library from removing material if the removal is only based on the content of the message. A lot of libraries, for example, try to remove Bibles thinking they cannot have them. The library violates the Constitution by removing religious books because of their religious context.

Question: I know that people have tried to donate books like, "What is Creation Science" to libraries, and the libraries have refused to accept the books. What would be the next step?

Staver: If a library refuses a book, you cannot force the book in there. There are some communities that have a review committee for books, and if there are certain committees, get somebody on the committee that could make recommendations for bringing certain books into

the library. I know that there are some in central Florida where parents are on the committee to recommend certain kinds of curriculum to their library. That would be one way to do it. The other way might be to go to a school board and put it on the agenda to have them vote on the issue. That would be the last resort because if you did that, it's going to be public information. And the discussion will address why do you want the book. Schools are supposed to be, according to the Supreme Court, a market place of ideas, kind of a smorgasbord of ideas, all different kinds of ideas. Some are good, some are bad, some are offensive, and some are not. This is a view on a particular topic, and if you are slicing the pie on only one view, you have not given students the smorgasbord of the market of ideas. So I think you should approach it from that standpoint, that this gives them a smorgasbord or a market place of ideas where students can pick and choose. There are a lot of students in the school that would want to have access to this kind of material, but they are not able to get access. We are denying them the right to have access to it and expand their educational horizons. So from an academic market place viewpoint, why would you be against putting this book in the school? Put the "monkey" on their backs. What is your reason to keep this out? If their reason to keep it out is only from a standpoint of preventing a religious viewpoint, then the board may have violated the lemon test. Is their action primarily to advance or is it primarily to inhibit religion? Lemon is a double edge sword. You might ultimately say, "If you are refusing this primarily because you are against a religious viewpoint, then you have violated the Establishment Clause."

Question: If you are presenting both sides, and the student asks you what do you think, which one of these views, if any, do you hold? Are you allowed to answer because you are an agent of the state, or is that not permitted?

Staver: That's a good question. If the teacher is asked, "What's your personal view? Then the teacher can answer, "My personal view is, I believe in creation." You might add that your view is not necessarily the school view. "You asked me my view. My view is I believe in creation. I believe in abrupt appearance. I believe in the story that is presented in the book of Genesis."

Comment: I do not tell anybody my point of view, because I find out that as soon as I do, then my plans for the year are ruined. If I tell them, they know I am coming from a particular point of view. It is a world of fun having them trying to figure out my beliefs. I tell them that after we finish out the school year, I might tell them. I work hard to know both points of view and play the devil's advocate to anything that may come up.

Staver: That is a good point because that kind of keeps up their curiosity level. If you give them your particular view up front and they are opposed to that view, then they are going to shut you off for the rest of the course. If you keep an open mind, they will try to figure you out. That is a good approach.

A teacher once told me he was teaching a space technology course. During the Persian Gulf War, the class studied smart bombs, satellites and laser guidance, etc. While he talked about space technology, he also talked about world events relevant to space technology. The question came up, "Why do you think this little piece of land is always involved in wars and conflicts?" One student might give some reason and another student might come up with something else. The students will present a lot of questions and answers themselves.

Question: If you are doing a chapter on origins, and a student asks, "What about creation?" and the students begin the discussion, how far can the teacher go in encouraging that discussion to continue, or try to guide that discussion before he has "crossed the line"?

Staver: It is hard to say here in a sterile environment rather than being in the classroom. I think the teacher has to know the class, be sensitive to those particular students, and try to guide the discussion. I do not think you want to let the discussion or the debate get to the point where ninety percent of the students are beating up ten percent of the students and cramming it down their throats. That is not good for any kind of situation. If you see that, you might want to stop them, and then even focus back on the ten students, and ask, "Now why do you think that way?" Then turn to the other students and lead a normal civilized discussion and debate among the students.

Comment: In my class, we had rules for the debate between the students. Absolutely no emotional responses. You can only use what is on your card, and the material on the card has to be from your research that was done before. Any remarks that were emotional or not from the notes on the card are disqualified. In the class they give their emotional responses when you are discussing this stuff. But if you are going to do a side-to-side debate, then do not allow emotional responses. Comments have to come from science that the students researched.

Staver: That is a good point. In fact, you could have one student volunteer to take the creation or abrupt appearance presentation, and one student volunteer to take an evolutionary point of view. That way you are not assigning sides and the students go home and tell their parents that they have to take a position they do not want to take. The other way though is to bring in outside speakers, individuals who are adults who want to make a presentation. I would make sure that the person is going to give a good presentation. I always find that if you have a reputable person presenting an abrupt appearance or creation viewpoint, it will make the evolutionary viewpoint seem illogical.

Question: The Mt. St. Helen's video contains an evangelistic message toward the beginning and the last five minutes. Would you suggest that the teacher not show that part?

Staver: I would suggest that the teacher not show that part. You could start it after that beginning, view it, then stop it before you get to the evangelistic approach. To me, that video is very convincing in terms of creation, and it is also very convincing in terms of a deluge and the forming of the Grand Canyon strata within a short period of time. That is a fantastic video and is an example of things that you can present to your students.

Question: Are you familiar with the process of textbook adoption in the state of Florida?

Staver: Not that familiar with the textbook adoption program. I know that there is a mass curriculum that is adopted or a list that is adopted. Once you get those books on the resource list you go to your school and say this is on a resource list, now why do you want to leave it off? I think you have an even more compelling argument.

Comment: A lot of books like "The Amazing Story of Creation" and "Dinosaur by Design" present the creation material from an obvious biblical basis. The question may come up, what

affect would that have on taking material like that into the public school room? Mat may want to expound upon this, but, basically, as long as you have other material available, or are bringing other material in, or it is not just these books against the textbook, but there are other supplementary material available, that would probably be all right. Did I get that right, Mat?

Staver: Yes, it is the same principle that we talked about in terms of a secular purpose, and primary purpose of advancing or inhibiting religion. It is unfortunate, but the Supreme Court, in order to make religion constitutional from the government standpoint, says that it has to be mixed with something secular. As long as you mix it up, then it is okay. So there wouldn't be a problem with taking some of these books into your public school classroom as long as you have other secular material.

RESOURCES

The following resources are available from Liberty Counsel at (800) 671-1776.

"Teacher Rights Brochure"

"Faith and Freedom"

"Religious Expression in Public Schools"

The following additional resources are recommended.

"The Literature of the Bible" by Leland Ryken. Published by Zondervan.

"The Origin of the Species Revisited—Two Volumes" by W. R. Bird. Published by Thomas Nelson.

"Mount St. Helens, Explosive Evidence for Catastrophe" by Dr. Steve Austin. Published by the Institute for Creation Research (video).

Other freedoms

Did you know that a sidewalk which abuts a public school – and is open to public traffic — is a public forum? Witnessing and Bible/tract (e.g., creation tracts) distribution may not be prevented in such areas (subject to limited controls in the interest of public safety and order).

Did you know that "release time" (i.e., when students are excused to go off campus for other learning experiences) is one of the most under-used, constitutionally permitted tools for churches and parents to influence public schools for good?

Did you know that public schools may teach **about** religion, including material about the Bible and other religious matters, including the history of religion, comparative religion, Biblical literature, and the role of religion in American history and in other countries?

Did you know that school libraries can't discriminate against Creation/ Christian books on the basis of ideology?

WAKE UP AMERICA!

There is actually MUCH that can be done to present the Gospel to today's generations. Use your FREEDOMS to reach these generations who are being indoctrinated in the hopelessness of evolutionary humanism!

Sincerely,

Ken Ham

P.S. The Christian Law Association (CLA) has two booklets that EVERY Christian needs to read. By the way, *AiG* receives nothing from the sale of these books. We just want the American public to know they exist and to obtain them to spread the Gospel. CLA is offering a special reduced price for both booklets, which involved many hours of research and writing. Mention *AiG* when ordering.

Titles:

Do Christian Students have any Rights in Public Schools?, $7.00 post paid.

Witnessing: The New Frontiers, $7.00 post paid.

SPECIAL PRICE FOR BOTH BOOKS: $10.00 POST PAID.

Order directly from: Christian Law Association, P.O. Box 4010 Seminole, FL 33775-4010, or phone: (813) 399-8300; Fax (813) 398-3907. Mention *"AiG."*

Do Christian Students have any Rights in Public Schools?



Christian Law Association
P.O. Box 4010
Seminole, FL 34645

A ministry of helps to Bible-believing churches and Christians

Make copies of this fact sheet to pass out to others! (For example, copy, fold, and use as a church bulletin insert.) Not copyright restricted.

Public schools: Christians have rights!

by Ken Ham, Executive Director, Answers in Genesis

In 1995 President Bill Clinton sent a memorandum to Attorney General Janet Reno and Secretary of Education Richard W. Riley. The President stated:

*I have been advised by the Department of Justice and the Department of Education that the First Amendment permits – and protects – **a greater degree of religious expression in public schools than many Americans may now understand.** (emphasis ours)*

Over the years as I've traveled all across America, I've found that many people believe that the Bible, prayer, Christian clubs, discussions on Creation – both Biblical and scientific – or almost anything to do with Christianity are not allowed in any way in public schools. This is FALSE.

It's about time that Americans knew the facts! Christians actually have much more freedom than they've been led to believe. There are great opportunities to present the Creation/ Gospel message in public schools. Christians need to aggressively use their rights and freedoms and stop being intimidated by people who don't really understand the law.

Sadly, because of intimidation by the American Civil Liberties Union (ACLU) and other humanist organizations with an agenda to rid society of anything Christian, teachers and school districts have tried to purge the public school classroom of anything they deem religious.

IMPORTANT NOTE: This article is not intended to be, and does not constitute, the giving of legal advice. In this short article we can only summarize the rights of students and teachers in public schools. It's important that one understand exactly how things can be effectively accomplished under the law and by understanding decisions by the U. S. Supreme Court. It is important to remember that this area of the law is constantly changing. For this reason we urge readers that before implementing anything mentioned in this article that you obtain copies of two booklets available from the Christian Law Association (CLA), and that you contact competent legal counsel for advice.

These booklets were written by Christian lawyers who have carefully studied the U. S. Supreme Court (and other court) decisions.

If you follow their guidelines, you will be amazed at how much freedom there is to present the Christian message to public school students. Information will be given at the end of this article as to how to obtain these booklets. We thank the Christian Law Association for the special offer they've made to get these booklets into the hands of Christians.

Teachers and school officials

The First Amendment to the U.S. Constitution declares that "Congress shall make no law respecting an establishment of religion" by government.

For the public schools of America, the word **establishment** has been now deemed to mean this: Teachers and school officials, who are representatives of the government, may not do anything to favor religion. This means that **teachers** may not conduct religious devotions, prayer or Bible reading at the start of the school day. School officials may not sponsor prayers at graduation services, or post the Ten Commandments or religious symbols.

However, school teachers may use the Bible in instructional ways – as literature, history, in comparative religions classes, and ethics. It is only formal, structured prayer and formal, structured devotional use of the Bible in public schools that are forbidden under the First Amendment's "establishment of religion" clause.

Students

American citizens need to remember that the First Amendment also guarantees that individuals have the right to the **"free exercise"** of their religion (or non-religion) and free speech rights. **Therefore, public school children have rights in public schools, and schools must accommodate the religious expression of public school children.**

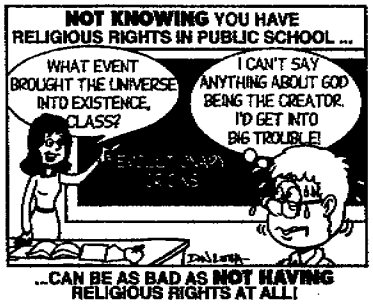
Keep in mind that because most public school teachers and school district officials are typically not lawyers, many are not familiar with what the U. S. Supreme Court permits in public schools. This lack of knowledge will require an education process. The lawyers from the Christian Law Association (CLA) are willing to help at any time concerning these matters. (See information on page iv.)

Specific freedoms

Many will be surprised at the freedoms in public schools. The following are **just some** of these **many** freedoms that are described in detail in the CLA booklets. **Again, it is imperative that one read the details in these booklets before trying to implement any of the following.**

■ **May a student give out Gospel tracts or religious literature to his classmates? YES!** However, this can only happen in the same manner as it would be for students permitted to distribute non-religious material.

■ **May a student witness to his classmates about Jesus or pray with other students on the school campus? YES!** (before or after



school, at lunch or during other times when students are permitted to interact with other students).

■ **May a student read the Bible during the school day? YES!** (Any time that students are allowed to read *non*-instructional books, Bible reading must be permitted.)

■ **May students organize Bible clubs in public school? YES!** (Public secondary schools must allow Bible clubs the same privileges as any other school club.)

■ **May students write book reports, English papers or do oral assignments based on religious subjects? YES!** (Such work must be judged by teachers using ordinary academic standards, and religious topics may *not* be discriminated against or singled out for special restrictions.)

NOTE: It would *not* be unconstitutional for a teacher to allow students to share their personal religious viewpoints in the classroom at appropriate times or in appropriate assignments. The teacher may (constitutionally) permit religious students to share their views if the views of all other students are also allowed.

Freedoms to present Creation!

Can the Biblical and scientific aspects of the creation message be presented in the classroom? A teacher in a public school could permit **student-led** discussions in the classroom on such issues as the origins of man and the universe, *including* creation science. The teacher may also permit the students to research and write papers on these issues. However, the teacher must be careful to remain neutral throughout the discussion.

Christian students could request their teachers to allow student-led discussions. They could then share the material from *AiG*'s books, and its *Creation* magazine, etc., as part of this discussion. Students can share their faith in Jesus Christ explicitly.

Depending on the individual school board policy, teachers may present views of origins other than evolution to their students, provided they don't favor any one view and all views are presented in a "non-religious" way.

Students could also form a creation science club at the school. This student club will be subject to the same restrictions as all other clubs at the school, but the school may not discriminate against this club on the basis of ideology.

Public school students also have the right to witness to fellow students and even hand out Creation/Gospel tracts as long as such expressive activity does not interfere with the educational mission of the school or the rights of other students.

Mary Baldwin

From: Dan Casto [dancasto@hotmail.com]
Sent: Thursday, December 12, 2002 12:27 PM
To: bwest@access.k12.wv.us
Subject: Standards

Suggested Response to Proposed Standards

We are worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Although our origin is a legitimate scientific inquiry, it also is a subject that unavoidably impacts religious and nonreligious beliefs. As such, we believe it should be taught objectively without any philosophic, religious or naturalistic bias or assumption. Scientific objectivity will lead to good science and religious neutrality. Furthermore, this complex and highly controversial subject should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those explanations.

Our concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" or naturalistic world view. The standards are explicitly premised on philosophical naturalism. Beginning in Kindergarten, children are to learn that they are merely natural objects that have not been designed for any particular purpose. They are to learn that, as natural objects, they just happen or "occur" via a purposeless and unguided "evolutionary" process. The same lesson is prescribed for each following grade level through the 12th grade.

Teaching students that they are a part of a "natural world" that is not designed is philosophy and not science. It is the philosophy of Naturalism. Naturalism is a belief that life emerges via purely unguided natural processes and not by design. Naturalism is the fundamental tenet of atheism, agnosticism and secular humanism while design is the fundamental tenet of theistic religion.

Science has not established via the scientific method or any accepted evidentiary basis that life is not designed. Instead a significant and growing body of evidence exists to the contrary. However, the proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis. The standards establish objectives that will lead to an understanding about "Evolution Only." Absent are objectives that will encourage critical analysis of that theory or any objective consideration of alternative theories. In this respect the standards are one sided and dogmatic. Their obvious objective is to promote a Naturalistic world view.

Origins science is the science which seeks to answer the questions

"What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidable impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. To promote critical thinking, scientific objectivity and religious neutrality, we suggest the following changes to the standards:

1. Revise the Standards so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations.

2. Revise the Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. Replace those one sided teachings with objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses. [In particular see Standard 3 and Standard 5 where students at every grade level are to learn that systems are divided into natural systems and designed systems and that the distinguishing feature of natural objects and man made objects, is that the former are not designed for a purpose.]

3. Add explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy. [Many provisions of the standards would seem to encourage this concept indirectly. However, this encouragement needs to be explicitly focused on origins science, because textbooks presently teach only naturalistic theories of origins and discourage criticisms of evolutionary theory. Furthermore, teachers have been penalized when they have attempted to teach this subject honestly and objectively.]

4. Add objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. [The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."]

Mary Baldwin

From: John Arend [JArend@icr.org]
Sent: Thursday, December 12, 2002 2:27 PM
To: bwest@access.k12.wv.us
Cc: Kcpriest@aol.com
Subject: Public School Science Standards

Institute for Creation Research
P.O. Box 2667
El Cajon, CA. 92021

Ms. Brenda West
West Virginia Department of Education
Office of Student Services and Assessment
Building 6, Room 722, 1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0330
Dear Ms. West,
It has been brought to my attention that you are soliciting public comments in efforts to perfect the Science Standards for the West Virginia Public Schools hopefully through a focus on 'good science'. Although ICR is not based in West Virginia, I believe the information contained in the accompanying fax regarding the new legislation, H.R. # 1 applicable to Science Standards enacted by the U.S. Congress and signed into law by President Bush in early January of this year requires consideration and compliance. These ten articles are a select portion of the documentation provided in another more comprehensive assemblage of articles entitled "Public School (Let's Roll) Science Standards Packet Summary" that can also be provided at no charge (by snail mail) upon request.

I believe the key theme to understand with regard to the intent of this new law is contained in the Congressional Report, which accompanied President Bush's education initiative and stated:

"Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society."

I look forward to being of possible further service to you at the West Virginia Department of Education (WVDE).

In the Creator's Service,

John G. Arend, B.S. (Geology), M.S. (Science Education), M. Div.
Public Information Services Director
ICR

Mary Baldwin

From: Kcpriest@aol.com
Sent: Thursday, December 12, 2002 5:31 PM
To: bwest@access.k12.wv.us
Subject: Science Standards Comments

Dear Ms. West:

I am presenting four separate suggestions for revision of the Science Standards currently up for public comment. Certainly the WVDE will agree that changes need to be made. The four separate comment categories I am submitting are numbered (in parenthesis) below. It is reasonable that some parts (or all) of suggestions (2) through (4) could be implemented into revisions of the Standards.

Please acknowledge receipt of this email.

Thank you.

Karl C. Priest
Math Teacher (Kanawha County)
769-0217

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(1) Since evolution exists nowhere, never has and never will and since evolution is not only the phantom of the universe, it is the inverse of reality--I propose that **evolution be eliminated** entirely from the curriculum.

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(2) Knowing it is likely that suggestion (1) will not readily be accepted I suggest that an **Intelligent Design component be inserted** into the curriculum. I have taken specific parts of the Standards and made revisions (in bold). Since some standards are repeated at various levels I only selected one example. Obviously the suggested changes should be instituted wherever it occurs in other levels.

Page 1

Standard 1: History and the Nature of Science
The study of science as a human endeavor provides for the acquisition of ideas leading toward the current knowledge base that represents science content. The nature of science encompasses the basic values and beliefs that make up the scientific world view, how scientists go about their work and the general culture of scientific enterprise.
Studying historical and current discoveries, **including Intelligent Design,** of scientists and scientific milestones provides students with information about how discoveries have influenced current scientific thought and advancements. Students should understand that the continuous development of scientific knowledge shapes history. The study of the history and nature of science clarifies scientific inquiry and the role of science in the development of world cultures.

Standard 3: Unifying Themes
Broad unifying themes complement the perspectives presented in the other content standards. These themes are fundamental to understanding and unifying the various science disciplines. Major unifying themes are systems, models **(including Intelligent Design)** and changes.

Standard 5: Scientific **Technology** and Application

Page 3

Standard 3: Unifying Themes (SC.S.3)
Students will:
* demonstrate an understanding of interdependent themes **and design** present in the natural and **technological** world (e.g., systems, order, organization, **and design**; evidence, models, and explanation; constancy, change and measurement; equilibrium and evolution; form and function),
* demonstrate the ability to draw conclusions about and predict changes in natural and **technological** systems.

Standard 4: Science Subject Matter/Concepts (SC.S.4)
Students will:
* demonstrate knowledge, understanding and applications of scientific facts, concepts, principles, theories and models **(including Intelligent Design)** as delineated in the objectives,

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SC.4.4.25 become familiar with the geologic **column**.

Page 56 (7th Grade)

Standard 1: History and the Nature of Science (SC.S.1)
Students will:
* demonstrate an understanding of the history of science and the **development** of scientific knowledge;

Earth's History
SC.7.4.29 compare and contrast periods of geologic **column** using rocks and rock layers.

SC.9.4.39 interpret topographic maps, weather maps and charts, and astronomical models such as solar systems, galaxies, constellations, stellar types and stellar **development**.

History and the Nature of Science Objectives
Students will:
SC.10.1.1 formulate scientific explanations based **on observations** and experimental evidence, accounting for variability in experimental results.

SC.10.2.8 design, conduct, evaluate and revise experiments (e.g., identify questions and concepts that guide investigations; design investigations; identify independent and dependent variables in experimental investigations; manipulate variables to extend experimental activities; use technology and mathematics to improve investigations and communications; formulate and revise scientific explanations and models using logic and evidence; recognize alternative explanations **(including Intelligent Design)**; communicate and defend a scientific argument).

Unifying Themes Objectives
Students will:
SC.10.3.1 analyze systems to understand **design in** the natural and **technological** world; use systems analysis to make predictions about behaviors in systems; recognize order in units of matter, objects or events.

Evolution, **Design,** and Interdependence of Organisms
SC.10.4.8 compare the embryonic development of invertebrate and vertebrate animals (e.g., ontogeny and phylogeny, diversity, taxonomy) **with alternative explanations**.
SC.10.4.9 construct and manipulate models which show variations **(with limitations)** in living things.
SC.10.4.10 recognize that fossil records provide a scientific explanation for variation in the species and common ancestors **and that the "Cambrian Explosion" raises serious questions about this concept.**
SC.10.4.11 relate the role of natural selection **(with its limitations)** to the development, diversity and or extinction of a species.

Theories About Origin and Evolution in the Earth Systems and Universe
SC.10.4.36 investigate **theories for and against** fossils as evidence for evolution and indicators of paleo-environments.
SC.10.4.37 compare and contrast morphological features of fossils to present-day organisms.
SC.10.4.38 use fossil evidence**, for and against, estimating** the relative and absolute ages of rock layers.

Performance Descriptors (SC.PD.10.4)
Distinguished
The student demonstrates exceptional and exemplary performance with distinctive and sophisticated application of knowledge and skills that exceeds the standard in science subject matter/concepts. Students demonstrate knowledge, applications and interconnections of the objectives in Standard 4 in the following categories:
The Cell and Molecular Basis for Heredity
Evolution, **Design,** and Interdependence of Organisms
Matter, Energy, and Organization in Living Systems
Structure and Properties of Matter
Chemical Reaction
Energy

Motions and Forces
Energy in the Earth System
Geochemical Cycles
Origin and Evolution, **or Design,** in the Earth Systems and Universe
Students analyze interconnections among the above categories.

Standard 6: Science in Personal and Social Perspectives (SC.S.6)
Students will:
* demonstrate the ability to evaluate personal and societal benefits when examining health, population, resource and environmental issues;
* demonstrate the ability to evaluate the impact of different points of view on **the theory of evolution,** health, population, resource and environmental practices;

Evolution **and Intelligent Design**
AB.4.21 discuss evidence **(for and against)** evolution and natural selection, including examples such as peppered moth, fossil records, biogeography, molecular biology and comparative anatomy.
AB.4.22 investigate and discuss that behavioral response is a set of actions determined in part by heredity and in part from experience.
AB.4.23 research pioneers and current authors of evolutionary **and Intelligent Design** ideas.

AC.4.3 research and evaluate the contributions of Dalton, Planck, Bohr, Einstein, and de Broglie, Heisenberg, and Schrodinger to the **development** of the atomic theory.

AES.4.2 identify and describe the structure, origin, and **development** of the lithosphere, hydrosphere, atmosphere and biosphere.

AES.4.16 investigate the **development** of the ocean floor that results in the creation of new materials and features.

****

(3) A third proposal which would, according to polls, satisfy a sizable majority of the public is to **clearly state that evolution can be criticized** by public school science teachers. A simple paragraph, at the beginning of the Standards, would meet this need. I present two suggestions for giving teacher guidance in what they can do.

A. The Buckna/Laidlaw "Origins of Life" Policy

As no theory in science is immune from critical examination and evaluation, and recognizing that evolutionary theory is the only approved theory of origins that can be taught in West Virginia: whenever evolutionary theory is taught, students and teachers are encouraged to discuss the scientific information that supports and questions evolution and its underlying assumptions, in order to promote the development of critical thinking skills. This discussion would include only the scientific evidence for and against evolutionary theory, as it seeks to explain the origin of the universe and the diversity of life on our planet.

B. The Priest Proposal (A Paraphrase of Darwin's Own Words)

There is a majesty of life and students should be able to view all sides of the question of origins with impartiality. This will remove the prejudice by which the subject is overwhelmed. A large field of inquiry will be opened on the causes of origins and variation. West Virginia students and teachers should weigh the scientific evidence on all sides of the origins issue.

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(4) Lastly, I submit something that will satisfy every fair-minded citizen of West Virginia and that is to **eliminate the indoctrination of public school students** into the basic premise of atheism. The United States Constitution mandates that states be neutral toward religion. The West Virginia Science Standards are NOT neutral toward religion. For example, Content Standard 3 (Unifying Themes) begins to indoctrinate children at the kindergarten level and continues to do so at every level into high school. This standard implies that natural things (i. e. the child) are not designed. This is a philosophical premise that has major religious implications. This same standard states that students will demonstrate an understanding of evolution. Standard 5 reinforces the belief that natural things are not designed. A whole lot of West Virginians have a real problem with this dogmatic approach to origins.

The Standards should be revised to eliminate the naturalistic teaching that natural objects and systems are not designed. Most of my suggested changes in (3) would remain with the exception of specific references to Intelligent Design. A provision should be added that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy. Also, objectives should be added that will require students to learn about the naturalistic assumption (that the world is not designed) which is used in current origins science and clearly stated in the Standards.

Mary Baldwin

From: Brian Jarrell [brianj@wv-cis.net]
Sent: Tuesday, December 17, 2002 12:32 PM
To: bwest@access.k12.wv.us
Cc: AFA of West Virginia
Subject: WV State Science Standards Ploicy

I am a parent with 4 children in the West Virginia Public school system. I resent the fact that policy 2520.3 deliberately is steering my children to accept and believe Darwinian evolution as a fact when it is only a theory. There was a time in our Nation when Intelligent Design & Creation by God was taught along side of Darwin's theory of evolution, in that time children had a choice, today it is a dictatorship where one theory is taught that has long ago been in doubt and in Question. Its time for a change and WV has been at the bottom of the list in the nation for way to long .Let change begin here first and for a change let the rest of the nation follow us, that's what America is all about.

Sincerely,
Brian & Rebekah Jarrell
Rt. 3 Box 81
Milton WV 25541

Mary Baldwin

From: Ed Garrett [treefarm@sat-co.net]
Sent: Tuesday, December 17, 2002 2:03 PM
To: bwest@access.k12.wv.us
Subject: evidence against evolution

Dear Brenda West:

I am a creationist, and recently had a conversation with the geologist and anticreationist Dr. Joe Meert, Assistant Professor in the

geology dept. at the University of Florida. If you are considering science standards in West Virginia, it should be interesting to

see what anticreationists consider "evidence against evolution."

Dr. Meert would not admit the existence of any kind of evidence that indicated problems with evolution, but when I asked him about

the "concept of progress in evolutionary biology" he said "there is no such thing as "progress in evolution'. " He was quite

emphatic about this. I asked him why, then, he expected the public to believe that simple, primitive forms of life progressed to

man. He never addressed this question in any way, either to refute it or confirm it, although he sent me several emails afterward

and I continued to ask for some kind of answer. He only tried to confuse the issue by raising irrelevant points.

I can only conclude that scientists who are dedicated to the promotion of this "theory" are also dedicated to ignoring all evidence

against it and trying to make sure the public never hears of any such evidence.

Creating fair science standards will be difficult at best with the kind of confusion about "evidence against evolution" that will be

thrown at you. If I can help let me know. I have other information that might be of interest.

Yours, Ed Garrett

Mary Baldwin

From: Genny Davis [gennyd@meer.net]
Sent: Tuesday, December 17, 2002 9:36 PM
To: bwest@access.k12.wv.us
Subject: Policy2520.3 WV State Science Standards

Whereas, children should be permitted to explore and therefore not fed all information as the only truth. And whereas the majority of parents believe in a higher power, and giving one side of the Evolution theory runs counter to our beliefs. Therefore, children in these stressful times need room to arrive at their own beliefs.

Mary Baldwin

From: Carol Mitchell Smith, MACE, PhD [mitchellsmith@charter.net]
Sent: Wednesday, December 18, 2002 7:27 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3 comments

1. I am writing to comment on Policy 2520.3 – WV State Science Standards which are currently open for comments. It appears regarding origins of life that children are only given the theory of evolution. I do not believe this is good for our children. I believe children should be encouraged to think for themselves and have other theories presented in the classroom. Please revise the Standards to reflect my concerns.

2. Policy 2520.3 appears to be one sided in the presentation of the origins of life. Please allow other views and theories to be explored by our children in school. Evolution is not fact but a theory. Why then is it the only theory being presented in the classroom? This is wrong!

3. I am a parent with children in West Virginia's school system. I resent the fact that Policy 2520.3 deliberately is steering my children into accepting and believing Darwinian evolution as a fact when it is only a theory. There are other theories regarding origins and they should be included in Policy 2520.3

4. As a parent, I am writing to comment on Policy 2520.3. I believe children should be able to understand a full range of scientific views that exist regarding the origins of life in the classroom. I believe Policy 2520.3 should be amended to bring this about.

5. Please amend Policy 2520.3 to expressly state that teachers have the academic freedom to discuss other theories in the classroom such as Intelligent Design.

6. Policy 2520.3 appears to promote evolution as the only true science regarding origins of life. Evolution is only a theory. There is much disagreement within the scientific community regarding this theory. If this theory has any merit then it should be able to withstand critical examination. Children should have other views to be able to think critically. Please revise the policy to reflect this.

7. Policy 2520.3 is bias regarding the origins of life. There is no mention in this policy of other theories on this subject. Children should not be force fed the dogma of evolution. Other theories need to be presented and the policy should spell this out.

-- Carol Mitchell Smith, MACE, PhD

5107 Jason Drive

Mary Baldwin

From: rhunt [rhunt@ovis.net]
Sent: Wednesday, December 18, 2002 9:25 PM
To: bwest@access.k12.wv.us
Subject: scientist gives opinion

I, Robert N Hunt,am a respected research scientist working for Bayer Corp. God gave me the brain to do my work, God created me and you and this world and I will testfy so in Charleston if you would like....Respectfully yours, Robert N Hunt, 451-2207, Research Center, New Martinsville, WV 26155

Mary Baldwin

From: John Rinehart [jjrinehart@charterbn.com]
Sent: Thursday, December 19, 2002 11:29 AM
To: bwest@access.k12.wv.us

2. Policy 2520.3 appears to be one sided in the presentation of the origins of life. Please allow other views and theories to be explored by our children in school. Evolution is not fact but a theory. Why then is it the only theory being presented in the classroom? This is wrong! I can understand your not teaching creationism as the only way, but it should also be presented. There should not be such bias presented in the school rooms

Thank you for your consideration.
John J. Rinehart
405 Division Street
Shady Spring, WV 25918-8448
304-763-3567

Mary Baldwin

From: Carol Mitchell Smith, MACE, PhD [mitchellsmith@charter.net]
Sent: Thursday, December 19, 2002 4:23 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Dear Ms. West:

I sent some comments to you yesterday in error. Please disregard them.

Please consider the following to be my comments on Policy 2520.3.

Policy 2520.3 is incomplete and needs to include teaching other theories besides evolution. Theories such as Intelligent Design must also be included. This way our students will learn to think critically and to compare and contrast among competing theories. Although teaching competing theories is challenging, and makes the picture "muddier" in some ways, it also teaches our children to see things in a more nuanced way, to consider oposing viewpoints and to learn to weigh the differences between theories. Please include other theories when teaching about the beginnings and development of our world; it will broaden our students' minds and teach them to think more rigorously about the world in which they live.

Thank you very much.

-- Carol Mitchell Smith, MACE, PhD
5107 Jason Drive
Cross Lanes, WV 25313
(304) 776-4147

Mary Baldwin

From: Mason Meadows [masonmeadows@yahoo.com]
Sent: Thursday, December 19, 2002 11:09 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

I am writing to comment on Policy 2520.3 – WV State Science Standards which are currently open for comments. It appears regarding origins of life that children are only given the theory of evolution. I do not believe this is good for our children. I believe children should be encouraged to think for themselves and have other theories presented in the classroom. Please revise the Standards to reflect my concerns.

Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
http://mailplus.yahoo.com

Mary Baldwin

From: Reid Clark [reidclark@perrow.org]
Sent: Friday, December 20, 2002 11:17 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

As a parent, I am writing to comment on Policy 2520.3. I believe children should be able to understand a full range of scientific views that exist regarding the origins of life in the classroom, including such theories as Intelligent Design. I also believe that any view as widely held as Creationism should be presented for study without bias. Freedom in our education system surely means that all viewpoints are studied or at least presented. I believe Policy 2520.3 should be amended to bring this about.

Thank you for your work on this matter.

Reid Clark
218 Spruce Lane
Poca, WV 25159

Mary Baldwin

From: Viclicurry634@cs.com
Sent: Friday, December 20, 2002 11:30 PM
To: bwest@access.k12.wv.us
Subject: Education and Policy 2520.3

Gentlemen:

It seems that Policy 2520.3 promotes evolution as the only true science regarding origins of life. Evolution is only a theory. The scientific community disagrees regarding this theory. Any theory having any inherent value should be able to withstand critical examination. Children should have other views to be able to think critically. It seem educationally sound to revise the policy to reflect other views regarding origins of life.

Thank you for your serious consideration of this suggestion.

Yours truly,

Vida I. Curry

Mary Baldwin

From: Willard Wynne [wilard@ix.netcom.com]
Sent: Tuesday, December 31, 2002 1:55 PM
To: bwest@access.k12.wv.us
Subject: Proposed Science Standards for WV

As a citizen of West Virginia I am concerned with the possibility that students in this state will be given a scientific background based only on the idea of evolution. I take great exception to this decision. Who is qualified to make that decision that God had no hand in creation. I would love to know the name of the person who has made this definitive decision.

Following is a preprinted presentation that a agree with and would hope you would take it into consideration when deciding what children should be taught.

We are worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Although our origin is a legitimate scientific inquiry, it also is a subject that unavoidably impacts religious and nonreligious beliefs. As such, we believe it should be taught objectively without any philosophic, religious or naturalistic bias or assumption. Scientific objectivity will lead to good science and religious neutrality. Furthermore, this complex and highly controversial subject should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those explanations.

Our concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" or naturalistic world view. The standards are explicitly premised on philosophical naturalism. Beginning in Kindergarten, children are to learn that they are merely natural objects that have not been designed for any particular purpose. They are to learn that, as natural objects, they just happen or "occur" via a purposeless and unguided "evolutionary" process. The same lesson is prescribed for each following grade level through the 12th grade.

Teaching students that they are a part of a "natural world" that is not designed is philosophy and not science. It is the philosophy of Naturalism. Naturalism is a belief that life emerges via purely unguided natural processes and not by design. Naturalism is the fundamental tenet of atheism, agnosticism and secular humanism while design is the fundamental tenet of theistic religion.

Science has not established via the scientific method or any accepted evidentiary basis that life is not designed. Instead a significant and growing body of evidence exists to the contrary. However, the proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis. The standards establish objectives that will lead to an understanding about "Evolution Only." Absent are objectives that will encourage critical analysis of that theory or any objective consideration of alternative theories. In this respect the standards are one sided and dogmatic. Their obvious objective is to promote a Naturalistic world view.

Origins science is the science which seeks to answer the questions "What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidable impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. To promote critical thinking, scientific objectivity and religious neutrality, we suggest the following changes to the standards:

1. Revise the Standards so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations.

2. Revise the Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. Replace those one sided teachings with objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses. [In particular see Standard 3 and Standard 5 where students at every grade level are to learn that systems are divided into natural systems and designed systems and that the distinguishing feature of natural objects and man made objects, is that the former are not designed for a purpose.]

3. Add explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically

about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy. [Many provisions of the standards would seem to encourage this concept indirectly. However, this encouragement needs to be explicitly focused on origins science, because textbooks presently teach only naturalistic theories of origins and discourage criticisms of evolutionary theory. Furthermore, teachers have been penalized when they have attempted to teach this subject honestly and objectively.]

4. Add objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. [The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."]

Thank you for your consideration.

Willard Wynne

473 Nancy Jack Road

Gerrardstown WV 25420

Mary Baldwin

From: Deborah Brown [dsbrown@access.k12.wv.us]
Sent: Friday, January 03, 2003 11:35 AM
To: Brenda West
Subject: FW: Assistance request
Importance: High

Brenda:

Have you received this message and have you entered the comments given by Mr. McCoy? Could we talk about this briefly next week? Let me know of your availability--thanks.

Debbie
-----Original Message-----
From: Pam Cain [mailto:pcain@access.k12.wv.us]
Sent: Friday, January 03, 2003 10:44 AM
To: Deborah Brown
Subject: FW: Assistance request
Importance: High

-----Original Message-----
From: Kevin McCoy [mailto:kmccoy@afo.net]
Sent: Monday, December 30, 2002 6:40 PM
To: Rebecca Tinder
Cc: Pamela Cain; David Stewart
Subject: Re: Assistance request
Importance: High

Dear Ms. Tinder:

I have sent two previous emails to you pertaining to your previous request for ..." the alternative language you would suggest be placed in the policy to address the goals" regarding Policy 2520.3 - Science Standards which are currently open for comment on the West Virginia Department of Education. I also left a voice mail message on your telephone today to verify you received these emails after verifying you were in the office today. I would very much appreciate a response from you addressing the proposed language and answering the two questions contained in this email

First, I propose the following amended language be added to the policy as follows:

Statement of Purpose and Intent Regarding Origins of Life

"The West Virginia standards regarding origins of life are intended to ensure that students are taught and equipped to critically examine origins theories and to identify and distinguish between scientific fact, theory, and error. There is more scientific disagreement about Darwinian evolution than about other scientific theories. Therefore, students should know about evolution and why scientists today continue to investigate, critically analyze, and in some instances, reject various evolutionary theory that nevertheless continue to be taught as undisputed fact in classrooms. Teachers should also have the academic freedom to teach about, and subject to the same rigorous examination, other origins theories such as the Design theory."

My reasoning for the neccesity of adding this language is I believe this language will ensure students will be taught and equipped to critically examine origins theories and to identify and distinguish between scientific fact, theory, and error, in keeping with academic excellence and furtherance of a robust academic inquiry.

Failure or refusal by the Department to address these concerns would signal an attempt to block such academic discussion and would signal the Departments intent to select only from the body of knowledge of a

particular segment which it proscribes for the sole reason that it is deemed to conflict with a particular scientific theory....Darwinian evolution.

Furthermore, it is our belief not to allow this language to be amended into Policy 2520.3 will send the message that teachers and students must steer clear and hold back from robust academic discussion of origins, lest sanctions be leveled. The end result would inevitability be schoolchildren being condemned from elementary to high school ages to stale and often outdated textbook presentations of the once reigning Darwinian orthodoxy.

Secondly, and in closing, I would appreciate if you would address the following questions as follows:

1.) Would you please give me your legal opinion on the constitutionality of other theories, including Intelligent Design being permitted in Policy Number 2520.3 - Science Standards?

2.) Are you of the opinion Policy 2520.3, as it is written now, allows for the discussion of other theories, including Intelligent Design in the school classroom? If so, would you please direct me to the section in Policy 2520.3 to support this? I also would like to know if you would support this concept?

Sincerely,

Kevin McCoy, State Director
AFA of West Virginia
P. O. Box 11752
Charleston, WV 25339
304-965-6700

----- Original Message -----
From: Rebecca Tinder
To: AFA of West Virginia
Cc: dsbrown@access.k12.wv.us
Sent: Wednesday, December 18, 2002 9:16 AM
Subject: RE: Assistance request

Dear Mr. McCoy:

I am in receipt of your inquiry, which will be included as a comment to the policy and addressed accordingly. I would appreciate, however, receiving the alternative language you would suggest be placed in the policy to address the goals. As you are aware, the policy revisions resulted from a consensus of a diverse group of educators who worked diligently on the same. I look forward to reviewing your alternative language soon.

Rebecca M. Tinder
General Counsel
WV Department of Education
(304) 558-3667

-----Original Message-----
From: AFA of West Virginia [mailto:afawv@afo.net]
Sent: Wednesday, December 18, 2002 5:21 AM
To: rtinder@access.k12.wv.us
Subject: Assistance request

Dear Ms. Tinder:

Would you please give me your legal opinion on the constitutionality of other theories, including Intelligent Design being permitted in Policy Number 2520.3 - Science Standards?

On November 27, 2002, I spoke to Ms. Cain regarding Policy 2520.3 - Science

Standards which is currently open for comment on the West Virginia Department of Education web site.

I shared with Ms. Cain my serious concerns relating to this policy because it appears from a cursory examination of Policy 2520.3 students are only given evolutionary dogma as pertains to origins. Additionally, I stated the policy is so one sided on this issue that there is no room to criticize evolution let alone offer other theories including Intelligent Design. Ms. Cain agreed that students should be given other theories as to origins and forwatded my letter to you.

My concerns are derived partly from the following language in Policy 2520.3.

Origin and Evolution in the Earth Systems and Universe

SC.10.4.36 investigate fossils as evidence for evolution and indicators of paleo-environments.

SC.10.4.37 compare and contrast morphological features of fossils to present-day organisms.

Evolution

AB.4.21 discuss evidence of evolution and natural selection, including examples such as peppered moth, fossil records, biogeography, molecular biology and comparative anatomy.

AB.4.22 investigate and discuss that behavioral response is a set of actions determined in part by heredity and in part from experience.

AB.4.23 research pioneers and current authors of evolutionary ideas.

I would like to know if you are of the opinion Policy 2520.3, as it is written now, allows for the discussion of other theories, including Intelligent Design in the school classroom? If so, would you please direct me to the section in Policy 2520.3 to support this this? I also would like to know if you would support this concept?

I propose that language be added to Policy 2520.3 to assure students from elementary to high school ages are not condemned to stale and often outdated textbook presentations of the once reigning Darwinian orthodoxy.

This goal can be accomplished by adding language which:

(A) Encourages the presentation of scientific evidence regarding the origins of life and its diversity objectively and without religious, naturalistic, or philosophic bias or assumption;

(B) Requires that whenever explanations regarding the origins of life are presented, appropriate explanation and disclosure shall be provided regarding the historical nature of origins science and the use of any material assumption which may have provided a basis for the explanation being presented;

(C) Encourages the development of curriculum that will help students think critically, understand the full range of scientific views that exist regarding the origins of life, and understand why origins science may generate controversy.

Addressing the above mentioned concerns will guarantee teachers and students the right to discuss the scientific data both supporting and challenging Darwinian evolution, without the fear that such academic discussions can end in discipline.

Failure by the Department to address these concerns will signal an attempt to block

such academic discussion and would signal the Departments intent to select only from the body of knowledge of a particular segment which it proscribes for the sole reason that it is deemed to conflict with a particular scientific theory....Darwinian evolution.

Please let me know your thoughts on this matter.

I look forward to hearing from you soon.

Sincerely,

Kevin McCoy, State Director
AFA of West Virginia
P. O. Box 11752
Charleston, WV 25339
304-965-6700

Mary Baldwin

From: Linda Hoskins [roanaid@yahoo.com]
Sent: Saturday, January 04, 2003 12:47 PM
To: bwest@access.k12.wv.us
Subject: Science Standards

Please revise the Science Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. This should be a part of the whole "science" that is taught.
Sincerely,
Linda Hoskins
Kanawha County
Charleston wV

Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
http://mailplus.yahoo.com

Mary Baldwin

From: Corrinnacorrinna@aol.com
Sent: Sunday, January 05, 2003 9:36 PM
To: bwest@access.k12.wv.us
Subject: Should evolution be taught in our classrooms?

What is a theory? It is an opinion, an educated guess, but a guess nonetheless. Why then is evolution taught exclusively to our youth? If you must teach evolution in some form, teach it's alternative also, the biblical view of how our world was created. Let our youth decide for themselves which "theory" they wish to believe. Are we saying our youth are so ignorant, that they can handle only one explanation? Knowledge is learning to think for oneself. Provide the information and let our youth do some "critical thinking" on their own. I am sick of the anti-religous movement. They seem to ignore the very thing this country was founded on, God. Our forefathers didn't offer freedom from religion, but freedom OF religion. Look at how our morality has declined since they have taken prayer and the Ten Commandments out of the schoo! l. Our nation is in a sad state of affairs when they uphold immorality in all forms. Life is not sacred anymore. Every day we murder those without a voice, forgetting that the ones who are doing the murdering do not believe in the very oath that they take, the Hippocratic Oath. When we can teach evolution freely, but cannot mention God's creation, it is truly horrid. When God is to be taken off of our money and out of our Pledge of Allegiance, what a mockery. Let parent's voices be heard. Let this be some small gain towards getting order and decency back. Teach creation in schools, even if you must teach evolution along with it. At least our children will have a choice! I am a parent with two beautiful children in Poca Elementary. I do not wish them to know only of the Big Bang THEORY!!!!!!!!!!!!!!!!!! Remember, we live in the United States of America! How God has blessed this country! We ne! ed to uphold him, not only in our personal lives, but in our schools as well. It wasn't so long ago, that the bible was taught as a subject in our schools. Thank you for your time. Listen to the people, parents, but most of all, God.

Sharon E. Newsome

Mary Baldwin

From: Sue Grace [s_grace@charter.net]
Sent: Monday, January 06, 2003 12:22 AM
To: bwest@access.k12.wv.us
Subject: West Virginia Science standards

Dear Ms. West,

Please add to the Standards explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

A thorough education in any field or subject demands all the information, pro and con, pertaining to said subject be examined.

West Virginia's children deserve education as opposed to indoctrination.

Thank you for your time.

Sue Grace

Mary Baldwin

From: WV's for Science Ed. Excellence [wvsee@charter.net]
Sent: Monday, January 06, 2003 1:42 PM
To: bwest@access.k12.wv.us
Subject: standards

1. We are worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Please change the Standards so children are not indoctrinated with evolutionism and add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

2. Although our origin is a legitimate scientific inquiry, it also is a subject that unavoidably impacts religious and nonreligious beliefs. As such, I believe it should be taught objectively without any philosophic, religious or naturalistic bias or assumption. Please change the standards so evolutionism does not dominate the instruction on origin and diversity of life.

3. Scientific objectivity will lead to good science and religious neutrality. Origins is a complex and highly controversial subject and should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those explanations.

4. My concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" or naturalistic world view. This is wrong. Please change the standards to eliminate that problem.

5. The standards are explicitly premised on philosophical naturalism. Beginning in Kindergarten, children are to learn that they are merely natural objects that have not been designed for any particular purpose. They are to learn that, as natural objects, they just happen or "occur" via a purposeless and unguided "evolutionary" process. The same lesson is prescribed for each following grade level through the 12th grade. This is wrong. Please change the standards to eliminate that problem.

6. Teaching students that they are a part of a "natural world" that is not designed is philosophy and not science. It is the philosophy of Naturalism. Naturalism is a belief that life emerges via purely unguided natural processes and not by design. Naturalism is the fundamental tenet of atheism, agnosticism and secular humanism while design is the fundamental tenet of theistic religion. This is wrong. Please change the standards to eliminate that problem.

7. Science has not established via the scientific method or any accepted evidentiary basis that life is not designed. Instead a significant and growing body of evidence exists to the contrary. However, the proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis.
This is wrong. Please change the standards to eliminate that problem.

8. The standards establish objectives that will lead to an understanding about "Evolution Only." Absent are objectives that will encourage critical analysis of that theory or any objective consideration of alternative theories. In this respect the standards are one sided and dogmatic. Their obvious objective is to promote a Naturalistic world view. This is wrong. Please change the standards to eliminate that problem.

9. Origins science is the science which seeks to answer the questions "What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidable impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

10. I suggest the standards be changed to promote critical thinking, scientific objectivity and religious neutrality regarding origins.

11. Please revise the Standards so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations. Also, please add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

12. Please revise the Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. Replace those one sided teachings with objectives that would encourage students to investigate and critically analyze the

evidence which supports both the design and naturalistic hypotheses. [In particular see Standard 3 and Standard 5 where students at every grade level are to learn that systems are divided into natural systems and designed systems and that the distinguishing feature of natural objects and man made objects, is that the former are not designed for a purpose.]

13. Please add to the Standards explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

14. Please add to the Standards objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. [The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."] Also, please add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

Jerry E Davis

Mary Baldwin

From: Noel Wise [NFWise@msn.com]
Sent: Monday, January 06, 2003 9:08 PM
To: bwest@access.k12.wv.us
Subject: evolution in the schools

Ms. West:

I am worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Please change the Standards so children are not indoctrinated with evolutionism and add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

Scientific objectivity will lead to good science and religious neutrality. Origins is a complex and highly controversial subject and should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those expleanations.

Please revise the Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. Replace those one sided teaching with objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses. (In particular see Standard 3 and Standard 5 where students at every grade level are to learn that systems are divided into natural systems and designed systems and that the distinguishing feature of natural objects and man made objects, is that the former are not designed for a purpose).

Thank you for you consideration into this matter.

Noel Wise, MA, LSW
119 Christa Circle
South Charleston, WV 25309

NFWISE@MSN.COM

Mary Baldwin

From: MTCarte@aol.com
Sent: Monday, January 06, 2003 9:07 PM
To: bwest@access.k12.wv.us
Subject: Science Standards

Ms. West,

As the West Virginia Science Standards are currently being evalusted I would like to comment on instruction regarding origins. Although our origin is a legitimate scientific inquiry, it also is a subject that unavoidably impacts religious and nonreligious beliefs. As such, I believe it should be taught objectively without any philosophic, religious or naturalistic bias or assumption. Please change the standards so evolutionism does not dominate the instruction on origin and diversity of life. Thank you.

Mike Carte

Mary Baldwin

From: MMonk@advancedspecialtycontractors.com
Sent: Monday, January 06, 2003 9:22 PM
To: bwest@access.k12.wv.us
Subject: Don't make monkeys out of us!

Science has not established via the scientific method or any accepted evidentiary basis that life is not designed. Instead a significant and growing body of evidence exists to the contrary. However, the proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis.
This is wrong. Please change the standards to eliminate that problem.

It is hard to imagine that an intelligent, articulate, open-minded person could believe that we evolved from apes. Where is the evidence? If it has been going on for millions of years, why aren't there millions of "cross-species" fossils? Just a thought for the open-minded to ponder.

Please don't let the school system continue to try to make monkeys of our children!

Mary Baldwin

From: Alice Click [aliclick45@hotmail.com]
Sent: Monday, January 06, 2003 10:08 PM
To: bwest@access.k12.wv.us
Subject: Comment on Science Standards

Comment on WV Science Standards:
My concern is that the proposed West Virginia Science Standards do not reflect objectivity in teaching objectives for origin science. Instead they seek to promote an "Evolution Only" or naturalistic worldview. I suggest the standards be changed to promote critical thinking and scientific objectivity. We should encourage students to investigate and critically analyze the evidence that supports both the design and naturalistic hypotheses.

Respectfully Submitted,
Alice Click
233 Chestnut Rd.
Mount Alto, WV 25264
304-895-3590

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Mary Baldwin

From: Andrea [andrea.r@citynet.net]
Sent: Monday, January 06, 2003 10:53 PM
To: bwest@ACCESS.K12.WV.US
Subject: West Virginia Science Standards

Scientific objectivity will lead to good science and religious neutrality. Origins is a complex and highly controversial subject and should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those explanations.

Andrea Radtke
5371 Big Tyler Road, Apt 714
Cross Lanes, WV 25313-1048
776-5950

Mary Baldwin

From: HaroldClark7@aol.com
Sent: Monday, January 06, 2003 11:33 PM
To: bwest@access.k12.wv.us
Subject: Re: A Personal Plea From Karl Priest

In a message dated 1/5/2003 10:11:20 PM Eastern Standard Time, Kcpriest writes:

> . My concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" or naturalistic world view. This is wrong. Please change the standards to eliminate that problem.

Harold Clark
Haroldclark7@aol.com

Mary Baldwin

From: Mark K. Jowett [mjowett@charter.net]
Sent: Monday, January 06, 2003 11:59 PM
To: bwest@access.k12.wv.us
Subject: West Virginia Science Standards

Dear Ms. West,

We are worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Please modify the Standards so children are not indoctrinated with evolutionism, and add objectives that would encourage students to investigate and critically analyze the evidence which supports both intelligent design and naturalistic hypotheses.

Most importantly, as it is not proven, it is still the "theory of evolution"--other theories should be allowed and considered (e.g., intelligent design) with respect to tolerance, open-mindedness, and cultural diversity.

Respectfully,

Mark

****
Mark K. Jowett
Assistant Professor and IT Department Coordinator
University of Charleston, WV
Director of Distance Education
http://www.theclaycenter.org/thecenter.htm
Owner - Quality Instruction
http://www.qualityinstruction.com
E-mail:
mjowett@ucwv.edu
mjowett@charter.net
****

Mary Baldwin

From: Elizabeth Gallaher [egallaher@dnr.state.wv.us]

Sent: Tuesday, January 07, 2003 9:17 AM

To: pka00201@alpha.wvup.wvnet.edu

Cc: epyle@mail.wvu.edu; loyster@citynet.net; wyonk@citynet.net; mirichar@access.mountain.net; kjacquez@access.mountain.net; fonner@ovis.net; scorder@access.k12.wv.us; drockey@access.k12.wv.us; debhelmer@yahoo.com; pobenauf@wvu.edu; bwest@access.k12.wv.us; pbarnhar@access.k12.wv.us

Subject: helpers for Project WILD coorelations

Hi Jody,

We met at the WVSTA Conference, but you probably don't remember. I'm starting to organize a team of science and English teachers to help develop a correlation of Project WILD to the state content learning standards. I already have Joe Evans and Jim Meads on board, but I need at least four more people to help. I'm shooting for either a February or March meeting. The plan is to meet at a state park on a Friday evening, start the correlation, eat and sleep and then finish things up on Saturday. I (Project WILD) will pick up the tab on lodging, meals, and mileage. I just need people. Do you have any suggestions? If so, I'm trying to get everything together by the end of the month.

Thanks a bunch.

Elizabeth

Elizabeth Gallaher
WV DNR Wildlife Resources
Project WILD
1900 Kanawha Blvd., East
Bld. 3, Rm. 842
Charleston, WV 25305
t. 304-558-2771
f. 304-558-3147

Mary Baldwin

From: Ashley Switzer [switzer.home@citynet.net]
Sent: Tuesday, January 07, 2003 10:23 AM
To: bwest@access.k12.wv.us
Subject: WV Science Standards

Dear Ms. West,

Origins science is the science which seeks to answer the questions, "What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidably impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses and please add to the Standards explicit provisions that will encourage teachers to discuss science objectively without philosophic, naturalistic or religious bias or assumption.

Sincerely,

Ashley Switzer

Mary Baldwin

From: Gordon Wells [glwells48@yahoo.com]
Sent: Tuesday, January 07, 2003 2:26 PM
To: bwest@access.k12.wv.us
Subject: Science Standards

Dear Ms. West:

Origins science is the science which seeks to answer the questions "What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidable impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

Thank you,

Gordon Wells

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Policy 2520.3: Science
Content Standards and Objectives for West Virginia Schools

Please use this form when commenting on proposed Policy 2520.3. You may attach additional sheets if necessary.

Individual/Organization: William S. Harris, Ph. D. and John H. Calvert, J.D., Intelligent Design network, inc.
Title: Managing Directors
Street Address: P.O. Box 14702, **City:** Shawnee Mission **State:** Kansas, 66217

Comments/Suggestions

Explanation of Terms, Abbreviations

A glossary of scientific terms should be included in the standards.

Science Kindergarten Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 1st Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 2nd Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 3rd Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 4th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 5th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 6th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 7tt Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 8th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 9th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 10th Grade Objectives and Performance Descriptors

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Advanced Biology Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Biology - Technical Conceptual Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Human Anatomy and Physiology Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Advanced Chemistry Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Chemistry-Technical Conceptual Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Advanced Environmental Earth Science Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Advanced Physics Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Physics-Technical Conceptual Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Please return comments by January 10, 2003, to:
Brenda West
Office of Student Services and Assessment
West Virginia Department of Education
1900 Kanawha Boulevard, East
Building 6, Room 722
Charleston, WV 25305-0330
Telephone: 304.558.2546 --- Fax: 304.558.1613
E-mail: bwest@access.k12.wv.us

Mary Baldwin

From: PattyPulli@aol.com
Sent: Wednesday, January 08, 2003 8:35 PM
To: bwest@access.k12.wv.us
Subject: New WV Science Standards

I have comments regarding the new West Virginia Science Standards.

Please revise the Standards so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations.

Please add to the Standards objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."

The proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses. The standards establish objectives that will lead to an understanding about evolution only. Absent are objectives that will encourage critical analysis of that theory or any objective consideration of alternative theories. Please change the standards to eliminate that problem.

Thank you for your consideration.

Sincerely,

Patricia L. Pulliam

Mary Baldwin

From: PackPackmountain@aol.com

Sent: Wednesday, January 08, 2003 10:12 PM

To: nightengale87@charter.net; copilot@wv-cis.net; mcadle@wv-cis.net; kimbrewer@charter.net; evets10@hotmail.com; CaseyPack@earthlink.net; ann6@charter.net; wtradco@charter.net; together@citynet.net

Subject: OPPOSITION TO POLICY 2520.3

To Whom It May Concern,

It is my understanding that policy 2520.3 advocates the teaching of evolution only in the West Virginia school systems. This is totally against my desires to assure that the student body in West Virginia will be taught the Christian values that this nation was founded upon historically.

It is my prayer that you will see that this is not the will of the people of West Virginia as a whole.

Kenny Pack

Please send your e-mail to this address: bwest@access/k12.wv.us

Mary Baldwin

From: Sandra Vanluik [oma00294@mail.wvnet.edu]
Sent: Wednesday, January 08, 2003 10:28 PM
To: bwest@access.k12.wv.us
Subject: Revised Scope and Sequence for CATS Seven through Ten

Brenda,
The Science Dept. of Eastern Greenbrier would like to add our support to the proposed revised grouping of Content Standard and Objectives submitted by Kanawha County.

Sandy VanLuik
Eastern Greenbrier Junior High

Mary Baldwin

From: Gladisjean@aol.com
Sent: Wednesday, January 08, 2003 10:39 PM
To: bwest@access.k12.wv.us
Subject: New Scientific Standards

Ms. Brenda West

I suggest the standards be changed to promote critical thinking, scientific objectivity and religious neutrality regarding origins.

Thank You for reading,
Mrs. Beth Cox, mother of 4

Mary Baldwin

From: Jason Moore [helenboy@yahoo.com]
Sent: Thursday, January 09, 2003 12:33 AM
To: bwest@access.k12.wv.us
Subject: EVOLUTION ONLY?????

To Whom it May Concern:

I was alarmed to hear recently that there is a possibility that some sort of legislation could be passed that would make the THEORY of evolution the only origin of man option to teach in our public schools. Though not shocked, I was alarmed. There has been a disturbing trend in our public schools of late. What is often thought of as a religious term is now being manifested in our school systems. It's what we call "indoctrination". We have become guilty of force-feeding our students one way, and only one, in so many areas. Many students falter because we have only one teaching method: memorize, regergetate, then forget. I am a product of this system myself. We want to make sure that students don't think for themselves; we want to make sure that they think like so many civil rights activists and lobbying groups want them to think. I have an idea. Let's try education. Let's try equipping our youth with the ability to reason. Let's make it possible for them to make intelligent choices. Let's help them to make important life decisions. We all know that the world throws many curves at us at many unexpected places. Let's make sure our children know how to assess the FACTS and make their INFORMED decision based on those, not on someone else's OPINION or fancy thought. Please don't force feed them something that isn't even proven true. If you're going to teach theories, give them all a chance and let the students MAKE UP THEIR OWN MINDS!!!! (Again, based on fact, not theory.) Math, grammar, music...they all have definites. Biological science has definites as well. Evolution is not an absolute. No matter what any lobbyist tries to tell you, me, or our students.

Thank You for Your Time,
Jason D. Moore
Taxpayer, Voter, Concerned Citizen.

=====

Bound and Freed By His Call,
Jason D. Moore
Genesis 4:7

Mary Baldwin

From: Ken & Sheila Lilly [lillypad@wv-cis.net]
Sent: Thursday, January 09, 2003 9:39 AM
To: bwest@access.k12.wv.us
Subject: We oppose Policy 2520.3

Good morning Ms. West:

We would like to communicate that we do NOT support Policy 2520.3. We understand that it is trying to eliminate any hint of religious education by allowing only evolution to be taught. Evolution is not an acceptable theory for origin of man, as it has many challenges trying to prop up its arguments that we have evolved from an amoeba or a happenstance of exploding gases. Thank you for your time.

Ken and Sheila Lilly
101 Skyview Drive
Beckley WV 25801-2198
lillypad@wv-cis.net

Mary Baldwin

From: Jsmithcwfa@cs.com
Sent: Thursday, January 09, 2003 7:25 AM
To: bwest@access.k12.wv.us
Subject: Science Standards

The proposed science standards teach children that the "natural world" is the basis for origins, leading them to believe that man and beast along with the world are merely objects. That impression, if taken to its logical conclusion, has profound consequences. If we are merely the result of natural processes, then eugenics is okay, experimentation on human beings withou consent is okay, and on it goes.

It is wrong to teach only one side of origins...true "academic freedom" gives the students ALL theories and the tools for them to decide. Give them the evidence for all views of origins in an objective way. This does not mean that one has to teach "religion" in the school...the fact that even the smallest organism is irreducibly complex is one way of showing that some sort of design was involved in creation, rather than a mindless and spontaneous event that launched life on earth. Both ideas can be taught side by side and then the child given the ways to explore further if they wish. Give the students a chance to think critically on the most important question in the universe. I am a registered pharmacist and when I went to school science was more about exploring a variety of hypotheses and setting out to prove or disprove them. It was not about promoting an agenda that the hierarchy of scientists who hold a naturalistic worldview need to pr! omote in order to keep their status and grant money coming in.

Education should be about giving students the whole truth, not agendas and pet theories.

J Smith, RPh

Mary Baldwin

From: Ken Lilly [klilly@abc.edu]
Sent: Thursday, January 09, 2003 9:14 AM
To: bwest@access.k12.wv.us
Subject: I oppose Policy 2520.3

I wanted to express my opposition to Policy 2520.3. Thank you!

Kenneth E. Lilly
VP for Business
Appalachian Bible College
P O Box ABC
Bradley WV 25818-1353

Mary Baldwin

From: Don and Joanne Alban [dalban40@citynet.net]
Sent: Thursday, January 09, 2003 9:28 AM
To: bwest@access.k12.wv.us

We would like to say that we do NOT support Policy 2520.3. We understand that it is trying to eliminate any hint of religious education by allowing only evolution to be taught. It is a "religion" of itself and if it is allowed to be taught, then why not can true Christianity be allowed a platform?

Evolution is not an acceptable theory for origin of man, and yet it continues to be put before our children, thus devaluating the beautiful plan of creation that the God of creation has written in His Word for mankind.

Dr. and Mrs. Donald Alban
1800 Maxwell Hill Road
Beckley, WV 25801

Mary Baldwin

From: Paula Toney [ptoney@abc.edu]
Sent: Thursday, January 09, 2003 12:27 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3.

New Year Greetings to You, Ms. West!

I would like to go on record as OPPOSING Policy 2520.3. I believe its proposed intent would be a terrible injustice to the educational system of our State.

Thank you,
Paula Toney
PO Box ABC
Bradley, WV 25818

Mary Baldwin

From: Jim Fritz [jfritz@abc.edu]
Sent: Thursday, January 09, 2003 9:40 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Dear Ms. West,

We would like to let you know that we OPPOSE Policy 2520.3. Evolution is an unverifiable scientific THEORY.

Dr. & Mrs. James and Kathy Fritz
P.O. Box ABC
Bradley, WV 25818
jfritz@abc.edu

Mary Baldwin

From: Walt Burch [wburch@abc.edu]
Sent: Thursday, January 09, 2003 9:40 AM
To: bwest@access.k12.wv.us
Subject: Response to Policy proposal

I wanted to send this communication out to you saying that I strongly oppose Policy 2520.3. How could anyone support such a policy? We will pray that the policy does not pass. This is a battle worth fighting. Satan already has too much control over our children.

Genesis 2:7 is plenty of support against such a liberal policy.

In Christ's service,

Walter Burch
Business Manager
Appalachian Bible College
1-304-877-6428 x3204
wburch@abc.edu

Ephesians 2:8-10

Mary Baldwin

From: Financial Aid [financialaid@abc.edu]
Sent: Thursday, January 09, 2003 10:24 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Dear Sirs:

I am opposed to Policy 2520.3. I do not think that the teaching of evolution as the only origin of man is appropriate. I think

we should be open to share other theories and give young minds a chance to explore and decide for themselves what they

want to believe. The theory of Evolution is simply a theory, man has not been able to prove to my satisifaction that I have

evolved from a slug. I think that you will find it is not as widely accepted as many believe. Again I would like to say that I

am opposed to Policy 2520.3.

Thank you,
Cindi Turner
Beckley, WV

Mary Baldwin

From: Library [library@abc.edu]
Sent: Wednesday, January 08, 2003 10:39 PM
To: 'B. West'
Subject: policy

My name is Gayle Haynes and I am an employee of Appalachian Bible College and I am writing to you to let you know that I am opposed to the policy 2520.3. I do not believe in evolution.

Thank you for your time. May God bless.

Mary Baldwin

From: Secretary to VP for Development [development@abc.edu]
Sent: Thursday, January 09, 2003 1:41 PM
To: bwest@access.k12.wv.us
Subject: OPPOSE POLICY 2520.3

To Whom It May Concern:

I am a voter in the Beckley area and I strongly oppose policy 2520.3.

Jonathan Rinker

Mary Baldwin

From: Dan Carfrey [dcarfrey@abc.edu]
Sent: Thursday, January 09, 2003 10:44 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Hello, Ms. West,

I would like to voice my opposition to Policy 2520.3. As I understand it, this policy seeks to remove teaching of any religious viewpoints pertaining to creation and scientific research in our state. This kind of effort removes any objectivity in the teaching of scientific evidence, which does not support the theory of evolution. If evolution is taught, it should be taught as only a theory, and other viewpoints like the creation account of the book of Genesis should also be talked about. Our forefathers never intended the separation of any religious content in our educational system. They were rather against the establishment of one church over another by way of governmental decree. Those advocating this kind of policy are actually seeking to use government to oppose religion - which is contrary to what true objective education is all about. Thank you. Dan Carfrey, Vice President for Student Services, Appalachian Bible College

Mary Baldwin

From: Shirley Carfrey [scarfrey@abc.edu]
Sent: Thursday, January 09, 2003 11:11 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

We would like to say that we DO NOT support the proposal Policy 2520.3! If our children are to be subjected to the theory of evolution, and it is not an acceptable theory for some -- then how can you eliminate religious education because it is not acceptable to some?
Thank you for taking note of this opinion.

Shirley Carfrey and Dan Carfrey
205 Appalachian Hgts. Rd.
Bradley, WV 25818
Phone: (304) 877 6590
FAX: (304) 877-5082
E-mail: dancarfrey@aol.com

Mary Baldwin

From: ABC Academic Dept. [academics@abc.edu]
Sent: Thursday, January 09, 2003 11:56 AM
To: 'B. West'
Subject: Policy 2520.3

Dear Ms. West:

We would like to indicate to you that we do not support Policy 2520.3. We understand this bill would eliminate all references to religion in public school and only evolution would be taught in Science classes. Evolution is the opinion of some and should not be taught as the only source of the origin of man.

Thank you.

Dennis and Cathy Persinger
225 Forest Road
Daniels, WV 25832
academics@abc.edu

Mary Baldwin

From: Timothy Dillon [tdillon21@hotmail.com]
Sent: Thursday, January 09, 2003 11:22 AM
To: bwest@access.k12.wv.us

We oppose Policy 252.3. We don't think evolution should be taught in schools.

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Mary Baldwin

From: Kevin Suiter [ksuiter@abc.edu]
Sent: Thursday, January 09, 2003 12:03 PM
To: bwest@access.k12.wv.us
Subject: Opposition

Dear Ms. West,

I am writing to express my opposition to the WV Board of Education's proposal, Policy 2520.3. In my opinion, there is nothing that has done more to undermine Christian values than the THEORY of evolution as taught religiously in the public school classroom.

Thanks for hearing my objections and registering my opposition to this proposal.

Respectfully,
P. Kevin Suiter, D.M.A.
Music Program Coordinator
Appalachian Bible College
Bradley WV 28642
(304)877-6428, ext. 3255
ksuiter@abc.edu

Mary Baldwin

From: Deborah Brown [dsbrown@access.k12.wv.us]
Sent: Thursday, January 09, 2003 2:37 PM
To: Brenda West
Subject: FW: A question for you Ms. Brown...

FYI

-----Original Message-----
From: Deborah Brown [mailto:dsbrown@access.k12.wv.us]
Sent: Thursday, January 09, 2003 2:28 PM
To: jared robertson
Subject: RE: A question for you Ms. Brown...

Mr. Robertson:

Policy 2520.3, Science Content Standards and Objectives for West Virginia Schools, is out on comment through January 10, 2003. If you have comments that you would like to be part of the official log, you may send those to Brenda West (bwest@access.k12.wv.us).

Deborah Brown, Executive Director
Office of Instructional Services
Building 6, Room 330
1900 Washington Street East
Charleston, WV 25305
Telephone: 304.558.7805
Fax: 304.558.0459
E-mail: dsbrown@access.k12.wv.us

-----Original Message-----
From: jared robertson [mailto:jrobertson13@hotmail.com]
Sent: Thursday, January 09, 2003 1:43 PM
To: dsbrown@access.k12.wv.us
Subject: A question for you Ms. Brown...

Ms. Brown,

Someone at work today gave me a copy of an email that was detailing Policy 2520.3 with the WV Dept of Education concerning the teaching of the origin of man in our school systems.

Could you verify to me that this is true and not a hoax? The email basically says that the Policy mentioned above will limit schools to only teach evolution as the origin of man, and will not permit other orgins to be taught. It asks for responses to go to a Ms. West at bwest@access.k12.wv.us by Friday, Jan. 10.

As a Christian, and as a son of a man who has taught in our school system for over 30 years, I'm shocked and appalled at this suggestion. I want to reply in full to Ms. West, along with many other people I know who feel the way I do, but I did not want to go down this line if this was simply a hoax of some sort.

Thank you for your time,

Jared Robertson

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http://join.msn.com/?page=features/featuredemail

Mary Baldwin

From: GenRev22@cs.com
Sent: Thursday, January 09, 2003 3:26 PM
To: bwest@access.k12.wv.us
Subject: Science Standards

1/09/03

Brenda West,
Office of Student Services
WV DOE Building 6, Room 722.
1900 Kanawha Boulevard East
Charleston, WV 25305

Dear Ms. West:

As a former evolutionist I am pleased to welcome West Virginia into the firestorm that is the origins controversy. I've been watching the proceedings since Kansas in 1999. Ohio was interesting, New Mexico is getting involved and now West Virginia steps up!

You will hear that advocating "Intelligent Design" will lead to teaching religion in school. Not true. Advocating design in intricate, complicated living creatures is no more religious than walking into a room and finding a jigsaw puzzle on the table and recognizing that someone completed it before you arrived. Many scientists are finding the complexity of life's processes leads to the inevitable conclusion that life was designed.

Darwin told us there was an original cell composed of simple compounds, such as proteins and amino acids and no more complex than Jell-O. Now we are finding DNA (required for the simplest reproduction) is more complicated than a jigsaw puzzle and contains more information than the Encyclopedia Britannica. How does "information" develop without an outside source? Wouldn't that be a great question for science class?

No, according to the National Academy of Sciences, the American Association for the Advancement of Science and other mainline groups. They claim teaching ID would be "religious" and not allowed under our Constitution. This is not correct. Teaching various theories of origin in our schools can be done if the intent is clearly science education. If the course is not predominately religious the teaching of a possible "Designer" is not religious in itself.

According to the Supreme Court (Edwards v. Aquillard), teachers have (the) flexibility to present theories, besides evolution, about the origin of life.

I hope you are aware Intelligent Design is not a fringe viewpoint. More and more research scientists are seeing the evidence, since it is honest and compelling and becoming proponents at the expense of the established science community.
Others are taking a stand. Gallup Poll surveys over the last 16 years show that only 10% of Americans believe pure chance and natural (random) process explain life.

Good luck in trying to do determine what is best for your students. The scientific method, investigation and study seem to take a back-seat to rhetoric and obfuscation. Remember, in class there is no such thing as a

dumb question. Only when questions are not asked will ignorance prevail.

Best regards,

Brad Cook
Avondale, MO 64117
Genrev22@cs.com

Mary Baldwin

From: Admissions [admissions@abc.edu]
Sent: Thursday, January 09, 2003 5:47 PM
To: bwest@access.k12.wv.us
Subject: response to policy 2520.3

I am in strong opposition to policy 2520.3.

To try to eliminate all reference to religion in public schools is unfortunate. In no way does a simple reference to or even practice of a specific religion provide any type of determination of endorsement of said religion by that school. Religion is a part of who we are as human beings, and Americans. To not allow teachers, students, school systems, etc... the opportunity to reference religions, religious exercises, or to even expose students to a variety of teachings and practices with what they may allow is to reject what and who we are as Americans and is against all principals and purposes of education. The problem arises when certain religions or religious practices are not allowed to be referenced or practiced, and some are.

The intent of trying to appease one by subjecting the many to unnecessary restrictions dismisses the rationale of striving for the "common good" which is what should be considered. Individualism becomes extreme when it dismisses the idea of ever suffering personal offense. Neither should decisions of this magnitude be made solely under pressure of minority thought, which is usually the case...a small minority fighting for its own rights as individuals at the expense of the rights of the majority (greater

good). The individual is to respected and can be, but the principle of "toleration" as it is too often defined, disregards the issue of respect and demands that the individuals actions be accepted and allowed and embraced to the exclusion of the rights of the many.

Mary Baldwin

From: Ferguson839@cs.com
Sent: Thursday, January 09, 2003 6:30 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

I am writing in regard to Policy 2520.3. I feel our children should be given more than one option when it comes to explaining origins of life. I understand the theory of evolution has its validities as far as the science world has shown them, but I believe their may be other possible explanatios. Our children should be allowed to think for themselves on some issues and this should be one of them. Evolution is only a theory, but it is being taught as if it was a fact therefore it is only one side of the explanation. Therefore other theories should be included in Policy 2520.3.

Sincerely,

Benjamin Ferguson
260 Bridge Court
Dry Creek, WV
25062

Mary Baldwin

From: Charles Porterfield [dcep@cwv.net]
Sent: Thursday, January 09, 2003 9:06 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

As healthcare professionals and parents, we support the inclusion of Intelligent Design in the science curriculum. Otherwise, exposure only to the theory of Evolution would result in a narrow education of our children. Thanks.

Charles Porterfield, DO

Denise Porterfield, MA, RD

Mary Baldwin

From: Erica Dillon [yesdillon@hotmail.com]
Sent: Thursday, January 09, 2003 9:25 PM
To: bwest@access.k12.wv.us
Subject: policy 2520.3

I am a parent and a teacher in the West Virginia school system. I do not like the fact that Policy 2520.3 is trying to teach children that evolution is a fact. I DO NOT want to have to teach this in my classroom nor have my child taught this in her classes. Please amend the policy to state that teachers have the academic freedom to discuss other theories in the classroom. Children should have the right to have other views presented and then think and make the decision for themselves. Please revise the policy to reflect my standards

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Mary Baldwin

From: Daniel [dkhoskins@charter.net]
Sent: Thursday, January 09, 2003 9:26 PM
To: bwest@access.k12.wv.us
Subject: Science Standards Comments

Ms. West,

When I first heard that the WV science standards were being revised, my mind went back to my 10th grade Biology class. Within the first week of school, my teacher stated that she wouldn't cover Evolution because it was too controversial. Students need to understand why it is a controversial subject and should be taught about the **scientific** evidence for and against evolutionary theory so that they may learn critical thinking skills and be able to make an educated and informed decision on the subject.

Daniel K. Hoskins
5913 Church Drive
Charleston, WV 25306

Mary Baldwin

From: George Canterberry [glc_25827@yahoo.com]
Sent: Thursday, January 09, 2003 9:42 PM
To: bwest@access.k12.wv.us
Subject: policy 2520.3

i'm sending this e-mail to let you know that i am very oppossed to the policy 2520.3 that will teach you only evolution in science. i think that would be very wrong.

thank you,
glc_25827@yahoo

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Mary Baldwin

From: angie smith [spanky115@hotmail.com]
Sent: Thursday, January 09, 2003 9:42 PM
To: BWest@access.K12.WV.US
Subject: LEAVE GOD IN SCHOOL

I OPPOSE 2520.3 GOD CREATED US!

ANGIE SMITH

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Mary Baldwin

From: Skrewdriverfan@aol.com
Sent: Thursday, January 09, 2003 10:26 PM
To: bwest@access.k12.wv.us
Subject: West Virginia Science Standards

Please recorde the following comment from my email for the publication which has a posting deadline of Jan. 10 Thank you, Aaron

The standards are explicitly premised on philosophical naturalism. Beginning in Kindergarten, children are to learn that they are merely natural objects that have not been designed for any particular purpose. They are to learn that, as natural objects, they just happen or "occur" via a purposeless and unguided "evolutionary" process. The same lesson is prescribed for each following grade level through the 12th grade. This is wrong. Please change the standards to eliminate that problem.

Mary Baldwin

From: calmquist@nisource.com
Sent: Thursday, January 09, 2003 10:32 PM
To: bwest@access.k12.wv.us
Subject: WV Science Standards

Dear Ms. West:

I am a concerned parent residing in Kanawha County with three children currently in the elementary grades. I am a Senior Engineer at Columbia Gas with a degree in Petroleum Engineering having graduated with honors with a 3.6 GPA. Geological Sciences is something I understand quite well. But as an objective student of science, I haven't simply accepted the evolutionary dogma I was taught. I have done considerable other reading regarding matters of origins, regarding criticisms of evolutionary theory, and regarding evidences for intelligent design.

I have found the criticisms of evolution to be well founded. Some evolutionists have abandoned Darwinian 'gradual' evolution and espouse rapid and large changes from one species to another. This is referred to as punctuated equilibrium. They have had to resort to theories such as this that are much harder to believe simply because the evidence for Darwinian evolution is so poor. If Darwinian evolution were correct, there ought to be millions of intermediate forms in the fossil record. But as best as I can tell, there are no valid intermediate forms, though a few examples are confidently spoken of. But there should be millions of in-between forms! Numerous forgeries of supposed 'links' have been uncovered over the years, but most textbooks still present these forgeries as accepted scientific links, even though these 'links' are now clearly documented as forgeries.

Thus you can understand my concern when I read the new WV science standards and see that naturalism and Darwinian evolutionary theory are still set forth as a scientific fact that our students are to be taught -- without any opportunity for the teacher to present any of the several huge problems inherent with this theory. For example, evolutionary theory completely violates the first and second laws of thermodynamics ! These are known observable scientific laws. And yet we are to believe that somehow in past years these laws could easily be abbrogated so that evolution could occur. Every observable mutation we see today is harmful to life and reproduction, yet we are to believe that mutations in the past were beneficial ?!

Our students deserve better ! They should be taught to think and not to accept things blindly. They should be given the opportunity to hear opinions that differ from the accepted norm. (I would be glad to assist our teachers by providing an outside opinion - to the extent that my work would allow, anyway,.) As best as I can tell, the accepted norm is based more on religious conviction than on a true weighing of all the evidence. I am utterly amazed at how most evolutionists staunchly defend their faith with no willingness to evaluate the evidence.

It is thus my recommendation that the WV Science Standards be revised so

that the naturalistic assumptions of evolutionary theory be clearly exposed. The one-sided naturalistic teaching that natural objects and systems are not designed should be eliminated. Instead, an objective should be established stating that students should be able to critically analyze the evidences for naturalistic evolution and for intelligent design and be able to present what they perceive to be the best evidences for both theories.

It is also recommended to revise the Standards so that children are not introduced to origins science until they attain an age and maturity to be able to understand the philosophic implications of the competing theories, presumably around 10th grade or so.

Sincerely,

W. Craig Almquist
4803 Virginia Avenue
Charleston, WV 25304

Mary Baldwin

From: Robert C Patterson [curtcb68@juno.com]
Sent: Thursday, January 09, 2003 11:08 PM
To: bwest@access.k12.wv.us
Subject: Fw: A personal Plea

Ms. Brenda West
Building 6, Room 722
1900 Kanawha Blvd., East

Email: bwest@access.k12.wv.us

FAX: 558-1613

Dear Ms. West,
I have been requested to choose one of the following 16 comments that best expresses my heat felt belief. I can not make such a decision because each summaries how I believe about this subject. etc.
Thank your for your kind consideration,

Robert C. Patterson
626 Pioneer Lane
Charleston, WV 25312
Curtcb68@juno.com

Suggested comments (CHOOSE ONE):

1. We are worried about the teaching objectives of the West Virginia Science standards as they relate to the origin of life and its diversity. Please change the Standards so children are not indoctrinated with evolutionism and add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

2. Although our origin is a legitimate scientific inquiry, it also is a subject that unavoidably impacts religious and nonreligious beliefs. As such, I believe it should be taught objectively without any philosophic, religious or naturalistic bias or assumption. Please change the standards so evolutionism does not dominate the instruction on origin and diversity of life.

3. Scientific objectivity will lead to good science and religious neutrality. Origins is a complex and highly controversial subject and should not be introduced to students until they attain the age and maturity necessary to fully understand given explanations and the implications of those explanations.

4. My concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" or naturalistic world view. This is wrong. Please change the standards to eliminate that problem.

5. The standards are explicitly premised on philosophical naturalism. Beginning in Kindergarten, children are to learn that they are merely natural objects that have not been designed for any particular purpose. They are to learn that, as natural objects, they just happen or "occur" via a purposeless and unguided "evolutionary" process. The same lesson is prescribed for each following grade level through the 12th grade. This is wrong. Please change the standards to eliminate that problem.

6. Teaching students that they are a part of a "natural world" that is not designed is philosophy and not science. It is the philosophy of Naturalism. Naturalism is a belief that life emerges via purely unguided natural processes and not by design. Naturalism is the fundamental tenet of atheism, agnosticism and secular humanism while design is the fundamental tenet of theistic religion. This is wrong. Please change the standards to eliminate that problem.

7. Science has not established via the scientific method or any accepted evidentiary basis that life is not designed. Instead a significant and growing body of evidence exists to the contrary. However, the proposed standards, while claiming that life is not designed, ignore evidence for design by setting no objectives for the investigation of the design hypothesis.
This is wrong. Please change the standards to eliminate that problem.

8. The standards establish objectives that will lead to an understanding about "Evolution Only." Absent are objectives that will encourage critical analysis of that theory or any objective consideration of alternative theories. In this respect the standards are one sided and dogmatic. Their obvious objective is to promote a Naturalistic world view. This is wrong. Please change the standards to eliminate that problem.

9. Origins science is the science which seeks to answer the questions "What is the origin of life? What is the origin of the diversity of life? Where do we come from?" By seeking to discuss these questions with children, West Virginia has taken on an activity that will unavoidable impact religious and nonreligious beliefs. Rather than take sides on an issue so important to religion, the standards should address the subject with strict scientific objectivity. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

10. I suggest the standards be changed to promote critical thinking, scientific objectivity and religious neutrality regarding origins.

11. Please revise the Standards so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations. Also, please add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

12. Please revise the Standards to eliminate the naturalistic teaching that natural objects and systems are not designed. Replace those one sided teachings with objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses. [In particular see Standard 3 and Standard 5 where students at every grade level are to learn that systems are divided into natural systems and designed systems and that the distinguishing feature of natural objects and man made objects, is that the former are not designed for a purpose.]

13. Please add to the Standards explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

14. Please add to the Standards objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science. [The unstated naturalistic assumption is that the natural world is not designed. Instead of identifying this assertion as a mere assumption, the standards imply that it is a self evident fact. Appropriate disclosure of the assumption is consistent with performance descriptors already contained in the standards, such as those that encourage students to "predict the impact of skepticism, bias, methodology, logical reasoning and creativity on scientific investigations."] Also, please add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.

Mary Baldwin

From: melissa hylton [nahylton@yahoo.com]
Sent: Thursday, January 09, 2003 11:11 PM
To: bwest@access.k12.wv.us
Subject: i oppose policy 2520.3

Myself and my mother-in-law, Judy Hylton (no email), would like to make it known that we oppose policy 2520.3 Evolution is not how we came to exist and shouldn't be taught in our schools. Darwin even admitted that we were created by God before he died.

Peace be With You

Melissa

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Mary Baldwin

From: J. B. Pitts [jpitts@nd.edu]
Sent: Friday, January 10, 2003 12:39 AM
To: bwest@access.k12.wv.us
Cc: jpitts@nd.edu
Subject: West Virginia science standards

Dear Ms. West,

As a physicist pursuing a second Ph.D., the second being in the philosophy and history of science, I have had a chance to look over some of the proposed West Virginia educational standards. I have also had a chance to look over the suggestions and comments posted at http://www.IntelligentDesignNetwork.org/wvletter.pdf. I find that these comments generally would improve education in West Virginia or anywhere else, so I encourage you to consider them seriously.

Best wishes,
James Brian Pitts
James Brian Pitts
Ph.D., physics (U. Texas at Austin)
gravitation

graduate student
history and philosophy of science
University of Notre Dame

Mary Baldwin

From: Mary Webb [merry_web@hotmail.com]
Sent: Friday, January 10, 2003 8:15 AM
To: bwest@access.k12.wv.us

I am writing regarding Policy 2520.3. I feel it is not right to teach students only one theory for origins of life. I think that in teaching our children, one of the most important things they should learn is to question different theories. To have an open mind regarding life origins as well as other facets of life, children should be taught all possible theories and then allowed, with parental guidance, to make their own choice as to what they should believe is true.

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Mary Baldwin

From: Business [business@abc.edu]
Sent: Friday, January 10, 2003 9:20 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Atten: Ms. West

We would like to oppose Policy 2520.3. We understand this policy is trying to eliminate all religious education by only allowing evolution to be taught. We do not believe in evolution and would want the Biblical viewpoint presented as well. Thank you for allowing our voice to be counted.

Ed and Donna Chesley
PO Box ABC
Bradley, WV 25818

Donna Chesley
Secretary to the V.P. for Business
Phone - (304) 877-6428
Email - business@abc.edu
Home - (304) 877-5618
Home email - donnac1@inetone.net

Mary Baldwin

From: Melody Wallen [MWallen@lewis-goetz.com]
Sent: Friday, January 10, 2003 10:05 AM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Ms. West:
I am writing you regarding policy 2520.3. As a parent of two daughters attending school in Raleigh County, I firmly believe that Intelligent Design should be included in the sciences along with the theory of evolution. Only teaching the theory of evolution, would not only limit the childrens' education, but cause more confusion for them, as well.

Please consider parents' opinions on this policy.
Thank you,
Melody Wallen

Mary Baldwin

From: david adler [dadlerwv@hotmail.com]
Sent: Friday, January 10, 2003 10:09 AM
To: bwest@access.k12.wv.us
Subject: WV Science Standards: Scientific Inquiry and Origins Teaching

Dear Ms. West -

Controversy surrounding the teaching of origins theory seems to be an ever-present issue.

Much evidence and most scientifically-minded people support the concept of naturalism and evolution. Yet each year new findings are incorporated into the naturalism / evolution model, significantly altering previous assumptions. Further, the proponents of origin-by-design have evidence that, to an open minded individual, clearly shows inconsistencies within the evolutionary model.

We are presented with a wonderful opportunity to teach our children how to honestly investigate multiple views in an area of scientific thought. From hypothesis to conclusion, we can choose one of three paths. We could choose to ignore certain scientific evidence, and teach origin-by-design only. We could choose to ignore other evidence, and teach natural / evolution origin only. In my opinion, either of these two approaches is wrong and would be a disservice to our children. The third choice is far better: to present both sides of this issue (in an unbiased manner) along with the supporting evidence, and teach our kids how to inquire objectively, think critically, and evaluate the results.

Now isn't this what science is all about?

I ask that the West Virginia Science Standards adopt this or a similar approach.

Thank you.

David Adler
St. Albans, WV

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Mary Baldwin

From: Kevin J Bahr [kevinbahr@juno.com]
Sent: Friday, January 10, 2003 12:17 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

I am writing regarding policy 2520.3. Our science classes are only teaching evolution. This is only a theory, but it's being taught as fact. If you have to make a decision regarding school policy, you don't only hear from the janitor do you? Or not just the financial department. Or not just the teachers. Or not just the students. You hear all the reasonable opinions and make a decision based on all the information. Our children deserve at least that much. Separation of church and state was established to protect the church from the government controlling it; not to keep God out of the school. I challenge you to travel to a muslim nation, or a hindu nation and tell them they can't pray to their god in public. Or even mention him as a theory. This nation was founded "under God", and the laws based on the bible. To remove God from the school system would be an outrage.

I thank you for your time and consideration in this matter.

Sincerely yours,
Kevin Bahr

Dr. David Stewart, Superintendent
West Virginia Department of Education
Capital Complex
Charleston, WV

Dr. Stewart,

The current comment response forms for the Standards and Objectives do not provide an opportunity to comment on the major problem with the Standards and Objectives for Science. The major problem here is that they are too unrealistic for effective instruction in grades 7-10. In grades 7-10 science instruction needs to become more focused. The Standards for these grades need to set forth a lab based coordinated and thematic science program that is consolidated and teachable.

A group of science teachers in Kanawha County have developed a working draft of Standards and Objectives for 7-10 Science that would improve the effectiveness of science instruction dramatically. These standards have the science processes and science content organized in a pattern that will empower teachers to teach more and students to learn more.

For a number of years we have struggled to implement the CATS program. We understand its strengths and weaknesses. Unlike the current revision out on comment which built on the weaknesses and is hard to understand and impossible to implement effectively, this working draft has kept the strengths and built a strong program on these strengths. This draft has organized the science standards into a format we can understand and will be able to implement.

We respectfully request your support for the adoption of a set of Standards and Objectives for 7-10 Science similar to those set forth in the working draft. Furthermore, I feel that if the State's Proposed Content Objectives stay the same, I will be forced to switch jobs to a different teaching area. The states proposed content area are so scattered that I find it hard to keep continuity within the classroom especially since there is no one textbook that covers all those objectives effectively. A textbook not aligned with the objectives is especially hard for beginning teachers as well as seasoned teachers. The proposed Kanawha County Objectives are much better but still need some work. Please work with the Science teachers of this state and help us improve science education even more. I look forward to hearing the state's opinion of the Kanawha County proposal.

Sincerely,

Nicholas P. Belmont

Mary Baldwin

From: Donald McCallister [dfmccallister@yahoo.com]
Sent: Friday, January 10, 2003 2:17 PM
To: bwest@access.k12.wv.us
Cc: Gov@wvgov.org
Subject: West Virginia Science Standards-Policy 2520.3

TO: Ms. Brenda West
Office of Student Services and Assessment
Building 6, Room 722
1900 kanawha Boulevard, East
Charleston, WV 25306-1613

From: Don McCallister
206 Vanvoorhis St.
Beckley, WV 25801

Dear Ms West:

I am writing to you today to offer my comments regarding Policy 2520.3, West Virginia State Science Standards.

The children of West Virginia deserve better than this one sided approach. Our children should be offered the opportunity to hear other sides if available, not only one side(and that side being a theory only that many, many scientists today believe is full of error with no physical or scientific proof.

On the other hand teachers and students of West Virginia should be allowed to teach and the students hear that another approach to this question of where did the earth come from and how did we get here is offered in a book called the Bible which written over 450 years ago in our English translation, unlike Darwin's theory has never to my knowledge scientifically or otherwise been proved to be scientifically or otherwise wrong. On the other hand I have heard the testimony of many scientist who have set out to disprove the Bible and have found it to be true and become believers in the book. Not only has it never been disproved but it remains the most read book ever written.

Now if the next thing you would say is that you are by law requiredseparaterate the Bible from education because of a "theory"separationtion of Church and state, I would offer that this is also a theory and upon proper examination of the facts is a flawed "theory". Upon examination of men who wrote our Constitution anyone wanting the facts would find that all but two of these men where either pastors or

elders in their respective churches or former churches and would in no way design a law that would keep the Bible out of the hands of teachers or students in America.

The other point I feel needs to be considered is an economic point for the State of West Virginia, The West Virginia Department of Education and your division. i believe if this policy #2520.3 is allowed to stand and no other theory or truth is taught in our public schools , there will be a mass exit over take place over the next two to three years from West Virginia public schools to private Christian schools because parents want their child to be taught all theories or truths about how and why the earth exists. If my theory is played out and West Virginia Schools as they have over the last several years loose more enrollment due to the policies could the Governor and the other budget bodies of this great state say less enrollment means less need for salaries in State Agencies. Governor Bob Wise is already correctly looking in this direction so I ask why would you and your department give them more to work with by allowing a policy that will drive more students, teachers and families out of our state system, and in doing so creating a situation which will surely create less students creating less need for people in the state agency.

I would offer a better use of department funds and personnel in looking into the theory that West Virginia has not lost as much enrollment as is stated but that most of that enrollment drop has switched to private schools and could such a restrictive policy as 252createreat the biggest exit to date causing loss to the West Virginia Public School funding.

Thank you for the opportunity to express my concerns and my comments.

GOD BLESS AMERICA, GOD BLESS WEST VIRGINIA, and GOD BLESS YOU.

Donald F. McCallister
206 Vanvoorhis St.
Beckley, WV 25801

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Mary Baldwin

From: Freddy Lilly [FLilly@lewis-goetz.com]
Sent: Friday, January 10, 2003 2:40 PM
To: BWEST@ACCESS.K12.WV.US
Subject: POLICY 2520.3

Please Teach Intelligent Design along with Evalution.

THANKS VERY MUCH

FREDDIE LILLY

Mary Baldwin

From: Debbie McVey [DMcVey@lewis-goetz.com]
Sent: Friday, January 10, 2003 2:44 PM
To: 'BWest@access.K12.WV.US'
Subject: Policy 2520.3

Please teach intelligent design along with evolution.

Thanks,
Debbie McVey

Mary Baldwin

From: Hollyjeanlilly@aol.com
Sent: Friday, January 10, 2003 2:38 PM
To: bwest@access.k12.wv.us
Subject: (no subject)

Ms. West,

We are writing to let you know that we DO NOT support Policy 2520.3. We don't believe that evolution should be taught to our students. THANKS, Robert and
Elva Jean Lilly, 123 Walter St., Beckley, W.Va. 25801

Mary Baldwin

From: Joanne McCallister [jcmiteach@yahoo.com]
Sent: Friday, January 10, 2003 3:51 PM
To: bwest@access.k12.wv.us
Subject: Policy 2520.3

Dear Ms. West:

As a West Virginia teacher (St. Francis de Sales School, 4th grade), I feel all students in the state of West Virginia deserve to be taught all known views of how the earth came into being so they can process this information and make decisions for themselves.

They certainly get enough of one side in school and they should be presented all sides.

I certainly do not want only creation taught, but all evidence should be presented and explained.

Sincerely,

Joanne C. McCallister

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Mary Baldwin

From: Janelewisclay@aol.com
Sent: Friday, January 10, 2003 4:35 PM
To: bwest@access.k12.wv.us
Subject: darwinian evolution

. policy2520.3 appears to promote evolution as the only truescience regarding origins of life.evolution is only a theory.there is much disagreement within the scientific community regarding this theory. If this theory has any merit then it should be able to withstand critical examination.children should have other views to be able to think critically. please revise the policy to reflect this.

Mary Baldwin

From: Arielroth@cs.com
Sent: Friday, January 10, 2003 9:22 PM
To: bwest@access.k12.wv.us
Cc: jcalvert@worldnet.att.net
Subject: Comment on Science Standards

Dear Ms. West:

I have looked at the comments and suggestions made by the IDnet about the West Virginia Science Policy submitted on January 6, 2003. I favor these suggestions and any other ones that will introduce a spirit of inquiry and academic freedom in the science classroom. Science needs to be introduced as an open search for truth, not as a restricted and closed system of thought. In fairness and concern for all, alternatives to evolution need to be considered.

Ariel A. Roth, Ph.D., in Zoology, University of Michigan; Editor of ORIGINS for 23 years; Consultant and/or witness to the States of California, Oregon, and Arkansas regarding the teaching of origins.

Mary Baldwin

From: Anita [aplacidi@charter.net]
Sent: Friday, January 10, 2003 9:38 PM
To: bwest@access.k12.wv.us
Subject: I oppose policy2520.3

I don't think they should teach evolution in schools.

Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.441 / Virus Database: 247 - Release Date: 1/9/2003

Mary Baldwin

From: GenRev22@cs.com
Sent: Saturday, January 11, 2003 1:44 AM
To: bwest@access.k12.wv.us
Subject: Cobb County GA

Ms. West,

In my e-mail of yesterday I forgot to mention that the Cobb County, GA. school board recently voted to allow teachers the latitude to discuss both intelligent design and the naturalistic assumption that supports evolutionary theory:

"Discussion should be moderated to promote a sense of scientific inquiry and understanding of scientific methods and to distinguish between scientific and philosophical or religious issues."

Evolution is supported by a philosophical assumption that only natural causes exist. One can not really "understand" this issue without discussing the other cause: design.

Here is a press release regarding their choice.

++

Cobb County Gets It Right
By Larry Taylor

As a parent with three children in Cobb County, Georgia middle and high schools, I have been following with interest the evolution controversy that has divided our community for months. Now that the school board has issued its implementation guidelines for teachers, advocates on both sides of the issue are spinning the final outcome to proclaim victory. For parents and teachers alike to fully understand how the new policy guidelines will impact science instruction, a careful review of the facts may be helpful.

First, the new policy guidelines restrict the classroom instruction to the approved curriculum only. While on the surface this seems to be a defeat for the opponents of Darwinism, it is really a victory for fairness to those of all viewpoints. Upon careful review of my children's science textbooks, I have found no assertions that evolution on the grand scale (macro-evolution) has been proven to be true. In fact, the textbooks go out of their way to present macroevolution in vague terms such as "some scientist think" and "we'll never know for sure". Contrary to this uncertainty however, some Cobb science teachers insisted otherwise in public debates before the school board, and even went so far as to attack those holding opposing views as "uneducated", "right-wing", and "extremists", as well as an assortment of other outdated stereotypes. While these teachers are certainly free to hold these politically incorrect views, the new policy insures that their personal beliefs and biases are not interjected into the classroom instruction.

Second, the new policy guidelines mandate that teachers allow classroom discussion concerning the controversies surrounding evolution,

as long as the discussions remain scientific in nature. The policy goes on to state that it "may be appropriate to acknowledge that science itself has limits" and doesn't have all of the answers, and that discussions about scientific theories and religious beliefs need not be necessarily exclusive of each other. In other words, if a student would like to discuss in class the growing mountain of scientific evidence against macroevolution such as the troublesome fossil record and the lack of transitional fossils, then this policy guarantees the right to do so. The policy also opens the door to discussions about other scientific viewpoints and concepts such as "irreducible complexity" by Lehigh biochemist Dr. Michael Behe and "design inference" by Baylor mathematician Dr. William Dembski.

Third, the policy states that under no circumstances should teachers use instruction in an effort to coerce students to adopt a particular religious belief or set of beliefs. While this appropriately insures against a Christian teacher coercing a Jewish, Muslim, or agnostic student with religious indoctrination, it also correctly prohibits the teacher from indoctrinating a religious student with the naturalistic ideology that life arose spontaneously from nonliving matter with no assistance from a divine or intelligent agent. Furthermore, the policy instructs teachers to show respect for the personal religious beliefs of all students and to maintain a posture of neutrality towards religion, and forbids them from interjecting their personal faith-based beliefs, or lack thereof, into the classroom instruction.

The policy closes with a pledge of support for teachers who teach this controversial and divisive subject with professionalism and objectivity. Cobb County is blessed with some of the best and most dedicated teachers in America, and those that handle controversial subjects such as these with sensitivity, honesty and objectivity deserve our full support and appreciation. The Cobb school board also deserves credit for the courage and foresight to address this issue, and perhaps unwittingly, for creating a blueprint for other school districts on how science instruction need not be a divisive influence in a community.

Larry Taylor is a founding member of Parents For Truth In Cobb, an advocacy group supporting objective science instruction. For information or comments, send emails to: botay1@juno.com; or write to: Larry Taylor, Parents For Truth In Cobb; 1050 East Piedmont Rd., Suite E-103; Marietta, Ga., 30062.

++

Best regards,

Brad Cook
Avondale, MO 64117

Mary Baldwin

From: Joe Wynne [jwynne@charter.net]
Sent: Saturday, January 11, 2003 9:35 AM
To: bwest@access.k12.wv.us
Subject: Oppose Policy 2520.3
Importance: High

We would like to communicate that we do NOT support Policy 2520.3.

Mary Baldwin

From: Amanda Moore [manda_dayl@yahoo.com]
Sent: Saturday, January 11, 2003 2:09 PM
To: bwest@access.k12.wv.us; afawv@afo.net
Subject: Evolution policy #2520.3

To whom it may concern,

I write to voice my opinion and hopefully to influence those who represent us (as a nation) legally. I have recently heard about the law that's being voted on which could leave our children with no choice. Our nation cries constantly...when in favor of a more liberal choice...that we should have CHOICE. But, if we take away the option for our children to hear the story of Creation and even other theories (as some would say) then we make Evolution fact and not theory. As a Christian, I would like to see only Creation taught. However, in all fairness, I would expect that those who don't believe in the Bible would want options....other "theories". But, I ask that you not make our children's choice for them. If you do, I will assume that Evolution is no longer theory, but fact. Having studied it myself, I know the flaws of the theory of evolution. It is far from fact. As a voter and concerned paren! t....I hope that you'll hear the voice of us who stand against the abandonment of intelligent choice.

Thank you for your work on our behalf,

Amanda Moore

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Mary Baldwin

From: Barbara Smith [BASmith@dot.state.wv.us]
Sent: Monday, January 13, 2003 8:39 AM
To: bwest@access.k12.wv.us
Subject: standards sent 1-10-03--resent 1-13-03

Ms. Brenda West
Building 6, Room 722
1900 Kanawha Blvd., East
Charleston, WV 25305

The educational process in our schools should encourage many different concepts. Critical thinking, along with objective and thorough investigation of data and theories in all areas of study is necessary to ensure the success of the educational program. The focus on critical thinking is a reflection of the times in education. Schools should teach children how to think through ideas.

The two competing ideas on the origins of life should be discussed thoroughly. There is no scientific proof for either view. Both are un-testable ideas and require a measure of blind faith to even become a theory.

It is important that issues be treated seriously and with respect, and yet with the integrity of critical thought and serious examination.

I believe that ALL textbooks should state the truth, be held accountable for mistakes and any material that has been proven wrong should be taken out of the new books.

Please add to the Standards explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

Barbara Smith
409 Second Street
Evans, WV 25241

Mary Baldwin

From: carmen silliman [ht_silliman@hardynet.com]
Sent: Monday, January 13, 2003 8:55 AM
To: bwest@access.k12.wv.us
Cc: barbara@bfish.org
Subject: science

Hi Brenda
Someone sent me the article on ID and teaching of Evolution in WV schools and your address. I may be a strong Democrat but I am not a believer in evolution. There is such a thing as a "soul" involved with humans and Animals do not have souls. I fought this in the San Antonio Tx Schools in 1973. I guess you were to get comments.This is the web site.
> http://lyris.nmt.edu/cgi-bin/lyris.pl?enter=ceseducks&text_mode=0&lang=e
Carmen Silliman
Moorefield
ID is preparing an assault on science curriculum in W VA, last night
> there were no scientists at the school board meeting, not a good
> sign. If you have colleagues in WVA, please notify them that they
> need to act fast to avoid losing evolution from their K-12 curriculum
> and getting intelligent design instead.
> --
> Sarah L. Pallas, Ph.D.
> Associate Professor
> Dept. of Biology
> Georgia State University
> P.O. Box 4010
> Atlanta, GA 30302
> tel 404-651-1551, fax 404-651-2509
>
> Me again:
>
> West Virginia standards at http://wvde.state.wv.us/ and on the left
> side, under "Board of Education" click on "Board Policies". The Science
> Standards are 2520.3.
>
> Send your comments to:
>
> Ms. Brenda West
> Office of Student Services and Assessment
> Building 6, Room 722, 1900 Kanawha Boulevard, East
> Charleston, West Virginia 25305-0330
> Email: bwest@access.k12.wv.us Fax: 558-1613
>
> Here are more contacts:
>
> Howard M. Persinger, Jr., President
> Sandra M. Chapman, Vice-President
> Ronald B. Spencer, Secretary
> Delores W. Cook, Member
> Barbara N. Fish, Member
> Sheila M. Hamilton, Member
> Paul J. Morris, Member
> Dr. Michael Mullen , Ex Officio
> Chancellor, The West Virginia Higher Education Policy Commission
> Dr. David Stewart, Ex Officio

Mary Baldwin

From: Mekisner@aol.com
Sent: Tuesday, January 14, 2003 7:08 PM
To: bwest@access.k12.wv.us
Subject: RE:Proposed Science Standards

My concern is that the proposed West Virginia Standards do not reflect objectivity in teaching objectives for origins science. Instead they seek to promote an "Evolution Only" as a naturalistic world view. This is dogmatic. Please change the standards to eliminate that problem.

Origins science should seek to answer the questions: What is the origin of life? What is the origin of the diversity of life? Where do we come from? By seeking to discuss these questions with children, West Virginia has taken unavoidable impact on religious and non-religious sec rather than take sides on an issue, the standards should address the subject with strict scientific objectivity. Please change the standards to add objectives that would encourage students to investigate and critically analyze the evidence which supports both the design and naturalistic hypotheses.
Thanks for listening.
mekisner@aol.com

Mary Baldwin

From: Ruby, Steve [SRuby@wvgov.org]
Sent: Tuesday, January 14, 2003 11:04 PM
To: bwest@access.k12.wv.us
Subject: 2520.3

Brenda,

My name is Steve Ruby; I work for Secretary Goodwin. I'm not sure if the Secretary's asked you yet, but at the Governor's request, we were wondering if you'd mind sharing with us any comments you received on policy 2520.3 during the comment period. We're trying to gauge the likelihood of any sort of public controversy over the natural selection provisions of the policy, so if you have any idea that the intelligent design folks are going to raise a fuss, I'd appreciate a heads-up. Thanks!

Best,

Steve Ruby
Special Assistant for Policy
Office of the Secretary of Education and the Arts
304.558.2440

Mary Baldwin

From: John Parks [JParks@wvutech.edu]
Sent: Wednesday, January 15, 2003 9:52 AM
To: bwest@access.k12.wv.us
Subject: Science in West Virginia

Hi Brenda! I have been given your name as a contact person in the Board office as a person to whom I could send a thought. I am a Science Professor at WV Tech and fully support the teaching of science and biology with the perspective that life has changed though time and will continue to change through time, that indeed, survival of the species is randomly based on the selection of genes that aid the survival of the species in an ever changing world. The history of this earth fully supports this view, and to even consider that "somebody" designed the system is absolutely ridiculous, and, certainly outside of our attempt to educate people. If I can be of assistance just let me know. Thank You, John Parks

Mary Baldwin

From: Dawn Warfield [warfield_dawn@hotmail.com]
Sent: Thursday, January 16, 2003 11:32 AM
To: bwest@access.k12.wv.us
Subject: Science Standards

Ms. West:

PLEASE do not replace information about evolution in our children's science textbooks with the so-called "Intelligent Design" theories advocated by nuts like the Raelians.

Dawn E. Warfield
1535 Lee Street, East
Charleston, WV 25311

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evolutionary theory has not been tested by that alternative explanation. This allows evolutionary theory to be incorrectly viewed as "fact" when it actually reflects nothing more than an hypothesis that has not been experimentally tested and that is supported only by a number of historical narratives constructed by human minds using selective evidence and imagination to fit within the framework of a preconceived idea that natural phenomena (including humans) have resulted only from a combination of natural law and chance and not by design.

Implementing Recommendation. To avoid this misinformation, the Policy should require students to understand how the historical character of origins science affects the inherent credibility of its explanations and why those explanations are very speculative.

An objective that might be used to reflect this goal is as follows:

SC 10.x.x.3 Differentiate between historical sciences such as evolutionary biology and experimental sciences like physics and chemistry, understand methods used by scientists to test the credibility of historical hypotheses, understand the limitations of those methods to confirm historical explanations provided and understand how ***bias*** and the ***"choice of what data to consider in the first place,"*** may affect historical explanations.

Conclusion

Standard six deals with the intersection between science in personal and social perspectives.

> **"Standard 6: Science in Personal and Social Perspectives .** Applying science and technological innovations to personal and social issues such as health, populations, resources and environment helps students to develop decision-making skills. As students expand their conceptual horizons, they should recognize that collective individual actions manifest as societal issues. Students must recognize that society cannot afford to deal only with symptoms; personal and societal actions must be focused on elimination of the causes of problems."

Under this general objective, students, among other things are to learn to do the following:

> SC.5.6.1 use scientific reasoning and the knowledge of science and technology to make informed personal decisions at the local and global levels.
>
> SC.9.6.3 describe the impact of cultural, technological, and economic influences on the evolving nature of scientific thought and knowledge.

> to be as ***alert to*** possible ***bias*** in their own work ***as in that of other scientists***, although such objectivity is not always achieved." (emphasis added)

The problem here is not with undisclosed bias among a few independent investigators. It is with an undisclosed bias at the institutional level. The proposed West Virginia standards incorporate that bias by seeking to imbue students with the belief that they are merely natural objects that just occur rather than sentient humans that have been designed for a purpose.

However, contrary to the NAS guidelines, the standards contain no objectives for the disclosure of this bias to students. The failure to disclose that bias can reasonably be expected to lead students to take the naturalistic explanations at face value without knowledge that the explanations are affected by a very selective and naturalistic ***"choice of what data to consider in the first place."*** Clearly, objectives are needed to show students how this naturalistic bias affects explanations about evolutionary theory.

Implementing Recommendation. An objective that could be incorporated into the standards to achieve this result would be as follows:

> "SC 10.x.x.4 Understand that many explanations regarding the origin of life and the origin of the diversity of life are based in part on a naturalistic assumption that phenomena result only from natural causes and not by design. Understand the effect of this bias or assumption on the choice of data considered, the interpretation of data that is considered and the credibility of explanations that are provided.

The second omission is the failure of the standards to establish objectives for learning about the inherent subjective and speculative nature of origins science due to its historical character. Evolutionary biology, is an historical science whose explanations can not be validated by experiment. This is discussed by Dr. Ernst Mayr, a highly regarded evolutionary biologist:

> "....Darwin introduced historicity into science. Evolutionary biology, in contrast with physics and chemistry, is a historical science -- the evolutionist attempts to explain events and processes that have already taken place. **Laws and experiments are inappropriate techniques for the explication of such events and processes.** Instead **one constructs a historical narrative**, consisting of a tentative reconstruction of the particular scenario that led to the events one is trying to explain." (emphasis added)

According to scientists who specialize in historical sciences, the only way to test an historical hypothesis is to show that the available evidence supports one hypothesis ***better*** than it supports any competing hypotheses. The problem is that the prior ***naturalistic commitment*** to the view that systems are not designed protects evolutionary biology from testing by the competing design hypothesis. Due to the ***"choice of what data to consider in the first place,"***

The need for objectivity and the elimination of bias has recently been expressed by Congress when it approved the No Child Left Behind Act and its accompanying Conference Committee Report, which states the following:

> "The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. **Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.**"
> [No Child Left Behind Act of 2001, Conference Report to Accompany H.R. 1, page 703, (December 13, 2001, House Report No. 107-334)]

Implementing Recommendation. An objective that would satisfy this end might be phrased like the following:

SC 10.x.x.6	Understand scientific criticisms of evolutionary theory and the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

5. Add objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science.

The Policy reflects two critical omissions. First, it fails to require students to understand the underlying ***naturalistic bias or commitment*** that is actually reflected in the Policy, that is used by many evolutionary biologists to influence their investigations and explanations, and that inheres in virtually all biology textbooks. Secondly, the Policy fails to require students to understand that explanations about the origin of life and its diversity are by their very nature subjective "historical narratives" rather then facts or laws that have been scientifically confirmed by experiment.

The need to disclose the nature and effect of bias is explained by the National Academy of Sciences in its Publication ***Science for All Americans On Line:***

> "When faced with a claim that something is true, scientists respond by asking what evidence supports it. ***But scientific evidence can be biased*** in how the data are interpreted, in the recording or reporting of the data, ***or even in the choice of what data to consider in the first place.***
>
> ******
>
> "Bias attributable to the investigator, the sample, the method, or the instrument may not be completely avoidable in every instance, but ***scientists want to know the possible sources of bias and how bias is likely to influence evidence.*** Scientists ***want***, and ***are expected***,

4. **Add explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophical, naturalistic or religious bias or assumption and (b) help students think critically about evolutionary theory and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.**

The standards contain a number of excellent objectives regarding the need to evaluate all scientific theories critically and with an open mind:

SC.6.2.8 use ***inferential reasoning*** to make ***logical conclusions*** from collected data.

SC.8.2.3 apply ***skepticism***, careful methods, logical reasoning and creativity in investigating the observable universe.

SC.9.2.1 model and exhibit the skills, attitudes and/or values of scientific inquiry (e.g., curiosity, logic, ***objectivity***, openness, ***skepticism***, appreciation, diligence, ***integrity***, ***ethical practice***, fairness, creativity).

SC.9.2.8 design, conduct, evaluate and revise experiments (e.g., ***identify questions and concepts that guide investigations***; design investigations; identify independent and dependent variables in experimental investigations; manipulate variables to extend experimental activities; use technology and mathematics to improve investigations and communications; formulate and revise scientific explanations and models ***using logic and evidence***; ***recognize alternative explanations***; communicate and defend a scientific argument).

However, students are not encouraged to use these scientific methods of critical analysis when they address evolutionary theory and origins science. Indeed, teachers that have even attempted to criticize evolutionary theory have been subjected to economic sanctions, loss of employment, reassignment and insult. Recently the ACLU filed suit against a sticker being placed on text books that simply advises students that evolutionary theory should be critically considered:

> **"This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully, and critically considered."**

This censorship of criticisms of evolution and discussion of design theory merely demonstrates the ***commitment*** to ***naturalism*** that undergirds the teaching philosophy of national science organizations and the Policy. As a cure to the non-disclosed underlying naturalistic assumption and bias against criticisms of evolutionary theory, the Policy needs to expressly make these principles of objectivity applicable to evolutionary theory and origins science.

the fossil record is more consistent with design theory. Darwin predicted that the fossil record would reflect gradual increases in complexity over time. Instead, the record actually reflects sudden bursts of increased complexity and long periods of stasis. This pattern significantly decreases the time available for the production of complex systems via chance mechanisms. It also is a pattern that is more consistent with the pattern of development of technology - a design process. In any event, the question is an historical question that can not be validated by experiment. It seems highly inappropriate to teach children that the fossil record, as a matter of fact, reflects a scientific explanation for the variation in species and common ancestry. They need to understand the evidence and arguments on both sides of the issue to become properly informed decision makers.

At the AB level, students are to learn the following:

> AB.4.21 discuss evidence of evolution and natural selection, including examples such as peppered moth, fossil records, biogeography, molecular biology and comparative anatomy.

All of these evidences for evolution are extremely controversial from a scientific standpoint. The example of variation in peppered moths as evidence of evolution has recently been discredited as a scientific hoax. See chapter 7 of ***Icons of Evolution*** and the recently published book by Judith Hooper ***Of Moths and Men*** (Norton, 2002).

The selective focus on only natural explanations that will support the **commitment** to naturalism is indicated by this reference to research projects that omits reference to current authors that have criticized evolutionary ideas.

> AB.4.23 research pioneers and current authors of evolutionary ideas.

For lists of over 200 scientists, most of whom hold doctoral degrees, that have questioned evolutionary theory and reasons why "Evolution Only" is so controversial see: ***Recent Polls and Congress Show a Demand For Objectivity in Origins Science*** at http://www.intelligentdesignnetwork.org/Polls.PDF, and ***Ten Reasons why Evolution Only is Scientifically Controversial*** at: http://www.intelligentdesignnetwork.org/tenreas.PDF.

Implementing Recommendation. In conclusion we believe the Policy should be revised so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations. When they are introduced to the subject, perhaps at the 10th grade level, they should be given all the material facts relevant to the issue of ***where do we come from?*** This will then equip them to make informed decisions about matters that may have a major impact on their lives.

This suggestion could be implemented by deleting the following objectives in grades three through eight (together with any repetitions of those objectives during those grades): SC 3.43, SC 4.45, SC 5.46, SC 7.47, SC 7.48, and SC 8.48.

The focus on change via natural processes rather than design is further emphasized in the seventh grade:

> "SC.7.4.7 evaluate how the different ***adaptations*** and life cycles of plants and animals help them to survive in different niches and environments (e.g., inherited and ***acquired adaptations***).
>
> SC.7.4.8 analyze how changes in the environment have led to reproductive ***adaptations through natural selection***.

The focus is to show that changes occur in living systems via a random natural process and not by design. Again, we think the cart is before the horse.

In the eighth grade students are introduced to a central and very controversial evolutionary thesis - that similarities in embryological development of very diverse organisms is evidence of each being derived from a common ancestor:

> "SC.8.4.8 examine how patterns of human development are similar to other vertebrates."

Textbooks typically seek to prove this concept by showing "artistic" illustrations of embryos of various vertebrates that all appear to look alike. This ***similarity*** is attributed to the existence of a common ancestor. In a recent book, a cell and molecular biologist points out that the illustrations have been drawn to intentional distort the true picture of embryological development [Jonathan Wells, ***Icons of Evolution - Science or Myth? Why Much of What We Teach About Evolution is Wrong***, Chapter 5 (Regnery, 2000)]. In fact embryos of different vertebrates are very ***dissimilar.***

The discussion continues in the tenth grade along with a discussion of fossil evidence of evolution:

> <u>Evolution and Interdependence of Organisms</u>
>
> SC.10.4.8 compare the embryonic development of invertebrate and vertebrate animals (e.g., ontogeny and phylogeny, diversity, taxonomy).
>
> SC.10.4.10 recognize that fossil records provide a scientific explanation for variation in the species and common ancestors.
>
> SC.10.4.11 relate the role of natural selection to the development, diversity and or extinction of a species.

There is no essential disagreement that the fossil record indicates significant change over time, together with a progressive increase in complexity. However, the evidentiary value of the fossil record to explain the cause of the diversity is exceedingly controversial. In many respects

This explanation holds that change results only from inheritance or environmental circumstances - natural processes. Students are not invited to consider the alternative or the evidence that supports the alternative notion that the apparent design we see in nature is not just an illusion. It is undisputed that variation within a species may result from natural selection. That is "microevolution." However, no coherent naturalistic theory has been postulated for the existence of life itself and considerable scientific controversy exists as to whether natural selection is sufficient to account for all of the diversity of life. It is inappropriate to begin to lead children to believe something that is controversial and that they are not equipped to understand.

The complexity of the ideas is even confusing to the naturalists that espouse naturalistic theories of the origin of diversity. In the NAS pamphlet on ***Teaching About Evolution and the Nature of Science*** a "common misconception" is explained:

> "One common misconception among students is that individual organisms change their characteristics in response to the environment. In other words, students often think that the environment acts on individual organisms to generate physical characteristics that can then be passed on genetically to offspring. But selection can work only on the genetic variation that already is present in any new generation, and **genetic variation occurs randomly, not in response to the needs of a population or organism.** In this sense, as Francois Jacob has written, evolution is a "tinkerer, not an engineer."[2] **Evolution does not design new organisms; rather, new organisms emerge from the inherent genetic variation that occurs in organisms.**"

The conclusion that changes in biological software occur only by a random mechanism is highly controversial, and is simply a reflection of a prior **commitment** to material and natural causes only.

In the fifth grade, students are introduced to natural selection:

> "SC.5.4.6 explain how the different characteristics of plants and animals help them to survive in different niches and environments including adaptations, ***natural selection***, extinction."

The capacity of natural selection to explain all the diversity of life is highly controversial and has not been experimentally confirmed. It is a speculative theory based on circumstantial evidence about singular events that have occurred in the distant past that has not been tested against the evidence that supports the design hypothesis. We believe it should not be discussed until students have been provided with (a) a general science background that will enable them to understand the scientific issues that bear on the theory and (b) the evidence both for and against the theory. This fifth grade objective seems to put the cart before the horse.

teaching of students a naturalistic world view - a view that supports agnosticism, atheism and secular humanism and that is antagonistic to theistic religions. For an in-depth discussion of the legal issues see http://www.intelligentdesignnetwork.org/LegalOpinion.htm

Implementing Recommendations. The obvious solution to this problem is to replace the teaching that life is not designed with teachings that seek to have students explore the scientific evidence on both sides of that issue in an objective and unbiased way. This will yield a practice that is not only consistent with logic and the scientific method, but one that is also constitutionally neutral with regard to a subject that unavoidably impacts religion and nonreligion. The following is a replacement objective that would accomplish that goal:

> **"SC 10.4.x.1 Understand the scientific evidence and arguments for and against the hypothesis that life and its diversity results only from unguided, natural processes."**

3. Revise the Policy so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophical implications of those explanations.

After teaching first graders that life is not designed, the Policy carries forward this naturalistic theme by introducing at an early age the complex Darwinian evolutionary concepts of "adaptation," common ancestry and natural selection as basics parts of primary education. Thus, in the third grade students are to learn about biological adaptation:

> "SC.3.4.3 compare physical characteristics and behaviors of living organisms and explain how they are ***adapted*** to a specific environment (e.g., beaks and feet in birds, seed dispersal, camouflage, different types of flowers)."

Adapt means "2: to adjust (oneself) to particular conditions or ways: bring (oneself) into harmony with a particular environment: ACCLIMATIZE .... (syn: adjust)" [Random House Webster's Unabridged Dictionary (1999)]

While it is true that living systems appear to be "fit" for their environments, it is not clear that the specific characteristics that enable them to be fit have resulted via adaptation via natural processes or via design by an intelligent cause. Based on the available evidence one could logically infer in a scientifically reasonable way that in some respects life is fitted to its environments, not by adaptation, but by design.

The theme of change via natural rather than intelligent processes is carried on into the fourth grade:

> "SC.4.4.5 understand that plants and animals closely resemble their parents and that some characteristics are inherited from the parents and ***others result from interaction with the environment.***

In ***Epperson v. Arkansas***, the Supreme Court held that it was inappropriate for a state to takes sides on a religious issue by censoring one of multiple theories of origins. Importantly it held that the neutrality that is required inheres not only between differing religious viewpoints, but also between "religion and nonreligion."

> "Government in our democracy, state and nation, must be neutral in matters of religious theory, doctrine, and practice. **It may not be hostile to any religion** or to the advocacy of no-religion; and it may not aid, or foster or promote one religion or religious theory against another or even against the militant opposite. **The First Amendment mandates government neutrality** between religion and religion, and **between religion and nonreligion.**
>
> "As early as 1872, this Court said: 'The law knows no heresy and **is committed to the support of no dogma, the establishment of no sect.**'"
>
> ******
>
> "Judicial interposition in the operation of the public school system of the Nation raises problems requiring care and restraint. Our courts, however, have not failed to apply the First Amendment's mandate in our educational system where essential to safeguard the fundamental values of freedom of speech and inquiry and of belief.....'[t]he vigilant protection of constitutional freedoms is nowhere more vital than in the community of American schools,' *Shelton v. Tucker,* 364 U.S. 479, 487 (1960). As this Court said in *Keishian v. Board of Regents,* **the First Amendment 'does not tolerate laws that cast a pall of orthodoxy over the classroom.'** 385 U.S. 589, 603 (1967)."
>
> *****
>
> "**.....the State may not adopt programs or practices in its public schools or colleges which 'aid or oppose' any religion.** Id. at 225. **This prohibition is absolute. It forbids** alike the preference of a religious doctrine or **the prohibition of theory which is deemed antagonistic to a particular dogma.**" (emphasis added)

Recent Supreme Court decisions have reiterated the need for the state to be neutral when it engages in a practice that "touches" religion. In the June 2001 case of ***Good News Club v. Milford School District*** the Court held that the state violated its obligation of neutrality when it censored after hours use of its facilities by religious clubs. In the 2002 case of ***Zelman v. Harris*** the Court found that the required neutrality was satisfied when a state program did not ***take sides*** between "religious and nonreligious" schools.

Contrary to ***Epperson, Zelman and Good News***, the proposed Policy appears to take sides on an issue that impacts religion and nonreligion. The Policy has as its objective the

Teaching that we are merely natural objects that are not designed is the vehicle for advancing this philosophy. Teaching this philosophy while simultaneously omitting discussion of the design alternative and its supporting evidence amounts to nothing more than a form of indoctrination.

A decision to exclude objective consideration of a body of evidence relevant to the origin of life and its diversity for philosophic reasons is inconsistent with logic, the scientific method and the proposed learning objectives under the Policy. That method and those objectives are focused on the elimination of bias so that the evidence will dictate explanation rather than a preconception of what the explanation "should be."

"SC.9.2.1 model and exhibit the skills, attitudes and/or values of scientific inquiry (e.g., curiosity, logic, ***objectivity***, openness, ***skepticism***, appreciation, diligence, ***integrity***, ***ethical practice***, fairness, creativity).

"SC.9.2.8 ..... formulate and revise scientific explanations and models ***using logic and evidence***; ***recognize alternative explanations***; communicate and defend a scientific argument).

Teaching that life is not designed is Constitutionally inappropriate.

State indoctrination of only one world view about where we come from also raises a Constitutional question. In our view state sponsored censorship of design theory in pursuit of a naturalistic world view conflicts directly with the requirement of the Establishment clause of the First Amendment that government be neutral with respect to its practices that touch religion.

When a public school chooses to discuss with children the question "***Where do we come from?"*** the school has chosen to engage in a discussion that unavoidably impacts religion. Metaphorically, it has leaped over the wall that separates Church from State. Any explanation to this fundamental question will positively or negatively impact religious and nonreligious beliefs. A naturalistic answer to this question negatively impacts theistic religions and supports nonreligions like atheism, agnosticism and secular humanism. A design inference supports (but does not require) theism and challenges core tenets of atheism, agnosticism and secular humanism. However, implications by themselves do not make a religion. Neither evolution nor design theory need be religious or non-religious so long as each is genuinely open to testing, criticism, falsification and replacement by a better explanation, and so long as neither demands acceptance or adherence.

The problem is that the West Virginia Policy appears to seek adherence by students in a naturalistic world view. That policy not only ignores design theory, it overtly teaches that natural objects like humans, are not designed.

The Supreme Court has held that a state practice that "touches religion" must be neutral, not only between "religion and religion" but also between "religion and nonreligion." Actual indoctrination of students in a world view that supports atheism, agnosticism and secular humanism and that denigrates theistic religions amounts to the state taking sides in a debate between "religion and nonreligion." It is the antithesis of neutrality toward religion.

"My ears perked up.

"Designed? Doesn't that imply a designer, an intelligence, something more than the fortuitous bumping together of chemicals in the primordial slime?

"Myers thought before he replied. '**There's a huge intelligence there. I don't see that as being unscientific**. Others may, but not me.'" [Tom Abate, "*Human Genome Map Has Scientists Talking About the Divine. Surprisingly Low Number of Genes Raises Big Questions,*" [San Francisco Chronicle (February 19, 2001)].

As Dr. Myers alluded, the conclusion that natural objects are not designed is a philosophic rather than an evidentiary conclusion. It merely reflects a philosophical commitment to **Naturalism.** The use of this preconception by science institutions was recently acknowledged in the July 2002 issue of the *Scientific American*: **"A central tenet of modern science is methodological naturalism."** (J. Rennie, editor). Methodological naturalism is also called ***scientific materialism.*** It holds that only natural explanations of phenomena are allowed in science (regardless of whether or not they are true), and that design conceptions of nature are invalid, not as an evidentiary matter, but as a philosophical preconception.

The commitment to a naturalistic world view was explained in 1997 by Professor Richard Lewontin, a geneticist, as follows:

"....We take the side of science *in spite* of the **patent absurdity of some of its constructs**, *in spite* of its failure to fulfil many of its extravagant promises of health and life, *in spite* of the tolerance of the scientific community for just-so stories, because ***we have a prior commitment, a commitment to materialism.*** It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that **we are forced by our *a priori* adherence to material causes** to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. **Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.**" (emphasis added) [Richard Lewontin, *Billions and Billions of Demons, (The New York Review*, January 9, 1997, p. 31)]

Although this "***prior commitment***" may have some utility in *experimental* sciences like physics and chemistry, the ***commitment*** destroys objectivity in subjective ***historical*** sciences like biological origins, particularly where bias or preconception is not disclosed. This ***commitment*** permits only one answer to the religiously charged question - ***"Where did we come from?"*** According to this naturalistic bias, the only allowable answer to this question is that we are the result of a purely natural process, blind and unguided, and not one directed by an intelligence.

The teaching that we are not designed, is reinforced by the general objectives of proposed West Virginia Standard 3:

> **"Standard 3: Unifying Themes (SC.S.3)**
> Students will:
>
> "● demonstrate an understanding of interdependent themes present in the **natural and designed world** (e.g., systems, order and organization; evidence, models and explanation; constancy, change, and measurement; equilibrium and evolution; form and function),
>
> ******
>
> ● demonstrate the ability to draw conclusions about and predict changes in **natural and designed systems.**"

The teaching that we are not designed is to be mastered by the end of the first grade:

> "SC.1.5.1 distinguish between natural and man-made objects."

Teaching that life is not designed is scientifically and pedagogically inappropriate.

We believe it is inappropriate for the State to teach that life is not designed for scientific, pedagogical and legal reasons.

The conclusion that life is not designed is a philosophical rather than a scientific conclusion. An extraordinary amount of scientific evidence supports a design inference. Not only do biologists acknowledge that living systems appear to be designed for a purpose, a growing body of scientific evidence suggests that the design we see in living systems is real and not just an illusion [For a brief discussion of the evidence see our memorandum to the AAAS dated December 19, 2002 at http://www.IntelligentDesignNetwork.org/responsetoaaas.pdf.]

Every day the scientific evidence of design becomes more compelling as we peer into the awesome complex of cellular systems and see wonders never before imagined. Dr. Gene Myers, a lead scientist on the human genome project was interviewed after his team announced the mapping of the human genome. The following is the report of the dialogue between Dr. Myers and Tom Abate, a reporter for the San Francisco Chronicle:

> "Now, with the pressure off, this former University of Arizona professor waxed philosophical on the code his team had cracked.
>
> "'**What really astounds me is the architecture of life,**' he [Dr. Myers] said. 'The system is extremely complex. **It's like it was designed.**'"

The Policy promotes the philosophy of Naturalism by seeking to imbue students with a belief that natural objects (which includes living objects) are not designed. This teaching is embraced by the first and third general objectives of Standard 3, the second general objective of Standard 5, and specific objectives under Standard 4 that focus on teaching only naturalistic theories of origins.

The naturalistic view is promoted by the second general objective of Standard 5. Under this standard students are required to learn to ***"distinguish between natural and man-made objects."***

> "Students ***will***: .....demonstrate the ability to distinguish between natural and man-made objects."

Although the distinguishing characteristic between a "natural object" and a "man-made object," is not expressly explained by this "objective," the NAS source of the objective and other West Virginia objectives provide the explanation; - one is designed, while the other is not. The West Virginia Policy has been taken from the framework of Science Content Standards proposed by the National Academy of Science in its "National Science Education Standards." These may be found at:_http://www.nap.edu/readingroom/books/nses/html/6a.html. As explained by an excerpt from the National Academy of Sciences Science Content Standard E, the difference between a natural object and a man made object is that natural objects are not designed. They just "***occur***:"

> ***"UNDERSTANDING ABOUT SCIENCE AND TECHNOLOGY***
>
> "• People have always had questions about their world. Science is one way of answering questions and explaining the ***natural world*** [as distinguished from the ***"designed world."***]
>
> **********

> ***ABILITIES TO DISTINGUISH BETWEEN NATURAL OBJECTS AND OBJECTS MADE BY HUMANS***
>
> "• Some ***objects*** **occur** in nature; others have been **designed and made** by people **to solve human problems** and enhance the quality of life.
>
> "• **Objects** can be categorized into two groups, **natural** and **designed**." (See http://www.nap.edu/readingroom/books/nses/html/6c.html#csck4)

As we have already learned under SC .1.4.1 , "objects" are either "living or non-living." Thus, by the end of the first grade, students are to learn that they are merely ***living natural objects*** that are not designed. They are to learn that they just "***occur***." They are merely "**occurrences**."

Objects that have been made by humans are designed; - they have been "**made**" for a "**purpose**." This clearly implies that natural objects, like students, have not been "**made**" or "**designed**" for a "**purpose**." This teaching reflects the fundamental tenet of naturalism that "teleological [design] conceptions of nature are invalid."

Explanation

1. Revise the policy to remove any implication that humans are "living objects."

The standards introduce students, beginning at a very early age, to the concept that all "living" things are "objects." According to SC.1.4.1 first graders are to learn that natural objects are either "living or non-living."

"SC.1.4.1 ***classify objects as living*** or non-living."

According to Webster's Third New International Dictionary, an object is a "discrete visible or tangible thing." Although humans have physical characteristics, they also have non-physical elements such as consciousness, "free will," minds and feelings. What truly defines each of us are our intangible or "invisible" non-physical attributes that account for our character, behavior, values, personality and commitments. We are what we ***choose*** to be. We never really conceive of ourselves as "objects." Humans are sentient "beings."

We recognize that you and other state officials responsible for the policy do not likely intend for the Policy to teach children that they are nothing more than material objects. However, considering the naturalistic and materialistic philosophy that undergirds the Policy, we believe that referring to living beings or entities as **objects** within the context of the Policy as it is presently written may have that ***effect.*** Furthermore, we believe it is inappropriate for the State to suggest to children that they are ***living objects***. They are really human beings. When their bodies become nothing more than objects, they will then be classified as dead - non-living.

Implementing Recommendations. To implement this suggestion the Policy could be revised to expand the concept of ***"object"*** with ***"phenomena," "entities*** and ***"human beings***." Thus, SC 1.4.1 could be revised to read as follows:

"SC.1.4.1 *classify objects, phenomena or entities as living* or non-living."

2. Revise the Standards to eliminate the naturalistic doctrine that "natural objects" (natural phenomena, including life and its diversity), are not designed. Replace the doctrine with objectives that would encourage students to investigate and critically analyze the theories and evidence that supports both the design and naturalistic hypotheses.

The Policy Seeks to Teach that Life is not Designed

The Policy appears to have as its core a naturalistic assumption that life and its diversity derive only from natural processes and not by design. Naturalism is "the doctrine that cause-and-effect laws (as of physics and chemistry) are adequate to account for all phenomena and that teleological [design] conceptions of nature are invalid" (*Webster's Third New International Dictionary of the English Language, Unabridged,* 1993). Naturalism is a philosophy and not a proven scientific theory or fact.

Summary of Suggestions

We are listing below general changes that we believe should be made to the Policy to ensure that it deals with the origin of life and the origin of the diversity of life ("origins science") in a scientifically objective manner. We believe the Board should address these substantive issues. If it accepts their basic premise, then it should direct detailed revisions that will implement them. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Following the summary we provide an explanation for the basis of each general suggestion. At the end of each explanation we have included specific recommendations to partially implement the general suggestions. Following the end of the letter we have attached a two-page document which summarizes both the general suggestions and specific implementing recommendations.

We are also attaching your standard comment form with cross references to applicable provisions of this letter.

Generally, we believe the policy should be revised to reflect the following general concepts:

1. Revise the policy to remove any implication that humans are "living objects."

2. Revise the Standards to eliminate the naturalistic doctrine that natural objects and systems (natural phenomena, including life and its diversity), are not designed. Replace the doctrine with objectives that would encourage students to investigate and critically analyze the theories and evidence which supports both the design and naturalistic hypotheses.

3. Revise the Policy so that children are not introduced to origins science until they attain an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophic implications of those explanations.

4. Add explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophical, naturalistic or religious bias or assumption and (b) help students think critically about evolutionary theory and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

5. Add objectives that will require students to learn about the naturalistic assumption used in current origins science and the effect that assumption has on textbook explanations, particularly in light of the historical character of origins science.

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January 6, 2003

Brenda West
Office of Student Services and Assessment
West Virginia Department of Education
1900 Kanawha Boulevard, East
Building 6, Room 722
Charleston, WV 25305-0330

Re: Comments and Suggestions for the West Virginia SCIENCE – POLICY 2520.3 Science Content Standards and Objectives for West Virginia Schools (the "Policy")

Dear Ms. West,

Members of IDnet who have children enrolled in West Virginia public schools have requested our comments on proposed West Virginia SCIENCE – POLICY 2520.3 (the "Policy"), which may be found on your web site at:_http://wvde.state.wv.us/policies/p2520_ne.html. This letter reflects those comments.

Intelligent Design network, inc., is a national organization focused on the objective conduct and teaching of origins science - origins science that is conducted and taught without philosophic, religious or naturalistic bias or assumption. Intelligent design is a central aspect of that focus because current public school curricula generally use a naturalistic bias or assumption that life and its diversity are not the product of any intelligent cause. Instead, students are taught that life and its diversity result only from unguided natural processes. This is not a scientific conclusion, but rather a philosophical one that is contrary to a growing amount of scientific evidence which indicates that the apparent design we see in nature may reflect actual design. Accordingly, we believe that public school use of a naturalistic assumption against design is inappropriate for pedagogical, logical, scientific and legal reasons.

A number of materials regarding design theory and the issues addressed in this letter may be found at http://www.IntelligentDesignNetwork.org/teachingresources.htm.. For a general discussion of the scientific and legal issues we suggest you review ***Teaching Origins Science in Public Schools*** at http://www.IntelligentDesignNetwork.org/legalopinion.htm. A short and more focused discussion of the issues may be found in a memorandum that we recently posted in response to a resolution of the American Association for the Advancement of Science (AAAS) at http://www.IntelligentDesignNetwork.org/ResponsetoAAAS.pdf.

SC.9.6.5 engage in decision making activities and actions to resolve science-technology-society issues.

However, all of these decision making objectives assume that a naturalistic view of the world is correct and true. That is not the case. Naturalism is just one view of the world. Other legitimate views exist. Unless students are exposed to the alternatives they will not be adequately equipped to make the informed decisions that these objectives call for.

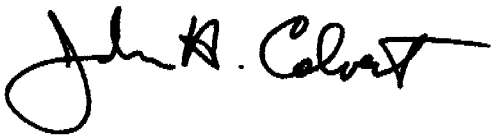
Accordingly, we urge you to revise Policy 2025.3 consistent with these suggestions.

Thank you for considering these views.

Very truly yours



William S. Harris, Ph.D.
Managing Director



John H. Calvert, J.D.
Managing Director

cc: (w/o encl)
Mr. Howard Persinger, Jr.
Ms.Sandra Chapman
Mr. Paul Morris
Mr. Ronald Spencer
Mrs. Barbara Fish
Mrs. Delores Cook
Ms. Brenda West
Ms. Sheila Hamilton
Dr. J. Michael Mullen
Mr. David Stewart

SUMMARY OF SUGGESTIONS AND IMPLEMENTING RECOMMENDATIONS

1. **Revise the policy to remove any implication that humans are "living objects."**

Implementing Recommendations. To implement this suggestion the Policy could be revised to expand the concept of ***"object"*** with ***"phenomena," "entities*** and ***"human beings***." Thus, SC 1.4.1 could be revised to read as follows:

"SC.1.4.1 *classify objects, phenomena or entities as living* or non-living."

2. **Revise the Standards to eliminate the naturalistic doctrine that natural objects and systems (natural phenomena, including life and its diversity), are not designed. Replace the doctrine with objectives that would encourage students to investigate and critically analyze the theories and evidence that supports both the design and naturalistic hypotheses.**

Implementing Recommendations. Replace objectives that teach that nature is not designed for teachings that seek to have students explore the scientific evidence on both sides of that issue in an objective and unbiased way. The following is a replacement objective that would accomplish that goal:

"SC 10.4.x.1 Understand the scientific evidence and arguments for and against the hypothesis that life and its diversity results only from unguided, natural processes."

3. **Revise the Policy so that children are not introduced to origins science until they reach an age and maturity sufficient to fully comprehend the scientific bases for explanations and the philosophical implications of those explanations.**

Implementing Recommendations. Delete the following objectives in grades three through eight (together with any repetitions of those objectives during those grades): SC 3.43, SC 4.45, SC 5.46, SC 7.47, SC 7.48, and SC 8.48.

4. **Add explicit provisions that will encourage teachers to (a) discuss origins science objectively and without philosophic, naturalistic or religious bias or assumption and (b) help students think critically about evolutionary theory and understand the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.**

Implementing Recommendation. An objective that would satisfy this end might be phrased like the following:

SC 10.4.x.2 Understand scientific criticisms of evolutionary theory and the full range of scientific views that exist regarding origins of life and why origins science may generate controversy.

5. **Add objectives that will require students to learn about the naturalistic assumption that is used in current origins science and the effect the assumption has on textbook explanations, particularly in light of the historical character of origins science.**

Implementing Recommendations. Objectives that could be incorporated into the standards to achieve this result are as follows:

"SC 10.4.x.3 Understand that many explanations regarding the origin of life and the origin of the diversity of life are based in part on a naturalistic assumption that phenomena result only from natural causes and not by design. Understand the effect of this bias or assumption on the choice of data considered, the interpretation of data that is considered and the credibility of explanations that are provided.

SC 10.4.x.4 Differentiate between historical sciences such as evolutionary biology and experimental sciences like physics and chemistry, understand methods used by scientists to test the credibility of historical hypotheses, understand the limitations of those methods to confirm historical explanations provided and understand how ***bias*** and the "***choice of what data to consider in the first place,***" may affect historical explanations.

Policy 2520.3: Science
Content Standards and Objectives for West Virginia Schools

Please use this form when commenting on proposed Policy 2520.3. You may attach additional sheets if necessary.

Individual/Organization: William S. Harris, Ph. D. and John H. Calvert, J.D., Intelligent Design network, inc.
Title: Managing Directors
Street Address: P.O. Box 14702, **City:** Shawnee Mission **State:** Kansas, 66217

Comments/Suggestions

Explanation of Terms, Abbreviations

A glossary of scientific terms should be included in the standards.

Science Kindergarten Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 1st Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 2nd Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 3rd Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 4th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 5th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 6th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 7tt Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 8th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 9th Grade Objectives and Performance Descriptors

See Suggestions 1, 2 and 3 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Science 10th Grade Objectives and Performance Descriptors

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Advanced Biology Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Biology - Technical Conceptual Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Human Anatomy and Physiology Objectives

See Suggestions 1, 2, 3, 4 and 5 in our letter to Brenda West, dated January 6, 2003, to which this comment form is attached.

Advanced Chemistry Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Chemistry-Technical Conceptual Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Advanced Environmental Earth Science Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Advanced Physics Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Physics-Technical Conceptual Objectives

None. Our comments are limited to those aspects of the Policy that deal with or impact teachings about biological origins.

Please return comments by January 10, 2003, to:
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Wednesday
September 18, 2002

Institute for Creation Research

A Christ-Focused Creation Ministry



As he spake by the mouth of his holy prophets, which have been since the world began.
Luke 1:70

EVOLUTION, CREATION, AND THE PUBLIC SCHOOLS - IMPACT No. 1 1973

by Henry M. Morris, Ph.D.

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One of the most amazing phenomena in the history of education is that a speculative philosophy based on no true scientific evidence could have been universally adopted and taught as scientific fact, in all the public schools. This philosophy has been made the very framework of modern education and the underlying premise in all textbooks. It constitutes the present world-view of liberal intellectuals in every field.

This is the philosophy of evolution. Although widely promoted as a scientific fact, evolution has never been proved scientifically. Some writers still call it the *theory* of evolution, but even this is too generous. A scientific hypothesis should be capable of being tested in some way, to determine whether or not it is true, but evolution cannot be tested. No laboratory experiment can either confirm or falsify a process which, by its very nature, requires millions of years to accomplish significant results.

Evolution is, therefore, neither fact, theory, nor hypothesis. It is a belief—and nothing more.

When creationists propose, however, that creation be taught in the schools along with evolution, evolutionists commonly react emotionally, rather than scientifically. Their "religion" of naturalism and humanism has been in effect the established religion of the state for a hundred years, and they fear competition.

In the present world, neither evolution nor creation is taking place, so far as can be observed (and *science* is supposed to be based on observation!). Cats beget cats and fruit-flies beget fruit-flies. Life comes only from life. There is nothing new under the sun.

Neither evolution nor creation is accessible to the scientific method, since they deal with origins and history, not with presently observable and repeatable events. They can, however, be formulated as scientific *models,* or frameworks, within which to predict and correlate observed facts. Neither can be *proved;* neither can be *tested.* They can only be *compared* in terms of the relative ease with which they can explain data which exist in the real world.

There are, therefore, sound scientific and pedagogical reasons why *both* models should be taught, as objectively as possible, in public classrooms, giving arguments pro and con for each. Some students and their parents believe in creation, some in evolution, and some are undecided. If creationists desire *only* the creation model to be taught, they should send their children to private schools which do this; if evolutionists want only evolution to be taught, they should provide private schools for *that* purpose. The public schools should be neutral and

either teach both or teach neither.

This is clearly the most equitable and constitutional approach. Many people have been led to believe, however, that court decisions restricting "religious" teaching in the public schools apply to "creation" teaching and not to "evolution" teaching. Nevertheless, creationism is actually a far more effective scientific model than evolutionism, and evolution requires a far more credulous religious faith in the illogical and unproveable than does creation. An abundance of sound scientific literature is available today to document this statement, but few evolutionists have bothered to read any of it. Many of those who*have* read it have become creationists!

What can creationists do to help bring about a more equitable treatment of this vital issue in the public schools? How can they help their own children in the meantime? The following suggestions are in order of recommended priority. All involve effort and expense, but the stakes are high and the need is urgent.

(1) Most basic is the necessity for each concerned creationist himself to become informed on the issue and the scientific facts involved. He does not need to be a scientist to do this, but merely to read several of the scholarly creationist books that are now available. He should also study creationist literature that demonstrates the fallacious nature of the various compromising positions (eg., theistic evolution, day-age theory, gap theory, local flood theory, etc.) in order to be on solid ground in his own convictions.

(2) He should then see that his own children and young people, as well as others for whom he is concerned, have access to similar literature on their own level. He also should be aware of the teachings they are currently receiving in school and help them find answers to the problems they are encountering. He should encourage them always to be gracious and respectful to the teacher, but also to look for opportunities (in speeches, term papers, quizzes, etc.) to show that, although they understand the arguments for evolution, the creationist model can also be held and presented scientifically.

(3) If he learns of teachers who are obviously bigoted and unfair toward students of creationist convictions, it would be well for him to talk with the teacher himself, as graciously as possible, pointing out the true nature of the issue and requesting the teacher to present both points of view to the students. Under some circumstances, this might be followed up by similar talks with the principal and superintendent.

(4) Many teachers and administrators are quite willing to present both viewpoints, but have been unaware that there does exist a solid scientific case for creation, and, therefore, they don't know how to do this. There is thus a great need for teachers, room libraries, and school libraries to be supplied with sound creationist literature. Perhaps some schools, or even districts, will be willing to provide such literature themselves. If not, the other alternative is for parental associations, churches, or individuals to take on such a project as a public service. If sound creationist books are conveniently available, many teachers (not all, unfortunately, but far more than at present) would be willing to use them and to encourage their students to use them.

(5) Creationist parents, teachers, pastors, and others can join forces to sponsor meetings, seminars, teaching institutes, etc., in their localities. Qualified creationist scientists can be invited to speak at

such meetings, and if adequate publicity (especially on a person-to-person basis) is given, a real community-wide impact can be made in this way. Especially valuable, when such invitations can be arranged, are opportunities for creationist scientists to speak at meetings of scientists or educators. Also such men can be invited to speak in churches or in other large gatherings of interested laymen.

(6) Discussions can be held with officials at high levels (state education boards, district boards, superintendents, etc.) to acquaint them with the evidences supporting creation and the importance of the issue. They can be requested to inform the teachers of their state or district that the equal teaching of evolution and creation, not on a religious basis, but as scientific models, is both permitted and encouraged. Cases of unfair discrimination against creationist minorities in classrooms can be reported, and most officials at such levels are sufficiently concerned with the needs of all their constituents that, if they can first be shown there is a valid scientific case for creation and that evolution has at least as much religious character as does creation, they will quite probably favor such a request.

(7) Public response can be made (always of a scientific, rather than emotional flavor) to newspaper stories, television programs, etc., which favor evolution. Those responses may be in the form of letters-to-the-editor, protest letters to sponsors, news releases, and other means.

(8) Financial support should be provided for those organizations attempting in a systematic way to do scientific research, product creationist textbooks and other literature, and to provide formal instruction from qualified scientists in the field of creationism. This can be done both through individual gifts and bequests and through budgeted giving by churches and other organizations.

It will be noted that no recommendation is made for political or legal pressure to *force* the teaching of creationism in the schools. Some well-meaning people have tried this, and it may serve the purpose of generating publicity for the creationist movement. In general, however, such pressures are self-defeating. "A man convinced against his will is of the same opinion still."

Force generates reaction, and this is especially true in such a sensitive and vital area as this. The hatchet job accomplished on the fundamentalists by the news media and the educational establishment following the Scopes trial in 1925 is a type of what could happen, in the unlikely event that favorable legislation or court decisions could be obtained by this route.

Reasonable persuasion is the better route. "The servant of the Lord must not strive; but be gentle unto all men, apt to teach, patient, In meekness instructing those that oppose themselves" (II Timothy 2:24,25).

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IMPACT No. 69

EVOLUTION IN PUBLIC SCHOOLS AND CREATION IN STUDENTS' HOMES: WHAT CREATIONISTS CAN DO

by Wendell R. Bird, J. D., Attorney*

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A boy in a public high school enrolled in a biology course in tenth grade. His textbook taught him that life appeared and man developed through evolution, without mentioning any other theory, and his teacher told him that this was the most reasonable explanation that all scientists believed. The boy did not have firm religious convictions and had great respect for his teacher's knowledge. Through this biology course, and similar chemistry, world history, social studies, and anthropology courses, he came to believe in "theistic evolution," because he did not realize that the Bible taught anything different or that any scientists held any other viewpoint. This particular boy went on to win third place in the International Science Fair with a biology project, and to be named one of the forty top young scientists in the nation by the Westinghouse Science Talent Search, yet he never learned through all this science work of any Biblical or scientific alternative to evolution. This author is ashamed to admit, because... shows his gullibility and ignorance, that he was that boy. How widespread is this problem?

The Problem: The Evolutionary View Is Taught Exclusively in Public Schools

Nearly three million students in public high schools study biology each year. Nearly all of them use textbooks that teach only the theory of evolution and that discuss it from cover to cover. Most public school students also have classes in social studies, world history, chemistry, physics, anthropology, or sociology that teach exclusively the theory of evolution. And nearly all those students come to believe in evolution as the only scientific explanation of origins.

Belief in the general theory of evolution is totally contrary to belief in the doctrine of divine creation. The evolutionary theory teaches that matter has always existed and that the earth evolved to its present form, while Genesis says that there was a beginning and that the earth was specially created by God. Evolution claims that non-living material developed into a living organism and that this simple life developed into fish, then amphibia, then reptiles, then mammals; but the Bible says that God created life from *nothing* and that he created *all living kinds.* The public school theory asserts that man evolved from an ape-like ancestor, while the Christian doctrine is that Adam and Eve were created by God. The evolutionary theory requires that continuous natural processes have shaped the face of the earth, while Genesis teaches that a worldwide flood altered the features of the world. In teaching only evolution, public schools effectively undermine the convictions of Christian students and prejudice unbelievers against Christianity.

The origin of the world, life, and man is a vital subject to Christians. If Adam did not literally fall into sin, Christ did not need to shed His blood on the cross, and men do not need to be saved from anything (Romans 5:12, 18; I Corinthians 15:45, 49-50). If the inspired writings of Moses are disbelieved, the gospel words of Jesus Christ will be disbelieved also (John 5:46-47). Jesus Christ taught that God created Adam and Eve, and that God sent a worldwide flood to judge man (Mark 10:6; Luke 17:27). And scripture prophesies that liberal scoffers in these last days will deny the divine creation and the worldwide flood (2 Peter 3:3, 5-6). Creation is fundamental to Christianity, yet public schools are attacking that truth. What has happened to freedom of religion?

The Constitutional Protection: Religious Freedom Cannot Be Violated by Public Schools

The First Amendment of the Constitution protects free exercise of an individual's religion from government abridgment. Religious freedom is the most basic of our liberties, and expansion of government activities is bringing encroachment on this freedom.

Abridgment of this constitutional right to religious freedom occurs when a governmental program puts a burden on religious exercise and when no compelling reason justifies that burden. While this legal rule may sound complicated, it applies directly to public school instruction in evolution.

Classroom instruction that presents only evolution without an alternative theory puts a burden on religious freedom. Teaching only one theory of the origin of life and man indoctrinates creationist students in that evolutionary theory, and the Supreme Court has ruled that public schools cannot undermine religious beliefs. Exposing pupils to only hostile instruction prevents creationists from separating from "the unfruitful works of darkness," and courts have held that schools cannot violate separatist practices. Requiring answers in class discussion and on tests that are based on the evolutionary theory requires creationist students to let "corrupt communications proceed out of [their] mouths," and the Supreme Court has stated that public schools cannot require objectionable declarations of belief.

This burden on religious freedom becomes serious because students in elementary and high schools are susceptible to influence, and because they are subjected to many pressures. Coercion against religious exercise results from some courses being required for graduation, and from much course material (other than the evolution sections) being necessary for a solid education. Pressure also comes from teachers having influence over development of religious beliefs, and from classmates demanding conformity with the majority viewpoint. This classroom pressure can greatly influence religious convictions.

This serious burden on religious freedom from instruction in only evolution is not justified by any compelling reason. While government might have a compelling interest in teaching reading, writing,

arithmetic, and patriotism, it does not have a very strong interest in teaching only one theory of origins or even in teaching anything about origins. How can public schools remove this burden on religious exercise?

The Remedy: Scientific Creationism Can Be Taught Along With Evolution

Public schools can teach scientific creationism along with evolution to end their violation of religious freedom. The schools can be neutral by presenting scientific evidences for creation when they present arguments for evolution.

Scientific creationism teaches that the universe and the earth were specially created, and that life was specially created, emphasizing that complex plants and animals suddenly appear in the fossil record and that scientific experiments have not produced life. This theory maintains that original kinds of plants and animals have been stable, emphasizing that fossil gaps occur regularly between different kinds and that transitional forms between the original kinds have not been unearthed. The scientific creationist theory also proposes that the second law of thermodynamics (a general tendency toward disorder) applies to the universe and life, preventing the earth from evolving from a disordered universe, or life from evolving from non-living molecules, or complex plants and animals from evolving from simple forms. Scientific creationism also argues that a worldwide flood happened in history, providing the best explanation of the fossil record, and that creation of the earth and life did not occur billions of years ago, pointing out the questionable assumptions of radiometric dating methods while noting the alternate dating methods that give young ages for the earth and life.

Public schools either could teach scientific creationism as a unit within a course that discusses the evolutionary theory, or they could offer it at each point where the course mentions evolution. Text materials that present scientific creationism are available for teachers and students. But how does scientific creationism differ from religious doctrine?

The Criticism: Scientific Creationism Does Not Involve Religious Doctrine

The First Amendment of the Constitution not only protects freedom of religion, but also prohibits establishment of any religion. The Supreme Court has ruled that this provision prohibits public schools from being unneutral among different religions by instituting classroom prayer or Bible reading. Many Christians support the school prayer decision, because they do not believe that public schools should teach that God is the father of all men and hears prayers by nonChristian students by a classroom prayer beginning "Our Father." And many Christians support the Bible reading decision, because they do not believe that non-Christian teachers should be given the opportunity to pervert Biblical truth in classroom Bible reading.

But the Supreme Court has said, on the other hand, that the establishment clause does not prevent schools from teaching non-religious material that is consistent with religious belief, and the Court has noted that the Constitution does prevent schools from being hostile to any religion or favoring a secularistic religion.

Is instruction in scientific creationism an establishment of religion? Scientific creationism is not a religious doctrine, and unlike classroom prayer and Bible reading it can be taught in public schools. Instruction in scientific creationism involves presentation of the scientific evidence for creation rather

than use of Genesis in the classroom. For example, it discusses the evidence that man does not have an ape-like ancestor rather than the Biblical statement that God created Adam and Eve; it summarizes the scientific proof that a worldwide flood shaped this planet's geology rather than the scriptural teaching that Noah and his family survived the flood in an ark. As Dr. Henry M. Morris has said so well, "creation is as scientific as evolution and ... evolution is as religious as creation."

Scientific creationism indeed is as scientific as evolution. There are many scientists who are creationists: the Institute for Creation Research has seventeen creationists with doctorates in science on its staff and advisory board, and the Creation Research Society includes more than six hundred creationists with postgraduate degrees in science. And there are textbooks that present scientific evidences for creation: for example, *Biology: A Search for Order in Complexity* was sponsored by the Creation Research Society, and *Scientific Creationism* (Pub. Sch. Ed.) was sponsored by the Institute for Creation Research.

Evolution is indeed as religious as scientific creationism. It is true that scientific creationism is consistent with religious creationism—but the evolutionary theory is consistent with religious humanism; as in the case of the Fellowship of Religious Humanists, the supporters of the Humanist Manifesto, and Sir Julian Huxley's "religion of evolutionary humanism." And it is true that scientific creationists refer to a Creator or God—but Darwin's *Origin of Species,* the three *B.S.C.S.* high school biology textbooks, most other high school biology texts, and the pledge of allegiance also refer to God yet are acceptable in public schools.

Is instruction in scientific creationism a violation of academic freedom? Courts have recognized that school authorities can—and must—decide what subjects will be taught in public schools. A decision to add scientific creationism to the curriculum in the 1970's does not violate academic freedom any more than a decision to add evolution in the 1920's did. Instruction in both theories enhances academic freedom for the student, because it gives him a neutral choice among alternative theories rather than indoctrination in one theory.

Is instruction in scientific creationism the Scopes monkey trial again? No—but the present situation is the Scopes trial in reverse. Just as Tennessee in the 1920's excluded evolution and taught only creation, the states in the 1970's exclude creation and teach only evolution. As Clarence Darrow said in behalf of Mr. Scopes, it is "bigotry for public schools to teach only one theory of origins." How can parents, teachers, and students bring scientific creationism into public schools?

PLEASE NOTE:
This last question will be answered by Mr. Bird in the April issue of *Acts & Facts.* "Impact" article No. 70 will provide specific suggestions for creationists to follow in getting their own school systems to include scientific creationism in their programs.

* Wendell R. Bird is an attorney from Atlanta. He is a graduate of Yale Law School, where he was an Editor of the *Yale Law Journal.* Mr. Bird wrote an article published in the *Yale Law Journal* entitled "Freedom of Religion and Science Instruction in Public Schools," and he received the Egger Prize of Yale Law School for the excellence of its legal scholarship. Mr. Bird graduated summa cum laude from Vanderbilt University, and exempted the freshman year for the first time in Vanderbilt history. He was a finalist for the Marshall Scholarship for study in England, Vanderbilt's nominee for the Rhodes Scholarship, a participant in the Honors Program of study, and a member of Phi Beta Kappa.

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IMPACT No. 70

EVOLUTION IN PUBLIC SCHOOLS AND CREATION IN STUDENTS' HOMES: WHAT CREATIONISTS CAN DO

By Wendell R. Bird, J. D., Attorney*

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"Vital Articles on Science/Creation" April 1979
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[NOTE: The first article ("Impact," No. 69, March) of this series, dealt with the problem of exclusive teaching of the evolutionary view in public schools, the Constitutional protection regarding religious freedom in public schools, how scientific creationism can be taught legally along with evolution in the public classroom, and a discussion of the fact that scientific creationism does not involve religious doctrine. This current article challenges creationists first to become informed concerning the legal implications of teaching scientific creationism, and then, to take individual action. The third and concluding article in this series will provide a suggested Resolution for Balanced Presentation of Evolution and Scientific Creationism.]

The Responsibility: Creationists Should Request Instruction In Scientific Creationism

Christians are commanded to be lights for a crooked and perverse nation, and are to stand against the devil with the armor of God (Philippians 2:15; Ephesians 6:11). Christians have a responsibility to ensure light and to oppose evil in the public school system, because our country is shaped powerfully by public school curricula and our tax dollars finance public education. In meeting this responsibility, creationists should take several steps.

STEP 1

First, creationists should learn the Biblical teaching about creation. Helpful books are *The Remarkable Birth of Planet Earth* and *The Twilight of Evolution,* both by Dr. Henry M. Morris. A good commentary on Genesis is *The Genesis Record,* also by Dr. Morris (all from Creation-Life Publishers, PO. Box 15666, San Diego, Cal., 92115). A good introductory booklet is *Problems of Evolution,* by Dr. Stewart Custer (from Bob Jones Univ. Press, Greenville, S.C., 29614).

STEP 2

Next, creationists should become familiar with the scientific evidence for creation. A concise but thorough book is *Scientific Creationism* (Pub. Sch. Ed.), edited by Dr. Morris, and a good book on the fossil record is *Evolution? The Fossils Say No!* (Pub. Sch. Ed.), by Dr. Duane T. Gish (both from Creation-Life Publishers).

STEP 3

Also, creationists should understand the legal implications of public school instruction in only evolution and the implications of instruction also in scientific creationism. A comprehensive article is "Freedom of Religion and Science Instruction in Public Schools," published in the *Yale Law Journal* (Jan. 1978 issue), by the author of this paper. That article argues that instruction exclusively in evolution violates the Constitution's protection of free religious exercise, and that instruction in both evolution and scientific creationism is permitted by the Constitution's prohibition against state establishment of religion. The article can be found in most public university libraries or purchased from *Yale Law Journal* (401A Yale Station, New Haven, Conn., 06520, for $2.50).

STEP 4

Creationists also should read the article by this author published in the *Harvard Journal of Law & Public Policy* entitled "Freedom from Establishment and Unneutrality in Public School Instruction and Religious School Regulation." That article discusses the proper construction of the establishment clause of the First Amendment, just as the *Yale Law Journal* article discusses the proper construction of the free exercise clause of that Amendment. It then shows how exclusive instruction in public school classrooms in evolution abridges the establishment clause, and how balanced presentation of both scientific creationism and evolution conforms to that clause. After June 1979, copies can be ordered from the Harvard Journal of Law & Public Policy, 233 Langdell Hall, Harvard Law School, Cambridge, Mass. 02138.

Then, creationists should get copies of scientific creationist texts to show to school authorities. A student biology textbook that presents both scientific creationism and evolution is *Biology: A Search for Order in Complexity,* edited by Dr. John N. Moore and Harold Slusher. A teacher handbook that presents scientific evidences for creation is *Scientific Creationism* (Pub. Sch. Ed.), edited by Dr. Henry M. Morris (both from Creation-Life Publishers).

STEP 5

Next, creationists should call the state department of education for information. The first subject about which to inquire is whether the state department of education makes statewide decisions about curriculum for public schools. If there is statewide curriculum authority, ask when the state board of education meets next, and ask for a copy of its powers under the law and its procedures for decision. Also ask which member citizens should contact to obtain permission to speak at the next state board of

education meeting. Then write the proper member for permission to speak. If there is no statewide curriculum authority but only individual school district authority, call the county or city department of education and ask it these same questions.

The second subject, which creationists should ask the state department of education, is whether the state has statewide adoption of an approved textbook list for public schools. If there is statewide adoption, ask whether school districts can choose among several textbooks for each subject or whether the state prescribes one textbook per subject. Then ask when biology textbooks are considered for adoption, and when physics, chemistry, social studies, anthropology, and sociology textbooks are considered (the publishers submit copies of their textbooks in the subject under consideration, and generally the state board of education or state textbook committee selects one or several of these texts for adoption). If the decision time is soon, ask what the exact name is of the decision-making body for textbooks, and ask which member citizens should contact to obtain permission to speak at the textbook commission meeting. Also ask where the texts are displayed for public examination that are submitted for adoption, and ask for a copy of the criteria by which textbooks are selected for school use. Then write the proper textbook commission member for permission to speak, and examine the texts for their treatment of the subject of origins, making a list of the author and title and page numbers that present only evolution. If there is no statewide adoption but only individual school district adoption, call the county or city department of education and ask it these same questions.

A word of caution: Creationists working to introduce creation into public schools must distinguish sharply between scientific creationism and religious creationism. Scientific creationism consists of the scientific evidences for creation, while religious creationism consists of the Biblical doctrines of creation. Scientific creationism can be taught in public schools, while religious creationism cannot under current law. Creationists approaching public schools must avoid reference in discussions, resolutions, or classroom materials, to the Bible, Adam, the fall, or Noah, except in showing that evolution is wholly contrary to religious convictions of many individuals.

STEP 6

Finally, creationists should petition the state (or district) board of education to pass a resolution to teach both the scientific evidence for creation and the scientific evidence for evolution, in any course dealing with origins. And creationists should request the state (or district) textbook commission to select only texts presenting both scientific creationism and evolution, or else to require supplements presenting scientific creationism to be attached to the inside back cover of texts presenting only evolution. The petition "Resolution for Balanced Presentation of Evolution and scientific Creationism" can be given to the board of education and the textbook commission ("Impact Series" No. 26, from Institute for Creation Research, 2716 Madison Avenue, San Diego, Cal., 92116). The booklet *Introducing Scientific Creationism into the Public Schools* provides further guidance for creationist parents, teachers, students, and pastors in approaching public school superintendents, principals, teachers, and other officials (from Creation-Life Publishers).

PLEASE NOTE:
The May issue of *Acts & Facts*, "Impact" article No. 71, will provide a sample Resolution for a balanced presentation of evolution and scientific creationism in the public school classroom, along with ample documentation. Readers are urged to become familiar with the contents of this series of articles and to take action so that creationism can be presented in the public classroom as a viable alternative to evolution.

Please remember—

We are not trying to bring the Bible or Genesis into public schools. We are not trying to exclude evolution from public schools, unless creation is also excluded.

We are asking public schools to be neutral between theories of the origin of the world, life, and man, and to give academic freedom of choice to students between these theories.

We are asking public schools to present the scientific evidences for creation along with the scientific evidences for evolution.

* Wendell R. Bird is an attorney from Atlanta. He is a graduate of Yale Law School, where he was an Editor of the *Yale Law Journal*. Mr. Bird wrote an article published in the *Yale Law Journal* entitled "Freedom of Religion and Science Instruction in Public Schools" and he received the Egger Prize of Yale Law School for the excellence of its legal scholarship. Mr. Bird graduated summa cum laude from Vanderbilt University, and exempted the freshman year for the first time in Vanderbilt history. He was a finalist for the Marshall Scholarship for study in England, Vanderbilt's nominee for the Rhodes Scholarship, a participant in the Honors Program of study, and a member of Phi Beta Kappa.

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All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," just request them by filling out this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians10:4,5).

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Institute for Creation Research

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IMPACT No. 71

RESOLUTION FOR BALANCED PRESENTATION OF EVOLUTION AND SCIENTIFIC CREATIONISM

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EDITOR'S NOTE:
This sample "Resolution" has been prepared by attorney Wendell R. Bird, author of "Impact Series" articles 69 and 70 *(Acts & Facts,* March and April 1979) and is intended as a prepared resolution for local citizens' groups seeking to obtain a fair presentation of the creation/evolution question in the schools of their own areas. It can be modified as appropriate for local conditions.

Please note that this is a suggested **resolution,** to be adopted by boards of education, not **legislation** proposed for enactment as law. ICR has always taken the position that the route of education and persuasion on this issue is more fruitful in the long run than that of coercion. If teachers are permitted and encouraged to present both models with appropriate materials provided by their Board, we are confident that more good will actually be accomplished than in any other way.

This Board of Education adopts the following Resolution concerning balanced presentation of alternate scientific theories of origins for all public secondary schools and elementary schools in this area.

WHEREAS,

I. The underlying purposes of public education are to assist students in their search for truth, to provide academic freedom for students' differing values and beliefs, and to remain neutral toward students' diverse religious and moral convictions.

II. Attendance of those students who are at public schools is compelled by law, and school taxes from

their parents and other citizens are mandated by law.

III. The subject of the origin of the universe, earth, life, and man is treated within many public school courses, such as biology, life science, anthropology, sociology, and often also in physics, chemistry, world history, philosophy, and social studies.

IV. Only the theory of evolution is presented to students in virtually all courses that discuss the subject of origins, and no alternative theory of origins is presented.

V. The theory of evolution is not an unquestionable fact of science, because evolution cannot be experimentally observed or fully verified or logically falsified,[1] and because the theory of evolution is not accepted by some scientists.[2]

VI. The theory of evolution is contrary to the religious convictions or moral convictions of many students and parents, including individuals of many different religious faiths and with diverse personal beliefs.[3]

VII. Public school presentation of only the theory of evolution without any alternative theory of origins abridges the Constitution's protection[4] of freedom of religious exercise for students and parents, because it undermines their religious convictions, violates their separatist practices, compels their unconscionable statements, and hinders religious training by parents.[5]

VIII. Public school presentation of only the theory of evolution without any alternative theory also violates the Constitution's protection of freedom of belief for students and parents and in doing so hinders the purpose of education by impeding their search for truth, denying them academic freedom, and restricting scientific objectivity.

IX. Public school presentation of only the theory of evolution without any alternative theory also abridges the Constitution's prohibition against establishment of religion, because it produces hostility toward many theistic religions and causes preference to religious Liberalism, Humanism, and other religious faiths.[6]

X. Presentation of only one theory rather than alternate theories of origins is not required by any compelling interest of the State.[7]

XI. Exemption of such students from a course or class presenting only the theory of evolution does not provide an adequate remedy, because any request for exemption would probably be prevented by pressure from fellow students, respect for teacher opinions, and need for other course material missed.[8]

XII. The theory of special creation is an alternative model of origins at least as satisfactory as the theory of evolution, and that theory of special creation can be presented from a strictly scientific standpoint without reference to religious doctrine (special creation from a strictly scientific standpoint is hereinafter referred to as "scientific creationism"),[9] because many scientists accept the theory of scientific creationism,[10] and because scientific evidences have been presented for the theory of scientific doctrine.[11]

XIII. Public school presentation of both the theory of evolution and the theory of scientific creationism would not violate the Constitution's prohibition against establishment of religion,[12] because it would

involve presentation of the scientific evidences for each theory rather than any religious doctrine.

XIV. Most citizens, whether they personally believe in evolution or creation, favor balanced treatment in public schools of alternative scientific theories of origins for better guiding students in their search for truth, and favor a neutral approach toward subjects affecting the religious or moral convictions of students.[13]

XV. School districts in at least five states are currently teaching both theories of origins or are implementing instruction in both theories.[14]

THEREFORE, the Board of Education hereby adopts as an official Resolution the requirement that:

> *Public secondary and elementary schools must give balanced treatment to the theory of scientific creationism and the theory of evolution in classroom lectures as a whole in each individual course, in textbook materials as a whole for each course, in library materials as a whole for any subject, and in other educational programs, to the extent that such lectures, textbooks, library materials, or educational programs deal in any way with the subject of the origin of man, life, the earth, or the universe.*
>
> *Treatment of either the theory of evolution or the theory of scientific creationism must be limited to scientific evidences and must not include religious doctrine.*
>
> *This Resolution takes effect at the beginning of the next school year unless the Board of Education upon adopting this specifies otherwise.*

CLARIFICATIONS

This Resolution does not require or permit instruction in any religious doctrine or materials. This Resolution does not require any instruction in the subject of origins, but simply requires instruction in both scientific theories (of evolution and scientific creationism) if public schools choose to teach either. This Resolution does not require each individual textbook or library book to give balanced treatment to the two theories, but simply requires the textbooks as a whole in a course or the library books as a whole on a topic to give balanced treatment to the theories of evolution and scientific creationism; it does not require any school books to be discarded. This Resolution does not require each individual classroom lecture in a course to give such balanced treatment, but simply requires the lectures as a whole to give balanced treatment; it permits one unit to present the theory of evolution and a separate unit to present the theory of scientific creationism.

DOCUMENTATION

[1] The theory of evolution, according to an evolutionary scientist, cannot be observed by experimentation: "The applicability of the experimental method to the study of such unique historical processes is severely restricted before all else by the time intervals involved, which far exceed the lifetime of any human experimenter." Dobzhansky, "On Methods of Evolutionary Biology and Anthropology," 45 *American Scientist* 381, 388 (1957). It cannot be verified by full proof: "Belief in evolution is thus exactly parallel to belief in special creation—both are concepts which believers know to be true but neither, up to the present, has been capable of proof." Matthews, "Foreword" to C. Darwin, *Origin of Species* at x(1971). And the theory of evolution cannot be falsified (by positing facts which, if proved true, would disprove the theory): "Our theory of

evolution has become ... one which cannot be refuted by any possible observations. It is thus 'outside of empirical science.'" Birch & Ehrlich, "Evolutionary History and Population Biology," 214 *Nature* 349, 352 (1967). Of course, the theory of scientific creationism similarly cannot be experimentally observed, fully verified, or logically falsified.

[2] For example, Professor G. A. Kerkut of the University of Southampton, who is not a creationist, wrote a book *Implications of Evolution* to give his scientific reasons for rejecting the general theory of evolution. Dr. Henry Morris, formerly Professor at Virginia Polytechnic Institute, who is a creationist scientist, wrote *Scientific Creationism* (Public School Edition) to give his scientific reasons for rejecting evolution and accepting creation.

[3] These creationist faiths include Adventists, Churches of Christ, most Baptists, Independent Methodists, Jehovah's Witnesses and Orthodox Jews, as well as many Lutherans, Catholics, and others. These are listed in Wendell R. Bird, "Freedom of Religion and Science Instruction in Public Schools," 87 *Yale Law Journal* 515, 519-20 (1978).

[4] The First Amendment of the U.S. Constitution bars any "law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech ..."

[5] Wendell R. Bird, "Freedom of Religion and Science Instruction in Public Schools," 87 *Yale Law Journal* 515, 523-26, 536-38 (1978). Courts have ruled that public schools may not undermine religious convictions, in Wisconsin v. Yoder; may not violate separatist practices, in State v. Whisner; may not compel unconscionable statements, in West Virginia v. Barnette; and may not hinder parental religious training, in Pierce v. Society of Sisters.

[6] Wendell R. Bird, "Freedom from Establishment and Unneutrality in Public School Instruction and Religious School Regulation," *1979 Harvard Journal of Law & Public Policy* 56 (1979).

[7] Wendell R. Bird, "Freedom of Religion and Science Instruction in Public Schools," 87 *Yale Law Journal* 515, 540-42 (1978).

[8] *Ibid.*, at 528-36.

[9] Several textbooks present both the theory of scientific creationism and the theory of evolution. J. Moore & H. Slusher, *Biology: A Search for Order in Complexity,* Creation-Life Publishers (student biology text); R. Bliss, *Origins: Two Models,* Creation-Life Publishers (student origins text). R. Bliss & G. Parker, *Origin of Life,* Creation-Life Publishers (student origins text). Several textbooks present the theory of scientific creationism, to supplement a text presenting only the theory of evolution. H. Morris, *Scientific Creationism* (Public School Edition), Creation-Life Publishers (teacher handbook or student supplement); D. Gish, *Evolution: The Fossils Say No!* (Public School Edition), Creation-Life Publishers (student supplement or teacher handbook); H. Morris & J. Phelps, *Science and Creation Series,* Creation-Science Research Center (student supplements, grades 1-8); H. Morris & J. Phelps, *Science and Creation: A Handbook for Teachers,* Creation-Science Research Center (teacher handbook, grades 1-8).

[10] The Creation Research Society is a scientific creationist organization of more than 600 members who have postgraduate degrees in natural sciences (it sponsored the textbook *Biology: A Search for Order in Complexity).* The Institute for Creation Research is a similar organization of about 20 members who have doctorates in science; 9 teach currently at nonsectarian universities (it sponsored the textbook *Scientific Creationism,* Public School Edition).

[11] For example, see *Scientific Creationism* (Public School Edition) edited by Dr. Henry Morris.

[12] Wendell R. Bird, "Freedom of Religion and Science Instruction in Public Schools," *Yale Law Journal* 515, 554-64 (1978).

[13] For example, a "Statement Affirming Openness as a Principle of Science" states that both "the evidences supporting an evolutionary point of view and the evidences supporting a creationist point of view should be given proper presentation in any classroom where the topics under discussion relate to the origin of matter and energy, the origin of the cosmos, the origin of the solar system, or the origin of life." This statement has been signed by more than 700 scientists.

[14] The boards of education officially require balanced treatment of evolution and scientific creationism in Dallas, Texas; Columbus, Ohio; Kanawha County, West Virginia; Cobb County, Georgia; Racine, Wisconsin; and other areas.

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"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

BTG No. 114b

Are Schools Teaching Evolution Well Enough?

by John D. Morris, Ph.D.

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"Vital Articles on Science/Creation" June 1998
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"For what if some did not believe? shall their unbelief make the faith of God without effect? God forbid: yea, let God be true, but every man a liar . . . " (Romans 3:3,4).

No doubt you saw them. Right around mid-April many major newspapers carried (coordinated?) articles and/or editorials deploring the supposed fact that "the teaching of evolution in schools is being squeezed out by pressure from religious conservatives and other groups" (AP, April 10, 1998). However much as I might wish it were so, I see no such national trend. Instead, most thinking people immediately recognized these articles as yet another desperate ploy to turn public opinion against Christianity in general and creation in particular.

Having thus created a "horrible" problem in the minds of the reader, the articles offered a solution—a new set of guidelines for more extensive and effective teaching of evolution prepared by the National Academy of Sciences. This book, containing every successful argument for evolution (whether or not it is true) and specific guidelines on how to deal with dissenting students and parents, is to be made available to every science teacher.

The guidelines, entitled "Teaching About Evolution and the Nature of Science," was authored by a panel of scientists and educators, including several well known for their personal crusades against creationism. Predictably, it claims that the *fact* of evolution must be foundational in every course.

But the guidelines contain a strange mixture of outdated science, extreme opinions not held by many evolutionists, and outright deception. As a sampling, it compares disbelief in evolution to disbelief in gravity, obscuring the fact that no one has ever observed gravity to be violated, but never has anyone observed real evolution to happen. Moreover, it repeats the common error that variation and adaptation are examples of evolution.

It is true that something is malfunctioning in our schools. Recent studies have placed American and Canadian students at or near the very bottom in science when compared with other developed countries, in spite of the cost per student being much higher. But is teaching more evolution the solution to this problem, or is it the cause? Fact is, the scores have gone down while evolution teaching has increased and the Christian worldview systematically removed.

It seems to me that evolution teaching has been quite effective. Decades of teaching students that they evolved from animal ancestry by purely random processes like mutation and natural selection, that there is no Creator to whom they are responsible, that there are no absolutes in morality, has brought us to this point. Can evolutionists legitimately blame the situation in today's schools, whose students murder classmates and teachers with no remorse, where premarital sex and sexually transmitted diseases are common, where suicidal thoughts plague many, on lack of *better* evolution teaching?

Evolution is not just a view of life's history, it is a worldview with a disgusting view of an animalistic past, an amoral view of the present, and a hopeless future of annihilation to contemplate.

Yes, I think evolution has been taught well enough. Now all of society must suffer the consequences.

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IMPACT No. 120

EVOLUTIONARY INDOCTRINATION AND DECISION-MAKING IN SCHOOLS

by Richard B. Bliss, Ed.D.

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In recent years, the efforts of anti-creationists to distort the motives and goals of scientific creationists have dominated the educational literature, influenced the courts and polarized the media. As an educator who has been in all phases of science education development and who has been involved in this debate from its early years, this writer feels an answer to these critics is in order.

The nature and methodology of science and science education should require an open and inquiry-oriented approach to the creation /evolution question. As with any other question in science, this question should be looked upon as an opportunity to stimulate thought through the education process, rather than becoming an obstacle to it. The study of origins has proven to be one of the most exciting questions that has confronted education in recent times. It has all the ingredients for promoting both good science and good education. In fact, the question of origins enhances critical thinking through a decision-making framework. Sadly, students today are being taught that the only way science can view the origin of life is through an evolution model that is "random, mechanistic and naturalistic." Certainly there is nothing wrong with using evolution as one model or framework within which scientific information can be correlated and integrated, but when evolutionists say that it is the *only* model and that the creation model could not also be used to correlate and integrate scientific information as well, they are no longer speaking in the context of scientific truth. Evolution falls to answer more questions than it purports to answer and the creation model certainly has much to offer as an alternative.

Anti-creation groups are distorting the potential value of both models when they call evolution the only idea available to science. Either they do not know what the data actually reveal, or else they are deliberately attempting to deceive the world's educators. Educators should know that some of the most open attacks on evolutionary dogma come from evolutionary scientists themselves, and it

is from these men that creationists take note of the religious nature of the evolutionary paradigm. Strangely, testimony from these scientists is distinctly absent from the anti-creationists writings. Examples of some of these writings by evolutionary scientists are given below.

Paul Ehrlich and L.C. Birch, biologists at Stanford and the University of Sydney, respectively, summarized the problem in Nature Magazine:

> Our theory of evolution has become ... one which cannot be refuted by any possible observations. Every conceivable observation can be fitted into it. It is thus 'outside of empirical science' but not necessarily false. No one can think of ways in which to test it. Ideas, either without basis or based on a few laboratory experiments carried out in extremely simplified systems have attained currency far beyond their validity. They have become part of an evolutionary dogma accepted by most of us as part of our training.

L. Harrison Matthews, writer of the introduction to the 1971 edition of Darwin's ORIGIN OF SPECIES has this to say:

> The fact of evolution is the backbone of biology and biology is thus in the peculiar position of being a science founded upon an unproved theory - is it then a science or a faith? Belief in the theory of evolution is thus exactly parallel to belief in special creation - both are concepts which believers know to be true, but neither, up to the present, has been capable of proof.

Derek V. Ager writes in "The Nature of the Fossil Record":

> It must be significant that nearly all the evolutionary stories I learned as a student, from Tureman's Ostrea/Gryphaea to Carruther's Zaphrentis delanovei, have now been 'debunked'.

These men and others are helping us to gain a more accurate perspective on the subject of origins. Certainly in the light of these statements, evolution cannot be considered to be a proven fact. Even its status as a scientific theory can be challenged. Dr. Colin Patterson, senior paleontologist for the British Museum of Natural History, in a public lecture before the American Museum of Natural History in New York City, November 5, 1981, said that he posed this question to the geology staff of the Field Museum of Natural History: "Can you tell me anything you know about evolution, any one thing that is true?" He also posed this same question to the prestigious body of evolutionists at the Evolutionary Morphology Seminar at the University of Chicago. The answer he received from both groups was *silence,* until one member of the morphology group spoke up and said: "I do know one thing - it ought not to be taught in high school." Scientific creationists disagree. They think that evolution should be taught, but only when the strengths and weaknesses are discussed in comparison with the scientific merits of creation. Perhaps it is about time that we all learned that it is wrong to suppress evidence and teach only one view of origins as the evolutionists are demanding now. Policymakers and educators should realize that both models of origins are paradigms. Creation is neither less scientific nor more religious than evolution. Teachers must be allowed to realize this without being demeaned by a vocal minority of self-styled experts in the wisdom of science. Both teachers and students must have this freedom if today's schools are going to develop the decision-makers that we need. Open inquiry can solve this problem of teaching origins if proper skills of scientific inquiry are taught and utilized.

Creationists have been accused of teaching pseudo-science when they state that the planet upon which we live is probably a young planet rather than an old one; or that the second law of thermodynamics (systems tend to go from complex to simple, rather than going from simple to complex, naturally) applied to the living as well as the inanimate world. These comments and many others are carelessly given out by the anti-creationists as evidence against the creationists'

credibility; yet, the creationist has shown his willingness to consider all evidences relating to geologic ages, whether old and young. On the other hand, the fact that there are many data that seem to limit the age of the earth and universe to younger ages is never stated or even considered by evolutionists. Oil well fluid pressures; the helium inventory in the atmosphere; polonium halos in our oldest rocks; dust on the moon; the earth's magnetic decay; short-term comets, and many others give young ages for the earth and the cosmos. Creationists believe that much more research has to be done and that true scientists should not have a closed mind on this topic; the question must remain open. Evolutionists deny this and reject, out of hand, any information that gives anything but old ages. This is bad science and does not lead to objective decision making. What creationists are asking for is open and objective science that will leave room for progress and discovery. No *scientific creationist* is proposing the use of the Bible as a science text book in the public schools. However, scientific creationists believe that scientists should adhere to the principles of science as they operate in the real world of science, and young people should be taught the process skills of science and scientific inquiry by exposing them to all data, regardless of which side they seem to fall upon.

"If you let creation in, you will be teaching a literal interpretation of the Bible and all of science will collapse," the anti-creationist insists. Statements such as these are evidently meant to scare the public and educators alike, but they are totally false. The question of evolution and creation is easily resolved when professional teachers rise above their personal biases and confine themselves to teaching the 'process skills' of science and scientific inquiry. From this point on, the "decision-maker," the "critical thinker," is the student. Unfortunately, most teachers refuse to let him be a decision-maker on this issue and literally force him to think in terms of evolution only.

It is often said that the content for the science curriculum must be selected data that explain the natural world scientifically, and that it has the ability to unify, illuminate, and integrate other facts. Does the evolution model do this any better than the creation model? Not at all. Hubert P. Yockey, writing for the *Journal of Systematic Biology,* has this to say about the whole question of origins:

> Since science has not the vaguest idea of how life originated on earth, whether life existed anywhere else, or whether little green men pullulate in our galaxy, it would be honest to admit this to our students, the agencies funding research, and the public.... It is new knowledge, not another clever scenario, that is needed to achieve an understanding of the origin of life.

Scientific creationists and others are proposing a two-model approach to the origin of life that will not only stimulate scientific thought among students, but in fact, capitalize on their motivation toward this subject. Creationists cannot legitimately be accused of bias or mind-programming when they merely offer their model as alternative to evolution. If evolution is so certain, then what is there to be afraid of in this matter? Some evolutionists seem to be saying, by their passionate resistance to the creation model, that they are afraid that their model won't stand up. They say that arguing with a Creator is a no-win situation. By the same token, can't the creationist say that arguing with a model that can be *made* to fit any data is also a no-win situation? Why not let the students decide in this matter?

This writer submits, then, that every teacher, every student and every parent should have the opportunity to explore both models as a framework within which they can correlate scientific information without fear of retribution of any kind.

That the search for knowledge and understanding of the physical universe and of the living things that inhabit it should be conducted under conditions of intellectual freedom, without religious, political or ideological restrictions.... That freedom of inquiry and dissemination of ideas require that those so engaged be free to search where their inquirg leads ... without political censorship and without fear of retribution in consequence of unpopularity of their conclusions. Those who

challenge existing theories must be protected f rom retaliatory reactions (National Academy of Sciences Resolution of April, 1976: 'An Affirmation of Freedom of Inquiry and Expression').

Clarence Darrow, in the Scopes trial of 1925, had this to say:

> ... let the children have their minds kept open ... close no doors to their knowledge ... shut no door to them ... let them have both evolution and creation ... the truth will win out in the end.

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May 1, 2002

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For in six days the Lord made the heaven and the earth, the sea, and all that in them is, and rested the seventh day... Exodus 20:11

EVOLUTION VERSUS THE PEOPLE
- BTG No. 161 May 2002
by Henry M. Morris, Ph.D.

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". . . the god of this world hath blinded the minds of them which believe not, lest the light of the glorious gospel of Christ, who is the image of God, should shine unto them" (II Corinthians 4:4).

President Bush's important Elementary and Secondary Education Bill, H.R. 1, was signed into law (P. L. 107-110) on January 8, 2002. It contained the following statement, representing the "sense" of the Congress.[1]

> The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may guarantee controversy (such as biological evolution) the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.

The above language was intended to encourage classroom discussion of all the scientific arguments, pro and con, about evolution. It was originally offered in the form of an Amendment to the Senate Education Bill, introduced by Rick Santorum (R-Pennsylvania) following his visit to 150 schools of his state, listening to recommendations of the teachers, parents, administrators, and students of these schools.

Senator Santorum's amendment was strongly endorsed by such key Democrats as Ted Kennedy and Robert Byrd, and passed the Senate by a vote of 91-8. The bill itself passed by 87-10. It had previously passed the House. The Senate/House Conference Committee then was subjected to much negative pressure by the evolutionary establishment and finally moved the amendment in the Conference Report to a place in the "Joint Explanatory Statement." However, it left its language essentially unchanged.

Eugenie Scott, representing the evolutionary establishment, put an evolutionary "spin" on this statement, interpreting it to say that "teachers do not have to alter how they teach evolution as a result of the Education Bill."[2]

Most others, however, including Senator Santorum himself, understand it differently. He writes:

> My amendment was included in the final version of the bill, H.R.1. Specifically, the amendment expresses the sense of the conferees

> that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science.[3]

Among Santorum's earlier "talking points," when introducing and promoting his amendment, was the following:

> My amendment simply states that it is the sense of the Senate that honest intellectual debate and the teaching of consistent scientific principles should include the evidence for and against materialism, intelligent design in biological and "scientific" education.

Thus, the bill clearly encourages teachers to include the scientific evidence *against* evolution in classes where evolution is being assumed. As Senator Santorum indicated: "National opinion surveys show . . . that Americans overwhelmingly desire to have students learn the scientific arguments against, as well as for, Darwin's theory."[4]

Massimo Pigliucci, a biologist who has actually taken part in several creation/evolution debates says in the journal *Evolution*:

> As unbelievable as it may seem, poll after poll not only confirms that only about 10% of Americans believe that evolution occurs, but also that about a third of high school biology teachers rejects the theory of evolution.[5]

Evolutionists like Pigliucci find it "unbelievable" that so many Americans—even biology teachers—reject evolution! What has gone wrong, they ask.

One arrogant explanation for this situation is that most people cannot understand the nuances of evolution.

> Despite the acceptance of Darwin's ideas by most thoughtful individuals, nearly half of the general population in the United States rejects them.[6]

Note the implication that people who are "thoughtful" believe in evolution. However, there are now thousands of fully **credentialed scientists**, as well as thousands of well-educated and thoughtful people in other fields who have become creationists in the past half-century.

Furthermore, most people who still believe in evolution do so because their teachers and the media repeatedly have assured them that all scientists are evolutionists, but they have little or no knowledge themselves of the actual evidence. This "problem" is all blamed on "Christian fundamentalists" who are responsible for "creating a situation that has led to a dumbing down of evolution education in U.S. science classes,"[7] so they say.

One proposed remedy for this situation is to have universities celebrate February 12 as Darwin Day. There now exists "an international Darwin Day organization presided over by Richard Dawkins which coordinates efforts on dozens of university campuses to put some sanity back into our science education."[8] By "sanity," Professors Pigliucci and Dawkins presumably imply more naturalism and secular humanism. Both men are atheists, and so are Eugenie Scott and most other leading evolutionists.

Another suggestion is to downplay the origin of life as an evolutionary event and

focus on just the origin of species. The origin of life itself has proved too intractable to deal with naturalistically.

> For example, the contents of volume 54 (2000) of *Evolution* comprise 192 primary research articles, but not one that concerns the origins of life.[9]

In fact, practically all the articles in the journal *Evolution* deal merely with examples of variation (such as different varieties of dogs and cats), though they call it evolution. Creationists have no problem with microevolution, except for its misleading name. Of course evolutionists believe by faith that these small horizontal variations, if they continue long enough, will evolve into significant vertical changes, or macroevolution.

> The creationist tactic of falsely separating micro from macroevolution has led to science teaching standards that include language about adaptation and natural selection while omitting language on common descent.[10]

The fact is, of course, that adaptation and natural selection are observable processes in the real world, whereas common descent of two or more distinct kinds from some different ancestral kind is not. Real evolution from one kind to another kind is based on faith, not observation.

Evolutionists often repeat their own statement of faith that evolution is a science. Michael Shermer, for example, insists that "the theory of evolution is a scientific theory, not a religious doctrine. It stands or falls on evidence alone."[11]

If that were really so, it would have fallen long ago, because the scientific evidence (that is, observable, repeatable evidence) is altogether absent.

There are literally scores of books available today, written by knowledgeable scientists, showing that there is no valid scientific evidence for evolution. But evolutionists ignore them.

For those unwilling to read a large book, we have a small booklet, *The Scientific Case Against Evolution*, which documents from scientific evolutionary sources alone the fact that evolution did not occur in the past, does not occur in the present, and could not occur at all. Apparently they won't read this either. At least, no one has tried to refute it.

The evidence that evolutionism is religion and not science is easily understood by anyone. No wonder the polls show large numbers in favor of including creation teaching in our public schools. In effect, our Congress and the President have now officially recognized this fact, via the Santorum amendment in the new education bill.

We hope that both the many creationist biology teachers and also many open-minded evolutionary teachers will now recognize and act on this fact.

But don't count on it. As the Bible has said: *"But if our gospel be hid, it is hid to them that are lost: In whom the god of this world [that is Satan, who is very powerful, and very deceptive] hath blinded the minds of them which believe not, lest the light of the glorious gospel of Christ, who is the image of God, should shine unto them"* (II Corinthians 4:3,4).

Endnotes

1. Congressional Record-House (December 18, 2001) H 9951.

2. NCSE Resource, "Santorum Amendment Stripped from Education Bill," p. 2. The author, Dr. Eugenie Scott, is Director of the National Center for Science Education, the more or less official action center for anti-creationism.

3. Rick Santorum, form letter, February 5, 2002.

4. Rick Santorum, statement issued on December 18, 2001.

5. Massimo Pigliucci, "Defending Evolution, as Strange as it Seems" *Evolution* (vol. 56, No. 1, 2002),
p. 206.

6. Arthur M. Jackson, "Celebrating Darwin Day," *The Humanist* (vol. 62, January/February 2002), p. 46.

7. Ibid.

8. Pigliucci, op. cit., p. 207. Arthur Jackson assures us that celebrating Darwin Day "has grown significantly to become an international event" (Jackson, op. cit.) p. 46.

9. Michael F. Antolin and Joan M. Herbers, "Evolution's Struggle for Existence in America's Public Schools," *Evolution* (vol. 55, December 2001), p. 2381.

10. Ibid., p. 283. Note the quixotic title of this article. Are creationists really making evolutionism struggle for its existence? They have never tried to *ban* evolution, but only allow creation in as an alternative.

11. Michael Shermer, *Why People Believe Weird Things* (New York: W. H. Freeman, 1997), p. 135.

*** Dr. Morris is Founder and President Emeritus of ICR.**

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IMPACT No. 278

BIOLOGY TEXTBOOKS WORLDVIEW DEVELOPMENT AND THE CREATION/EVOLUTION CONTROVERSY

by Steve Deckard*

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"Vital Articles on Science/Creation" August 1996

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Introduction

Secondary school biology textbooks are the central tool in the instructional process of teaching biological science in the American school systems. For example, Yager reported that "over 90% of all science teachers use a textbook 95% of the time; hence the textbook becomes the course outline, the framework, the parameters for students' experience, testing, and a worldview of science" (p. 578, 1983). The purpose of this article is to: (1) document the amount and nature of evolutionary content found in secular secondary school biology textbooks, (2) discuss the importance of understanding the difference between microevolution and macroevolution, (3) establish the connection between evolutionary theory and worldview development, and (4) discuss alternatives to the secular secondary biology textbooks.

Evolutionary content of selected secular secondary biology textbooks

Swarts (1991) analyzed eight widely used U.S. secondary biology textbooks for their evolutionary content. The evolutionary content was divided into 12 "Categories of Evolutionary Content," with proportions as follows:

Biology: An Everyday Experience	Merrill	2.9%
Focus on Life Science	Merrill	7.1%
Biology: Living Systems	Merrill	7.4%
Life Science	Scott, Foresman	8.5%
BSCS: An Ecological App. (GreenVersion)	Kendall/Hunt	13.2%
BSCS: A Molecular App. (Blue Version)	DC Heath	13.5%
Modern Biology	Holt, Rinehart & Winston	13.9%
Biological Science: An Inquiry into		

Life (Yellow Version) Harcourt, Brace Jovanovich 15.6%

Microevolution and Macroevolution and worldview development

Swarts use of 12 "Categories of Evolutionary Content" makes no distinction between that which is observable and that which is conjecture. But the distinction between microevolution and macroevolution is a must.[1] The connection with worldview development is noted by Silvius: Creationists who acknowledge the existence of microevolution agree with proponents of macroevolution that natural selection does cause "evolutionary change." Indeed, much of the discussion of macroevolution in modern writings is related to microevolution which is discussed accurately from a scientific standpoint, but then is used as evidence for the "great leap" of extrapolation to macroevolution. This most extensive "leap" appears when evolution is elevated to the worldview status of **evolutionism.** Evolutionism combines organic evolution, biological evolution, and societal evolution into one atheistic, naturalistic framework (Silvius, p. 341).

The implication is clear. Creationists are not opposed to teaching microevolution **but rather to the teaching of macroevolution as fact.**

Swarts showed clearly that very little content of the secular secondary biology textbooks is devoted to creationism or creation science. Most of these texts do not even mention these as an alternative. This is because the textbook authors do not consider creation science as an alternative model nor as a science. On the other hand, evolutionary theory including macroevolution is viewed as science, and the main component of a unified worldview.

Creationist content in secular secondary biology textbooks

The central role of biology textbooks makes it imperative that Christian teachers understand their content. This is true, not only for those concerned with the public school textbook content, but also those concerned with Christian schools, because secular high-school biology textbooks are used in some Christian schools.

The results of a 1995 ACSI textbook survey show that some educators in Christian schools are not overly concerned with the evolutionary content. Seventy percent of the schools use a Christian text. Most of the remaining 30% used standard secular secondary school biology texts, each evolutionary based. Two of these were analyzed by Swarts. They are: Holt and Rinehart's *Modern Biology,* and the Merrill's *Biology of Living Systems.* The *Modern Biology* text ranked second highest (in evolutionary content) among the eight U.S. texts analyzed (13.9%). The *Biology: Living Systems* ranked third from the bottom (7.4%). From a Christian creationist perspective, the use of *Modern Biology is* not acceptable. This evolutionarily based text presents evolutionary doctrine and dogma in more than one out of every eight pages read. The choice of Merrill's *Biology: Living Systems is* a bit better, but still a compromise.

Fortunately, there does seem to be a clear choice for those Christian schools which for some reason choose a secular text. This would be *Biology: An Everyday Experience* (Merrill). This text ranks the lowest (2.9%) in evolutionarily content and presents some other advantages in terms of the distribution of the evolutionary content. It is heavily concentrated with evolutionary content in two sections (based on dividing the text into ten equal sections). Eighty-nine percent of the 2.9% evolutionary content is found in the last two sections and 10.9% in the first section. This seems to indicate a lack of integration of evolutionary content within the rest of the text. This would allow the teacher to simply toskip the sections which are heavily laden with evolutionary religion if so desired.

A second reason that *Biology: Living Systems is* a better choice deals with its lack of emphasis on human evolution, which is not addressed. This leaves out the destructive religion which teaches

that man evolved from animals.

As a comparison, *Modern Biology* has evolutionary content in every tenth section except the ninth and has 51.6% in a key area. Clearly the teacher would not have a choice in regards to skipping certain sections. In the *Modern Biology* main narrative, the idea of evolutionary theory as the main unifying theme of biology is taken to heart. The percentile breakdown indicates the integration of evolutionary content throughout the main narrative.

Creationist content of Christian secondary and college-level biology textbooks

Currently available Christian based biology textbooks at the secondary level are not fully creationist. This may be due to the fact that a number of Christians do not believe that the doctrine of creationism is truth or that it is relevant. According to Gary North, the reason—at least in part—deals with the fact that: Christians have not been shown clearly and decisively that Darwinism is a total worldview, and that by accepting any aspect of this worldview, Christians compromise and weaken the presentation of the Christian worldview, as well as risk disobeying God. They have not been shown how evolutionism spreads like cancer from the geology or biology textbook to every area of personal ethics and public policy. Worse, they have not been shown why and how six-day creationism leads to a fundamentally unique worldview that encompasses things other than academic topics like historical geology and biology. To win the battle with Darwinism, which is above all a comprehensive worldview justifying comprehensive power, six-day creationists must believe that the stakes are far larger than mere laboratory experiments or one-evening debates. Creation scientists must demonstrate to Christians that six-day creationism really makes a difference in every area of life.

According to North, six-day creationism should be the foundation for the modern-day Christian worldview. Even though many Christian thinkers have sounded the call for a renewed vigor and stance on six-day creationism, the current non-secular (Christian) textbooks do not fully support such a view.

There is, however, a good introductory *college-level* textbook written by John Silvius. Professor Silvius starts with the right foundation including an introductory chapter regarding the issue of belief system and the importance of the creationist perspective in the development of such a worldview. Dr. Silvius then proceeds to integrate within the text the concepts necessary to show the ties with creationism and true science as it would be practiced under a correct understanding of a creationist-based worldview.

The importance of worldview in biology curriculum development

Because of the lack of solid creationist-based biological textbooks at the secondary level, much work in the area of curriculum development needs to be done. From this author's perspective, the ICR tenets of Scientific and Biblical Creationism should serve as the starting point and unifying theme of biology textbooks and the development of biological science materials.[2] Use of the ICR tenets:

1. Assists the curriculum developer in combating the tenets of false science and worldview of the National Association of Biology Teachers and other evolutionary groups.
2. Allows for the development of a broad-scoped curriculum allowing the curriculum developer to show how science affects all areas of the life endeavor.
3. Assists the creationist curriculum developer in showing clearly and decisively that the creationist worldview is a total and logically satisfying worldview.
4. Allows the developer to integrate a creationist worldview throughout the text materials in response to textbooks such as Modern Biology.
5. Would focus the content within a microevolution framework.

6. Would focus the content on a correct view of the nature of man. Man would be viewed as a created being in fully human form right from the start.

Discussion and conclusions

The evidence is in and the battle lines are drawn. It is past time for the Christian community to make the choice to defend the Biblical creation-based worldview. Because biology textbooks communicate a particular worldview, it is difficult to imagine how the use of evolutionarily based texts in a Christian school can be defended. The informed Christian must understand this and the implications of choosing a particular textbook.

There are alternatives to the secular texts, but these alternatives are not complete in their presentation of a creationist worldview. Much needs to be done in preparing textbooks and other biological science materials that present our children with a correct perspective of God's world.

Footnotes

1. Microevolution may be defined as: genetic change within limits (Silvius, p. 339), whereas macroevolution may be defined as the general theory of evolution which allegedly occurs with no limits to biological change. The later appears to be Swarts' definition of choice. There is no evidence for macroevolution while on the other hand, there exists abundant evidence for microevolution, or (better) variation within limits.
2. See "The Tenets of Creationism," *Impact* article #85 by Dr. Henry Morris.

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"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

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IMPACT No. 282

SHOULD EVOLUTION BE IMMUNE FROM CRITICAL ANALYSIS IN THE SCIENCE CLASSROOM?

by David Buckna and Denis Laidlaw *

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"Vital Articles on Science/Creation" December 1996

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This fall it was back to class for millions of students enrolled in schools, colleges, and universities throughout Canada and the United States. For those taking science courses such as biology, anthropology, and earth science, it's quite evident that evolution is the reigning paradigm in science today. University of Calgary biology professor Gordon Pritchard's statement on evolution is a good example of this mode of thinking: " . . . evolution currently provides the best explanation for the diversity of life on earth, including humans" (Calgary Herald, August 3, 1995, p. A5).

Michigan State physiology professor Robert S. Root-Bernstein wrote regarding his introductory course on evolution: "I encourage [students] to be skeptical—as long as their skepticism is based on logic and evidence. . . . Questions are what drives science, not answers. . . . Take nothing for granted, I counsel my students: that is what makes a scientist" ("Darwin's Rib," in *Discover*, September 1995, pp. 38–41).

Taking a cue from professor Root-Bernstein that "questions are what drives science, not answers," what follows is a partial list of questions that could be used to critically examine and evaluate evolutionary theory.

These questions would make good classroom discussions, initiated by either teacher or student, or good student research assignments.

1. Microsoft programmers utilized complex codes to create the Windows 95 software. The genetic code, which is more sophisticated, controls the physical processes of life and is accompanied by elaborate transmission and duplication systems. How does evolution, using

natural processes and chance, solve the problem of complex information sequencing without intelligence?

2. Evolutionists believe the Cambrian explosion of new life began about 525–550 million years ago. Stephen Jay Gould writes: ". . . an elegant study, published in 1993, clearly restricts this period of phyletic flowering to a mere five million years." (*Scientific American*, October 1994, p. 89.) What is the approximate number of beneficial mutations which must have occurred per year during this 5-million-year period, given that billions x billions of information bits would have to be encoded? What percentage of mutations in multicellular organisms have been recognized as beneficial? List any you find.
3. Within the field of biogenesis studies, there are a number of models which posit that the early, prebiotic earth must have had a reducing atmosphere (without oxygen or ozone). How could life begin to evolve without ozone to protect the earliest life forms from harmful UV radiation?
4. Both "left-handed" and "right-handed" amino acids occur naturally. Life forms contain proteins consisting principally of "left-handed" amino acids. Assuming a simple protein molecule of 172 amino acids, what is the mathematical probability that all 172 amino acids would be "left-handed"?
5. Megatons of amino acids would be required to reach the necessary concentrations for protein synthesis in a vast primordial ocean. Puddles and ponds have a limited duration. Does evolution address this problem?
6. Molecular biologist Michael Denton (Senior Research Fellow, University of Otago in New Zealand) in his book, *Evolution: A Theory in Crisis*, states there is not a trace of evidence on the molecular level for the traditional evolutionary series. Other molecular biologists agree/disagree with his conclusion. Why?
7. How does evolution explain the emergence and development of sexual reproduction given that both male and female physiology would have to mutate simultaneously?
8. True or False? Life appears abruptly and in complex forms in the fossil record and gaps appear systematically between various living kinds.
9. Document from the fossil record the transitional forms leading up to the first fish, from their assumed invertebrate ancestors.
10. Jellyfish consist entirely of soft body tissues. How do evolutionists explain the existence of jellyfish fossils, in view of their argument that soft body tissues of missing intermediate forms did not fossilize?
11. The coelacanth fish was thought to be extinct for 70 million years, until one was caught off the coast of Madagascar in 1938. How do evolutionary biologists evaluate the discovery?
12. Describe one undisputed example of a creature that was transitional between fish and amphibian.
13. There are innumerable evolutionary enigmas, such as eyes, bat radar, and pterodactyl wings. In each case, all the component parts would have to evolve simultaneously in order to function properly. Discuss three other structures which defy evolutionary explanation.
14. Describe one insect that was transitional between a non-flying insect and a flying insect.
15. During the Industrial Revolution, dark-colored peppered moths appeared in larger numbers during environmental changes. Did a new species emerge, or did it already preexist? Is this macroevolution?
16. "Bird-like" dinosaurs such as Struthiomimus were "lizard-hipped," while dinosaurs such as the low-slung, four-legged Ankylosaurus were "bird-hipped." How do paleontologists who believe dinosaurs evolved into birds, account for these characteristics?
17. Is it possible to document from the fossil record the series of transitional forms that led up to *any* dinosaur species?
18. (a) Were the feathers of Archaeopteryx identical to modern flying birds? (b) Are there any undisputed true birds in the fossil record that had teeth? (c) Archaeopteryx had claws on its wings. Name three modern birds that have claws on their wings (either in the juvenile stage or as an adult).

19. Evolution teaches that mammals evolved from reptiles. All mammals have three bones in the ear (and the Organ of Corti) and a single bone on each side of the lower jaw. All reptiles have a single bone in the ear and on average six bones on each side of the lower jaw. Speculate how intermediate forms could have managed to hear and chew, while the necessary restructuring was taking place and the Organ of Corti was being developed.
20. Has any creature been identified as a direct ancestor of primates? Has any creature been identified as the common ancestor of man and apes? Explain your answers.
21. Evolutionist Dr. Charles Oxnard (Professor of Anatomy and Human Biology, University of Western Australia) completed the most sophisticated computer analysis of australopithecine fossils ever undertaken, and concluded that they have nothing to do with the ancestry of man whatsoever and are simply an extinct form of ape (see Oxnard's *The Order of Man*, Yale University Press, 1984). How have paleoanthropologists responded to his conclusions?
22. Stern and Susman write in the *American Journal of Physical Anthropology* 60:279-313 (1983) that the hands and feet of *Australopithecus afarensis* are not at all like human hands and feet; rather, they have the long, curved fingers and toes typical of arboreal primates. How, then, do some insist that the footprints Mary Leakey uncovered in strata (dated at 3.5 million years old) in Laetoli were made by *Australopithecus afarensis*, though these prints are indistinguishable from modern man? (Tuttle, Natural History, 64)
23. Nebraska Man (based solely on a fossil tooth) became a significant image in America during the time of the Scopes trial (1925); later, scientists discovered the tooth came from a pig. A report in *Nature* (August 17, 1995) states that analysis of an incomplete shin bone from a creature dubbed *Australopithecus anamensis* suggests it walked upright "between 3.9 and 4.2 million years ago." How should we treat discoveries which have not yet faced the rigors of scientific validation?
24. In 1982, Dr. Lyall Watson stated: "The fossils that decorate our family tree are so scarce that there are still more scientists than specimens. The remarkable fact is that all the physical evidence we have for human evolution can still be placed, with room to spare, inside a single coffin!" (*Science Digest*, vol. 90, May '82, p. 44.) Is Watson's statement still valid today?
25. If coal formation was a slow, vertical accumulation of sediments over vast ages (a) why are fossil trees sometimes found upside down in coal seams? (b) why are marine fossils such as tubeworms, sponges, and corals often found in coal beds?
26. Oil and gas, trapped within permeable sedimentary rock, remains at high pressure. If trapped for millions of years, why wouldn't these pressures have dissipated?
27. Does the retrograde motion of Venus, Uranus, and Pluto support or contradict the theory of solar system formation?
28. On March 25, 1996, Comet Hyakutake (classified as a short-period comet) made its closest swing by Earth, at a distance of about nine million miles. According to English astronomer Raymond A. Lyttleton and others, what's the maximum lifetime for a short-period comet?
29. The Oort Cloud was first theorized by Dutch astronomer Jan Oort in 1950 to account for the existence of short period comets. Since 1950, has any portion of the postulated Oort Cloud ever been directly observed?
30. Are new stars forming today? Are new planets which circle faraway stars beyond the solar system actually being discovered?
31. If the universe is billions of years old, orbital mechanics require that spiral galaxies and galaxy clusters should have blurred or spun apart long ago. How do Big Bang advocates explain their present shape? Is there any direct evidence for the "missing mass" of the universe (Cold Dark Matter)?
32. In his book, *Darwin's Black Box: The Biochemical Challenge to Evolution*, Dr. Michael Behe defines an "irreducibly complex" system as a single system composed of several interacting parts that contribute to the basic function, and where removal of any one part causes the system to effectively cease functioning. Give an example of a system (living or non-living) that could be considered "irreducibly complex," and explain why.
33. In his 1981 address to the geology staff at the Field Museum of Natural History in Chicago,

> Dr. Colin Patterson (Senior Paleontologist, British Museum of Natural History) asked: "Can you tell me anything you KNOW about evolution? Any one thing? Any one thing that is true?" The answer he got was silence. Can you state any one thing about evolution you know to be true? How do you know it is true?

To avoid the charge that evolution is presented to students as fact rather than theory, school boards may wish to consider the following *Origins of Life* policy:

> As no theory in science is immune from critical examination and evaluation, and recognizing that evolutionary theory is the only approved theory of origins that can be taught in the [province/state] science curriculum: whenever evolutionary theory is taught, students and teachers are encouraged to discuss the scientific information that *supports* and *questions* evolution and its underlying assumptions, in order to promote the development of critical thinking skills. This discussion would include only the scientific evidence/information *for* and *against* evolutionary theory, as it seeks to explain the origin of the universe and the diversity of life on our planet.

If science is a search for truth, no scientific theory should be allowed to freeze into dogma, immune from critical examination and evaluation.

> * David Buckna and Denis Laidlaw are both public school teachers in British Columbia, Canada.

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We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians10:4,5).

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As he spake by the mouth of his holy prophets, which have been since the world began.
Luke 1:70

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***Impact* #332**

Evolution is Religion-Not Science

by Henry M. Morris, Ph.D.*

The writer has documented in two recent Impact articles [1, 2] from admissions by evolutionists that the idea of particles-to-people evolution does not meet the criteria of a scientific theory. There are no evolutionary transitions that have ever been observed, either during human history or in the fossil record of the past; and the universal law of entropy seems to make it impossible on any significant scale.

Evolutionists claim that evolution is a scientific fact, but they almost always lose scientific debates with creationist scientists. Accordingly, most evolutionists now decline opportunities for scientific debates, preferring instead to make unilateral attacks on creationists.

> Scientists should refuse formal debates because they do more harm than good, but scientists still need to counter the creationist message.[3]

The question is, just *why* do they need to counter the creationist message? Why are they so adamantly committed to anti-creationism?

The fact is that evolutionists believe in evolution because they *want* to. It is their desire at all costs to explain the origin of everything without a Creator. Evolutionism is thus intrinsically an atheistic religion. Some may prefer to call it humanism, and New Age evolutionists may place it in the context of some form of pantheism, but they all amount to the same thing. Whether atheism or humanism (or even pantheism), the purpose is to eliminate a personal God from any active role in the origin of the universe and all its components, including man.

> The core of the humanistic philosophy is naturalism—the proposition that the natural world proceeds according to its own internal dynamics, without divine or supernatural control or guidance, and that we human beings are creations of that process. It is instructive to recall that the philosophers of the early humanistic movement debated as to which term more adequately described their position:

> humanism or naturalism. The two concepts are complementary and inseparable.[4]

Since both naturalism and humanism exclude God from science or any other active function in the creation or maintenance of life and the universe in general, it is very obvious that their position is nothing but atheism. And atheism, no less than theism, is a religion! Even doctrinaire-atheistic evolutionist Richard Dawkins admits that atheism cannot be proven to be true.

> Of course we can't prove that there isn't a God.[5]

Therefore, they must *believe* it, and that makes it a religion. The atheistic nature of evolution is not only admitted, but insisted upon, by most of the leaders of evolutionary thought. Ernst Mayr, for example, says that:

> Darwinism rejects all supernatural phenomena and causations.[6]

> A professor in the Department of Biology at Kansas State University says:

Even if all the data point to an intelligent designer, such a hypothesis is excluded from science because it is not naturalistic.[7]

It is well known in the scientific world today that such influential evolutionists as Stephen Jay Gould and Edward Wilson of Harvard, Richard Dawkins of England, William Provine of Cornell, and numerous other evolutionary spokesmen are dogmatic atheists. Eminent scientific philosopher and ardent Darwinian atheist Michael Ruse has even acknowledged that evolution *is* their *religion!*

> Evolution is promoted by its practitioners as more than mere science. Evolution is promulgated as an ideology, a secular religion—a full-fledged alternative to Christianity, with meaning and morality. . . . Evolution is a religion. This was true of evolution in the beginning, and it is true of evolution still today. [8]

Another way of saying "religion" is "worldview," the whole of reality. The evolutionary worldview applies not only to the evolution of life, but even to that of the entire universe. In the realm of cosmic evolution, our naturalistic scientists depart even further from experimental science than life scientists do, manufacturing a variety of evolutionary cosmologies from esoteric mathematics and metaphysical speculation. Socialist Jeremy Rifkin has commented on this remarkable game.

> Cosmologies are made up of small snippets of physical reality that have been remodeled by society into vast cosmic deceptions.[9]

They *must* believe in evolution, therefore, in spite of all the evidence, not because of it. And speaking of deceptions, note the following remarkable statement.

> We take the side of science in spite of the patent absurdity of some of its constructs, . . . in spite of the tolerance of the scientific community for unsubstantiated commitment to materialism. . . . we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is

> absolute, for we cannot allow a Divine Foot in the door.[10]

The author of this frank statement is Richard Lewontin of Harvard. Since evolution is not a laboratory science, there is no way to test its validity, so all sorts of justso stories are contrived to adorn the textbooks. But that doesn't make them true! An evolutionist reviewing a recent book by another (but more critical) evolutionist, says:

> We cannot identify ancestors or "missing links," and we cannot devise testable theories to explain how particular episodes of evolution came about. Gee is adamant that all the popular stories about how the first amphibians conquered the dry land, how the birds developed wings and feathers for flying, how the dinosaurs went extinct, and how humans evolved from apes are just products of our imagination, driven by prejudices and preconceptions.[11]

A fascinatingly honest admission by a physicist indicates the passionate commitment of establishment scientists to naturalism. Speaking of the trust students naturally place in their highly educated college professors, he says:

> And I use that trust to effectively brainwash them. . . . our teaching methods are primarily those of propaganda. We appeal—without demonstration—to evidence that supports our position. We only introduce arguments and evidence that supports the currently accepted theories and omit or gloss over any evidence to the contrary.[12]

Creationist students in scientific courses taught by evolutionist professors can testify to the frustrating reality of that statement. Evolution is, indeed, the pseudoscientific basis of religious atheism, as Ruse pointed out. Will Provine at Cornell University is another scientist who frankly acknowledges this.

> As the creationists claim, belief in modern evolution makes atheists of people. One can have a religious view that is compatible with evolution only if the religious view is indistinguishable from atheism.[13]

Once again we emphasize that evolution is *not* science, evolutionists' tirades notwithstanding. It is a philosophical worldview, nothing more. Another prominent evolutionist comments as follows:

> (Evolution) must, they feel, explain everything. . . . A theory that explains everything might just as well be discarded since it has no real explanatory value. Of course, the other thing about evolution is that anything can be said because very little can be disproved. Experimental evidence is minimal.[14]

Even *that* statement is too generous. Actual experimental evidence demonstrating true evolution (that is, macroevolution) is not "minimal." It is nonexistent!

The concept of evolution as a form of religion is not new. In my book, *The Long War Against God*,[15] I documented the fact that some form of evolution has been the pseudo-rationale behind every anti-creationist religion since the very beginning of history. This includes all the ancient ethnic religions, as well as such modern world religions as Buddhism, Hinduism, and others, as well as the "liberal" movements in even the creationist religions (Christianity, Judaism,

Islam).

As far as the twentieth century is concerned, the leading evolutionist is generally considered to be Sir Julian Huxley, primary architect of modern neo-Darwinism. Huxley called evolution a "religion without revelation" and wrote a book with that title (2nd edition, 1957). In a later book, he said:

> Evolution . . . is the most powerful and the most comprehensive idea that has ever arisen on earth.[16]

Later in the book he argued passionately that we must change "our pattern of religious thought from a God-centered to an evolution-centered pattern."[17] Then he went on to say that: "the God hypothesis . . . is becoming an intellectual and moral burden on our thought." Therefore, he concluded that "we must construct something to take its place."[18]

That something, of course, is the religion of evolutionary humanism, and that is what the leaders of evolutionary humanism are trying to do today.

In closing this summary of the scientific case against evolution (and, therefore, for creation), the reader is reminded again that all quotations in the article are from doctrinaire evolutionists. No Bible references are included, and no statements by creationists. The evolutionists themselves, to all intents and purposes, have shown that evolutionism is not science, but religious faith in atheism.

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***Dr. Morris is founder and President Emeritus of ICR.**

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Teaching Creation and Evolution in Public Schools

Solid research reveals American beliefs

by Jerry Bergman

Originally published as: *The attitude of various populations toward teaching Creation and evolution in public schools* in: *Creation Ex Nihilo Technical Journal* **13**(2):118–123, 1999

Fifty studies were reviewed that surveyed opinions on teaching origins in public schools. The vast majority found about 90 % of the public desired that both creation and evolution or creation only be taught in the public schools. About 90 % of Americans consider themselves creationists of some form, and about half believe that God created humans in their present form within the past 10,000 years. In America, about 15 % of high school teachers teach both evolution and creation, and close to 20% of high school science teachers and about 10,000 scientists (including more than 4,000 life scientists) reject both macroevolution and theistic evolution. Although the vast majority of Americans desire both creation and evolution taught in school, the evolutionary naturalism worldview dominates, revealing a major disparity between the population and the ruling élite.

Introduction

Humans have, since their beginning, sought to understand how life began. Because the subject of origins deals with events that happened in the past, much speculation is involved, and the question of origins is an emotional issue intimately connected with personal belief structure. As evolution gained acceptance among scientists in the late 1800s, opposition to teaching it in public schools surfaced, and evolution is still not universally taught in American public schools.[1] Relatively few schools taught evolution, and many colleges did not include the subject in their curriculum, until after the 1930s.[2] Currently, evolutionary naturalism is the most widely taught view of origins in the West, and for the past half-century, evolutionists have strenuously opposed teaching competing theories of origins in public schools.

Creation-evolution surveys show most Americans are creationists

Scores of polls have now been completed by various organizations to assess both the public's opinions regarding creation and evolution and the advisability of teaching both views in the public schools. The first recent national scientific public opinion poll on teaching origins was completed in 1972 by George Gallup, a respected polling corporation with years of experience perfecting its methods. The poll asked a representative sample of 1,518 adults if they agreed with the statement:

'God created Adam and Eve, which was the start of human life.' Presumably, this question would separate those who conclude Adam and Eve were distinct creations from those who believe that humans evolved from a 'lower' life form by natural selection acting on mutations.

Of the total sample, 91 % were creationists of some form, and 44 % (25 % of them college graduates) agreed with the statement that *'God created man pretty much in his present form ... within the past 10,000 years.'*[3] Fully 81 % of those who labelled themselves Evangelicals believed that humans descended from Adam and Eve, compared with 58 % of the non-Evangelical Protestants (Table 1, below). The lowest percent of agreement was among Roman Catholics (only 47 % agreed). Gallup found that close to 50 % of the population rejected both atheistic and theistic evolution, at least of humans.

Table 1. *Percent who agreed with:* 'God created Adam and Eve, which was the start of human life' *grouped by age, education and religion.*

Age	38 % (18–29)	51 % (30–49)	58 % (50 and older)	
Education	33 % (college)	55 % (High School)	66 % (Grade School)	
Religion	50 % (General Public)	81 % (Evangelicals)	47 % (Roman Catholic)	58 % (Protestants)

Gallup also found that agreement with creationism was inversely related to both education and age — the more educated and the younger the respondent, the *less* likely they were to believe that God created the first humans. The likely reason is that younger persons are better educated and more influenced by new secular ideas in the society around them. Only 33 % of college graduates agreed with the creation worldview compared with 66 % of grade school graduates. In a 1993 follow-up, Gallup found 82 % believe in some form of creationism, a drop of 10 %, and fully 47 % believe God created man pretty much in his present form within the past 10,000 years.[4] A similar 1986 University of Texas study found that fully 60 % of students (N = 1,000) believe that *'Adam and Eve were created by God as the first two people.'*[5]

Secular humanists' poll finds most Americans are creationists

A more focused poll was completed by Research Associates under the direction of Professor Gerald Goldhabar of the State University of New York in Buffalo. Commissioned by the atheistic organization *Council for Secular Humanism,* the poll found 90.7 % of Americans identified with a specific religion. A large majority (83.8 %) was either Protestant (55.2 %) or Catholic (28.6 %). The sampling frame consisted of 1,512 randomly selected U.S. households, and the sampling error was ± 2.3 % at the 95 % confidence level.[6] Education was found to be influential only at the extremes, i.e., those with a high school education or less were more likely to believe in *'a personal God who can answer prayer'* (93.9 %), but of respondents with a graduate or professional degree,

only 80.2 % agreed. Fully 91.2 % of all people expressed a belief in God, and 6.1 % claim they once did *not* believe in God but do so now.

This humanist survey that was designed to assess evolution beliefs found that the creationist position that rejects evolution is the *most* dominant position on origins in America. Fully 46.4 % disagreed with the statement that *'evolution is the best possible explanation of human existence.'* Education was negatively related to belief in creationism — fully 69.4 % of those with high school education or less did not believe that evolution was the best possible explanation for life, as did 46 % of those with graduate or professional degrees. The majority of all persons sampled (52.7 %) disagreed with the theistic evolution world view, and 19.1 % of all people surveyed stated they believed that God created the cosmos from 5 to 10 thousand years ago (13.2 % of professionals agreed with this position). Also, 44.5 % with a high school education or less believe the Bible is the *'Word of God'* and fully 63.3 % of the college graduates believe the Bible is *'the inspired word of God,'* but only 14.8 % who have graduate or professional degrees agreed with this statement.

Table 2. *Results of several surveys on teaching origins.*

I want taught?	Midwestern Survey I	Midwestern Survey II		Portland Survey Cook 1983[37]	New Mexico Santillanes 1996[38]		ABC News[36]Associated Press 1981
	%	#	%	%	#	%	
Creation and Evolution	68	719	72.6	70.0	1214	73	76
Creation Only	16	125	12.6	23.0	160	10	10
Evolution Only	5	53	5.0	6.5	128	19	8
No opinion	11	92	9.0	-	96	8	6
Total Creation	84	844	85.3	93.5	1374	83	86
Total	**100**	**989**	**100.0**	**100**	**1598**	**100**	

The Creation center surveys

In 1976 the ICR Midwest Center completed a 'random phone survey' in five states and asked which view of origins they preferred taught in public schools.[7] The same group also contacted a representative sample in two California school districts and found 89 % (N = 1,346) in Del Norte

and 84 % (N = 92,000) in Cupertino preferred that *both* creation and evolution be taught in the public schools. A second ICR Midwest Center sample of 989 persons is broken down in Table 2 (above), survey II.

In summary, the surveys completed consistently show that most Americans support the teaching of Creation in the public schools and only a minority accepts Darwinism. Most people — up to 90 % — hold some form of creationism.

Creation surveys of college students and creationism

One longitudinal study indicates that acceptance of creation may be growing among some college students. A survey of Mormon students at Brigham Young University (BYU) found that in 1935 36 % (N = 1159) of the students agreed with the statement *'Man's creation did not involve biological evolution,'* compared with 81 % (N = 1056) in 1973.[8] In 1935 5 % compared with 27 % in 1973 agreed with the statement, *'The world's creation did not take millions of years.'* Students also claimed they became *more* conservative on religion as they progressed through BYU. Conversely, Hunsberger found little change in religiousness as students progressed through a secular college.[9] The type and religious orientation of the college is of major importance in how students develop religiously.

Spencer found that 34 % of his sample of 149 Wichita State University students labelled themselves creationists, 61 % theistic evolutionists, and only 3 % atheistic evolutionists.[10] Fully 47 % believed that the Genesis account of Noah, the Ark, and the Great flood is true, and 72 % believed that the Biblical account of Adam and Eve is true (50 % listed it as *certainly true* and 22 % as *probably true*). Spencer also found much inconsistency in the students' answers, indicating many students have not studied the topic or thought about it extensively. In another survey Fuerst administered a questionnaire to 2,387 students in ten different science courses at Ohio State University, Columbus, Ohio. He concluded that Biology students:

> *'showed a surprisingly low level of acceptance for the theory of evolution, and by an 80 % to 20 % rate favoured the concept of equal time for competing theories of origins.'*[11]

Another survey of nearly 2,400 science students at Ohio State University found 47 % did not believe Darwin's theory and fully 80 % felt that if Darwin's theory of evolution is taught in public schools, other views including special creation should also be taught.[12] Also, 58 % did not believe that teaching creationism in school amounted to teaching religion, and 41 % concluded that Darwinism did not have a valid scientific foundation.

These surveys are a few of those completed, all which find that a large percent of college students also hold to the some form of creationism.[13,14,15]

Surveys of teachers and scientists

It is usually assumed that although the public favours teaching both theories, teachers favour teaching only evolution. Eve and Harold concluded that surveys consistently indicate that *'about one-fifth to one-third of science teachers actually teach creationism in their classes ... .'*[16] Zimmerman found that, although 19.1 % of Ohio science teachers did *not* believe in evolution, fully 87.7 % taught it in their biology classes.[17] This means almost 20 % of Ohio science teachers were creationists but only 15.25 % taught creationism. A replication of this study by Tatina found evolution was a standard topic in 72.7 % of high school biology courses, creation in 16.3 %, and

both evolution and creation were frequently part of introductory biology classes.[18]

Surveys of scientists found 5 % believe that *'humans were created in their current form less than 10,000 years ago.'*[19,20] This means 10,000 of the 213,000 scientists working in academic and basic research were creationists, including 4,200 life scientists. A 1988 survey by *Industrial Chemistry* magazine found of 519 respondents, 23 % rejected the belief that humans evolved from simple chemical elements. Consequently, according to this survey almost 50,000 scientists are old or young-age creationists.

A survey by Bland of degreed biology professors, many with years of teaching experience in accredited Bible colleges, found 81 % (N = 38) taught both creation and evolution and only 17 % (N = 8) taught evolution alone.[21] Of this sample, 44 % (N = 21) taught theistic evolution, 49 % (N = 23) did not, 74 % (N = 35) used creation as an integrating theme in science, and only 24 % (N = 11) used evolution as an integrating theme.

In another survey, Harold and Eve found that fully 25 % of biology teachers believed that God created humans in their present form about 10,000 years ago.[22] They also concluded that students in eastern schools were *most* likely to accept evolution, and those in southern schools *least* likely to accept the theory (Table 3).

Table 3. *The question:* 'God created humanity pretty much in its present form in the last 10,000 years or so.' *(N = 90).*

	Agree (%)	Disagree (%)	Not sure (%)
Texas Students	28	42	31
Callfornia students	19	59	23
Connecticut students	19	56	25
High School biology teachers	25	64	11

Note: Because of rounding off, not all percentages add up to exactly 100%.

Troost found 54 % (173 out of 320) of Indiana secondary school biology teachers believed evolution was theory, not fact, and 43 % (N=163) that evolution should be presented in public schools as one of several alternative theories of origins.[23] Troost found fully 73 % of the teachers were creationists of some sort (many were theistic evolutionists), and 72 % rated themselves as *'very religious'*. The survey also found that, contrary to Troost's expectations, the religious teachers put as much emphasis on evolution as their non-religious colleagues.

In a survey of 125 teachers (56 Christian school teachers and 69 public school teachers in 31 states), Ramsey found that 93 % of Christian school teachers and 29 % of public teachers used the

two-model approach; 92 % of Christian school teachers and 18 % of public teachers believe the Bible creation account over evolution; 98 % of Christian school teachers and 18 % public teachers believe humans were specially created; and 74 % of Christian school teachers compared with 17 % of public teachers believe evolution is atheistic.[24]

About half of all teachers support teaching creationism

The major concern of teachers is not *if* creation is taught, but *how* it is taught. One survey involving 23 items mailed in 1988 to each of the 200 high schools in South Dakota found that creationism was presented in a favourable light in 9.5 % of the biology courses, and all but one of the teachers who presented it favourably believe that creationism has a scientific basis.[25] While 80.6 % of the teachers indicated that textbooks covered evolution satisfactorily, 51.4 % stated they were dissatisfied with the textbook coverage of creationism. Over half (59.6 %) felt that teaching creationism in the classroom did *not* mean teaching religion because creationism could be taught from a non-sectarian standpoint. In a measure of the teacher's knowledge about evolution, Tatina found only 7.1 % chose what the question's author believed was the correct evolution answer. Furthermore he found that,

> *'teachers who teach only evolution, as well as those who include a unit on creationism, were all equally likely to answer this question correctly as those who did not teach a unit on evolution.'*[26]

Fully 34.3 % of the teachers felt that creationism was scientifically valid, and ironically, attitudes on the validity of evolution were *'independent of whether evolution or creationism is taught.'*

Table 4. *Percent of teachers who believe that creation should be taught in public schools.*

Percent	Year	Place	Survey
30%	1983	Georgia	Eglin[39]
32%	1983	Georgia	Bunkner[40]
39%	1984	South Dakota	Tatina[41]
44%	1985	Kentucky	Ellis[42]
45%	1986	USA	Affannato[43]
23%	1997	Ft Wayne, IN	Caylor[44]

A 1994 survey by Overman and Deckard of a large group of science teachers randomly selected from the National Association of Science Teachers membership found that, of 313 usable surveys, fully 39 % disagreed with the statement *'evolution is a scientific fact'* and 5 % agreed that the Genesis account about Adam, Noah and the Tower of Babel are historically true.[27] A total of 79 % agreed that an eternal creator supernaturally made the physical universe, and fully 43 % reject macroevolution.

Blank and Andersen surveyed 218 persons in a teacher training program in a large Midwestern university (see Table 5 below).[28] Specifically, four classes (one secondary science methods and four elementary science methods classes) were polled during the 1995–1996 academic year. The students surveyed were *all* in pre-service training programs, and for brevity, are here labelled only secondary and elementary teachers. Hodgson and Hodgson surveyed a total of 1,372 students in 10 life science courses at Central Michigan University.

In the Blank and Anderson survey, 21 % of the secondary science teachers and 57 % of the elementary teachers stated they did not believe Darwin's theory of evolution was true. Hodgson and Hodgson found 38 % of students at Central Michigan University, and Fuerst found 33 % of students at Ohio State University, did not accept Darwin's theory of evolution. Blank and Anderson found 88 % of the elementary and 60 % of the secondary science teachers felt that non-Darwin views should be given equal time in class. In the Ohio State University sample, 80 % felt other views besides Darwin's should be given equal time in the classroom, and 81 % of the Central Michigan University sample held this position. Further 71 % of the elementary teachers and 47 % of the secondary science teachers did *not* view creationism as religion. Fully 58 % of the Ohio State University sample and 61 % of the Central Michigan University sample did not view creationism as religion. In addition, 64 % of the elementary and 45 % the secondary science teachers felt that the current textbooks should be changed so that they also present creationism. This compares with 62 % of the Ohio State University sample and 60 % of the Central Michigan University sample.[29,30]

Table 5. *Summary of three studies into beliefs and academic experience of teachers in training.* Data given as %.

		Blank/Andersen[45]		Hodgson/Hodgson	Fuerst Study
		Elementary	Secondary	Central Michigan University[46]	Ohio State University[47]
1	Darwinism **is not true**	57	21	33	30
2	Non-Darwinian/creation views should be taught	88	63	81	80
3	Creation should not be excluded from schools	71	47	60	58
4	Textbooks should teach creationism	64	45	60	62
5	Most scientists don't believe modern theory of evolution?	29	12	21	25

6	Evolution does not have a valid science foundation	54	16	40	41
7	Evolution can lead to decay of society	61	12	24	22
8	Had a course in biology in college	30	89	59	N/A
9	Have taken or are now taking geology in college?	31	63	18	N/A
10	Was taught about evolution in high school	70	67	73	73

Blank and Anderson argued that many adults accept creationism partly because a large number of teachers accept this worldview. The authors then discussed the ethics of teacher training programs that deliberately try to change students' beliefs by use of more intensive indoctrination programs. This research shows that a surprisingly high percent of teachers hold the creationist world view, and most surveys find about half believe creationism should be taught in the public schools.

The research shows most Americans are creationists

Some of the terms used in these surveys (e.g. atheistic evolution, theistic evolution, and theistic creation trichotomy) may not have been clear to many respondents. Specifically, some respondents may not have understood the difference between the creationist and theistic evolutionist positions. Ideally, more than three categories should be used, including acceptance of micro- (and macro-) evolution. This research raises the important question: Why does so much opposition exist in the US courts and among scientists to teaching both theories of origins when, according to all extant surveys, the majority of not only parents but also often teachers are in favour of the two-model approach? Also, if most parents and teachers support this approach, why does a single model dominate in public schools?

My surveys found that the majority of students were exposed only to evolutionary naturalism in their biology classes, and when creationism was mentioned it was often ridiculed. Evolution dominates partly because it is the only position discussed in most textbooks. The reason often given is the belief that separation of Church and State requires a one-sided presentation of evolution, yet fully 72 % of the 578 lawyers that returned a survey believed the First Amendment did *not* prohibit the teaching creationism in US public schools.[31] In the rare instances where creation is mentioned, it is usually to argue against it. A two-model position is much more effective from both an educational and pedagogical standpoint because teaching by contrasts helps

to understanding the source of knowledge and aids in comprehending information.[32]

The findings of this study support the contention that young people are less religious than the older generation partly because younger people spend more time in school, and education adversely influences both religious values and creation beliefs. This relationship would be expected considering the fact that textbooks, lectures and the secular school social environment are all often biased against theism and religious values.[33] Secular schools are consequently often successful in demolishing or reducing the strength of students' theistic beliefs. Some argue that intelligence and education cause one to reject creationist beliefs because these factors help one to learn the 'truth' about these topics, a questionable conclusion because schools are admittedly indoctrination institutions. This one-sided indoctrination violates the Supreme Court rulings that argue that the schools must not proselytize for religion, but also must not be antagonistic against theism and religious beliefs. The problem was summarized by Reapsome:

> *'A college education doesn't do much for one's religious faith; in fact, Americans with only a grade school education are more consistently religious in belief and practice than those who have been to college. Those who have completed high school fall somewhere in between. This fact places the churches in a critical bind. For many years, Christians were taunted with charges of ignorance and obscurantism. Faith was said to be for the ignorant and pastors were accused of ducking tough intellectual questions. Church kids by the thousands went off to a college and promptly lost whatever faith they had. ... The country's religion in the future, perhaps even more than in the past, will be determined to a significant extent by what happens in its colleges and universities.'*[34]

This problem is even true of many denominational colleges, most which are now almost totally secularized. In one study of a Methodist college, Hites found acceptance of religious values *declined* as students progressed through college.[35] Unfortunately, a great deal of intolerance exists on this emotional issue which is bound up with a person's basic beliefs about life's purpose and questions of right and wrong. Ideally, each view should be accurately and appropriately presented, and other theories such as exobiology theory should at least be discussed. Investigations on indoctrination by secular universities is warranted, because it is inconsistent for the public to be forced to support an institution which openly proselytizes for a belief structure that contravenes their most cherished values. If the secular schools are to be truly neutral, efforts to remove this anti-religious bias should be expended.

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'It is the sense of the Senate that (1) good science education should prepare students to distinguish the data or testable theories of science from philosophical or religious claims that are made in the name of science; and

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'(2) where biological evolution is taught, the curriculum should help students to understand why this subject generates so much continuing controversy, and should prepare the students to be informed participants in public discussions regarding the subject.'

Protests by the evolutionist establishment

Outraged by the Senate vote in June, several leading evolutionists launched a counteroffensive to kill the amendment once it got to a combined House-Senate conference committee. 'We'll do our letter writing to senators. We'd like to see it die in conference committee,'[4] said Wayne Carley, executive director of the evolutionist National Association of Biology Teachers (NABT).[5] Eighty scientific and educational organizations, ranging from the American Geological Institute to the National Science Teachers Association, sent a joint letter to the committee asking it to delete the amendment.[6]

The campaign worked, especially after the education bill dropped out of the media spotlight in the wake of September 11 and the Afghanistan war. The joint conference committee deleted the amendment from the final bill, and inserted a watered-down version in the 'conference report'[7] that it sent back to the House and Senate (a report explaining what was deleted and inserted in the final version of the bill). The comments below are *not* part of the law, and they have no binding authority:

'The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.'[8]

What does it all mean for the teachers of science?

The National Center for Science Education (NCSE) crowed about its successful campaign: 'The good news for teachers is that they will not have to teach evolution any differently as a result of the new legislation.' [9]

The NCSE even distorted the meaning of the conference committee's report, claiming that the committee was discouraging the teaching of creation science. The NCSE reported:

'More good news is that the obscure two-sentence distillation of the Santorum amendment reflects the conference committee's wish to keep "religious and philosophical claims that are made in the name of science" out of the science classroom, a position that NCSE has always supported. Creation science, intelligent design theory, and philosophical materialism qualify as "religious or philosophical claims that are made in the name of science" and thus teachers are discouraged from presenting them.'[10]

Oddly enough, the Discovery Institute—a leading center for the advancement of 'intelligent design'—pushed for the amendment and yet considered the new education bill a victory, too. 'The new bill represents a substantial victory for scientific critics of Darwin's theory and for all who would like science instruction to exercise thoroughness and fairness in teaching about contemporary science controversies,' says Bruce Chapman, president of Discovery Institute.[11]

It seems odd that two archenemies—the Discovery Institute and the NCSE—should approve of the same bill. As so often happens in politics, the same vague political document can be read to support two opposing views.

The *real* need

The key issue is that the law on education reform utterly *ignores* one of the most important issues facing the United States today—the direct conflict between humanism/Darwin's theory of evolution and the authority of God's Word/Creation.

The future leaders of the United States are being taught a falsehood in their schools, one that undermines the Scripture and faith in the Savior. The US Congress has failed to take a stand on this critical moral/social issue that is undermining America.

Far from living up to its title as the 'No Child Left Behind Act,' the new education bill has left every public-school child behind, totally in the dark about (a) the *science* that contradicts the weak theory of evolution and (b) the way in which the evidence can be interpreted to speak for creation–often more comfortably, naturally and directly. Evolutionary leaders in science and education are seemingly not willing to let their scientific interpretations be the subject of questioning discussion. Instead, they have resorted to strong-arm politics, fearful that students might be exposed to the 'dangerous' idea that evolution is controversial! (Which might make people take note of the reasons and logic behind the controversy.)

Interestingly, we have only just received a thoughtful e-mail from Tony R., an evolutionist who says he appreciates our Web site for its 'thoughtful contemplation' as opposed to being 'screaming fanatics.' Tony indicates that he is in favor of schools teaching, in addition to evolution, the 'various creationist theories.' While we don't support compulsion to teach the creation position (imagine how unbelievers would distort our position), it would be good if Christian teachers had the legislative freedom and encouragement to present critiques of evolution and discuss alternatives.

The more you help us get out the information that supports the authority of God's Word in these areas, the more that it will break through in all sorts of areas—despite the best efforts of the evolutionists to stifle such discussion.

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1. The new education bill–the biggest overhaul of US education policy since the 1960s–was a hallmark of George W. Bush's presidential election campaign. It requires students in grades 3 through 8 to take annual tests in mathematics and reading, administered by the states. Schools that fail to meet proficiency standards can get federal aid, but eventually the states are supposed to impose sanctions on the failing schools, including changes in staff, curriculum or even conversion to 'charter' schools. The final version of the education bill did *not* include vouchers that students could use

to help defray the cost of attending private or Christian schools.

2. AiG is located in Northern Kentucky, in a tri-state area that includes Ohio and Indiana. Just a few miles north of us is Cincinnati and Hamilton, Ohio.
3. 'Senate bill tackles evolution debate,' WashingtonPost.com, 18 June 2001.
4. A conference committee is a joint committee comprised of members of both parts of the US Congress–the Senate and House of Representatives–where senators and representatives attempt to settle differences between their versions of a bill. The amendment in question was added to the Senate version of the education bill that was originally passed in the House.
5. Ref. 1.
6. 'Joint letter on evolution sent to congress,' www.agiweb.org, August 2001.
7. The original Senate amendment was 'watered down' in two senses. First, the Senate identified 'biological evolution' specifically as the sole controversy about which students should be 'informed.' But the conference report simply makes biological evolution an example of a controversial topic in science.
   The Senate amendment was watered down in a second sense. Originally, it said the science curriculum 'should prepare the students to be informed participants in public discussions regarding the subject.' But the conference report says, 'The curriculum should help students understand *the full range of scientific views that exist* [italics added].' Evolutionists find this wording acceptable because they do not believe that belief in creation is scientific, and so they believe this language excludes 'scientific creationism' from the classroom.
8. 'H.R. 1–"No Child Left Behind Act of 2001": Joint Explanatory Statement of the Committee of Conference,' Title I, Part A, item 78, edworkforce.house.gov.
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Most Recent Action Challenges in the States Background Resources

Federal Challenges to the Teaching of Evolution (1-22-02)

The final version of H.R. 1, the "No Child Left Behind" education bill, which was signed into law on January 8, 2002 does not contain any mention of evolution. A "Sense of the Senate" resolution added to the Senate version by Sen. Rick Santorum (R-PA) was removed during negotiations between the House and Senate. A modified version of the resolution was added to the explanatory language accompanying the final bill rather than the bill itself. Both in its original and modified form, the Santorum resolution labeled biological evolution as a controversial theory. The original amendment stated, " It is the sense of the Senate that 1) good science education should prepare students to distinguish the data or testable theories of science from philosophical or religious claims that are made in the name of science; 2) where biological evolution is taught, the curriculum should help students to understand why the subject generates so much continuing controversy, and should prepare the students to be informed participants in public discussions regarding the subject." The language was crafted by a leading intelligent design proponent to appear innocuous but to provide a potent propaganda tool for evolution opponents in their efforts at the state and local level. And indeed the Santorum resolution already has been invoked in several states. For more on state actions relating to the teaching of evolution, see AGI's state update.

Most Recent Action

In December 2001, the House-Senate conferees removed the Santorum resolution from their final version of H.R. 1, which was subsequently passed by both the House and Senate and sent to the president for his signature.A watered-down version was placed in the conference committee's explanatory report that accompanied the bill. Report language has no force of law. The report language states the importance of separating the science curriculum and "religious and philosophical claims that are made in the name of science." It cites biological evolution as the example for controversial theories rather than as the only controversial theory. In its entirety: "The conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to undertand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society." Although the language will not appear in the final bill, its incorporation in the conference committee's report will be welcomed by evolution opponents. Indeed, in press releases and presentations to school boards, evolution opponents have repeatedly failed to distinguish between the report and the bill, stating that the bill itself contained Santorum's language. For more on the significance of eliminating the Santorum resolution from the final bill, see a discussion by the National Center for Science Education. *(01/22/02)*

Background

A day before the Senate completed six weeks of debate on its version of the comprehensive education bill, S.1 (later folded into H.R.1), Sen. Rick Santorum (R-PA) introduced a two-sentence amendment drafted by evolution opponents. The amendment, presented in the form of a non-binding "Sense of the

Senate" resolution, defines "good science education" and encourages teaching the "controversy" surrounding biological evolution. Amidst a flurry of other amendments, the Senate voted 91-8 in favor of the provision on its way to passing the entire bill by the same margin. Earlier, a group of conservative representatives had stripped a science testing provision out of the House counterpart bill in part because of concerns that the tests would include evolution-related questions. For more on the introduction and passage of the Santorum resolution, see AGI's June 19, 2001 special update. A column in the September 2001 issue of *Geotimes*, entitled "Monkey Business", provides additional analysis and discussion of this issue.

In August 2001, responding to the congressional discord on the teaching of evolution, the leaders of 96 scientific and educational organizations endorsed a letter urging the House-Senate conference committee chairmen for H.R.1 to remove the Santorum resolution. A number of additional organizations signed on to the letter after it was first sent to Capitol Hill on August 22nd with 82 signatures. AGI and 15 of its member societies are among the organizations represented, which also include the National Science Teachers Association and the Association of American Universities. See the AGI's August 23, 2001 special update for the text of the letter. At the time the letter was sent, congressional staff were meeting daily to hammer out a compromise on House-passed and Senate-passed versions of H.R.1, a massive overhaul of federal elementary and secondary education programs. The conference was to have been completed when senators and representatives returned to Washington after Labor Day, but largely due to the events of September 11th, they did not finish until December. President Bush repeatedly urged Congress to present him with a bill. An article in the Sep. 13 *Washington Post* noted the Santorum resolution as one of several "social" issues dividing conferees.

Although the evolution debate has historically taken place at the state and local level, evolution opponents began a concerted campaign in 2000 to involve Congress and federalize the issue. On May 10, 2000, supporters of intelligent design theory brought their message to Capitol Hill in a series of events for Members of Congress and their staff. A three-hour briefing focused on the scientific evidence for the origin and development of life and the universe as the work of an intelligent designer. The speakers presented their version of the scientific debate between Darwinian evolutionary theory and intelligent design theory. Speakers also addressed the social, moral, and political consequences of Darwinism. Sponsored by the Discovery Institute, the briefing was hosted by the chairman of the House Subcommittee on the Constitution, and co-sponsors included Rep. Thomas Petri (R-WI), then expected to be the next chairman of the House Education and the Workforce Committee (he subsequently was named the committee's vice-chair). The briefing took place as the 106th Congress was debating legislation to overhaul federal K-12 education programs: the precursor to H.R.1 in the following 107th Congress. That briefing is described in AGI's May 11, 2000 special update and in a subsequent column, entitled "Creationists Open a New Front", that appeared in the July 2000 issue of *Geotimes*.

A month after the briefing, on June 14, 2000, Rep. Mark Souder (R-IN) gave a speech on the floor of the House responding to a letter he had received from professors at Baylor University criticizing him for sponsoring the May 10th Capitol Hill briefing on intelligent design creationism. He acknowledged University of California Berkeley law professor Phillip Johnson and others for drafting his response. His speech, including the Baylor letter, can be found in the Congressional Record.

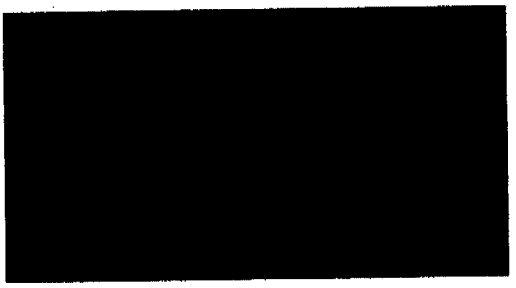
More information on the background of this controversy is located on the State Challenges of Teaching Evolution page.

Sources: American Geophysical Union, Library of Congress, National Center for Science Education, National Science Teachers Association, The Washington Post.

Discovery Institute News
1402 3rd Ave - Suite 400 -Seattle, WA 98101 - (206) 292-0401 x107

Santorum Language on Evolution
Revised Amendment, Congressional Statements

By: Senator Rick Santorum /Congressman Thomas Petri /107th Congress
Congressional Record
January 31, 2002



Congressional Conferees Language on Controversies Such as Evolution (Revised "Santorum Amendment"):
2001-107th Congress-1st Session-House of Representatives Report-107 334 *No Child Left Behind Act of 2001 Conference Report* to accompany H.R. 1

The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.

Statement by Senator Santorum Upon the Passage of the Education Act 2001:
Congressional Record: December 18, 2001 (Senate)
Page *S13365-S13422*

Mr. SANTORUM. Mr. President, I am very gratified that the House and Senate conferees included in the conference report of the elementary and secondary education bill the language of a resolution I introduced during the earlier Senate debate. That resolution concerned the teaching of controversies in science. It was adopted 91-8 by the Senate. By passing it we were showing our desire that students studying controversial issues in science, such as biological evolution, should be allowed to learn about competing scientific interpretations of evidence. As a result of our vote today that position is about to become a position of the Congress as a whole.

When the Senate bill was first under discussion in this body, I referenced an excellent Utah Law Review article, Volume 2000, Number 1, by David K. DeWolf, Stephen C. Meyer and Mark Edward DeForrest. The authors demonstrate that teachers have a constitutional right to teach, and students to learn, about scientific controversies, so long as the discussion is about science, not religion or philosophy. As the education bill report language makes clear, it is not proper in the science classrooms of our public schools to teach either religion or philosophy. But also, it says, just because some think that contending scientific theories may have

implications for religion or philosophy, that is no reason to ignore or trivialize the scientific issues embodied in those theories. After all, there are enormous religious and philosophical questions implied by much of what science does, especially these days. Thus, it is entirely appropriate that the scientific evidence behind them is examined in science classrooms. Efforts to shut down scientific debates, as such, only serve to thwart the true purposes of education, science and law. There is a question here of academic freedom, freedom to learn, as well as to teach. The debate over origins is an excellent example. Just as has happened in other subjects in the history of science, a number of scholars are now raising scientific challenges to the usual Darwinian account of the origins of life. Some scholars have proposed such alternative theories as intelligent design. In the Utah law review article the authors state, ". . . The time has come for school boards to resist threats of litigation from those who would censor teachers, who teach the scientific controversy over origins, and to defend their efforts to expand student access to evidence and information about this timely and compelling controversy."

The public supports the position we are taking today. For instance, national opinion surveys showÑto use the origins issue againÑthat Americans overwhelmingly desire to have students learn the scientific arguments against, as well as for, Darwin's theory. A recent Zogby International poll shows the preference on this as 71 percent to 15 percent, with 14 percent undecided. The goal is academic excellence, not dogmatism. It is most timely, and gratifying, that Congress is acknowledging and supporting this objective.

Speech of Honorable Thomas E. Petri of Wisconsin in the House of Representatives.
Thursday, December 13, 2001
Page E2330

Additionally, this conference report makes a strong statement that, where Darwinian evolutionary theory or other controversial scientific topics are taught, students should be exposed to multiple viewpoints. Too often, students are taught only one theory where evolution is concerned, and this language gives support to those at the local and state level who uphold the value of intellectual freedom in the teaching of science. This statement is especially important to make now because H.R.1 requires all students eventually to be tested in science on a regular basis as a condition of aid.

News stories are not archived please do not link to this page.

DISCOVERY INSTITUTE Discovery Institute is a non-profit, non-partisan, public policy think tank headquartered in Seattle and dealing with national and international affairs. For more information, browse Discovery's Web site at: http://www.discovery.org.

RICK SANTORUM
PENNSYLVANIA

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March 20, 2002

Mr. John Morris
Institute for Creation Research
10946 Woodside Avenue North
Santee, California 92071-2833

Dear Mr. Morris,

Thank you for contacting me regarding the reauthorization of the Elementary and Secondary Education Act. I appreciate hearing from you and having the benefit of your views.

As you may know, on December 18, the Senate passed H.R. 1, the Elementary and Secondary Education Act reauthorization bill, by a vote of 87 to 10. The House previously passed the bill on December 13 by a vote of 381 to 41, and it is now cleared for President Bush's signature. I supported the passage of this legislation, which establishes federal policy, programs, and funding with respect to elementary and secondary education, for seven years. Major themes embodied in this comprehensive education reform include accountability, flexibility and expanded parental options.

H.R. 1 will enhance accountability by tying federal aid to achievement, requiring annual student testing in reading and mathematics of all students in grades 3 through 8, and some participation in the National Assessment of Educational Programs (NAEP) biannual testing in grades 4 and 8. Schools failing to achieve adequate yearly progress will receive assistance from the federal government. In addition, parents, voters and taxpayers will be provided with data, including annual report cards on school performance and statewide results. Accountability is crucial to true education reform in our nation's schools, and this bill will put our children first by requiring accountability and ensuring that our children are learning the necessary skills to succeed.

This legislation also provides unprecedented flexibility for all 50 states and every local district in the use of federal funds, in conjunction with performance measures to strengthen accountability. Funds in accounts for teacher quality, technology innovation programs and safe and drug-free schools will be transferable depending on where the state and local community believes it can derive the most benefit from those dollars. I agree that we must provide local communities with the resources and flexibility needed to restore order and improve the quality of education in their schools. I believe families and local communities form the foundation of elementary and secondary education. Geographic boundaries determine which public school a child will attend, and most operating revenue for public schools is derived from local sources. Magnet schools draw from a wider vicinity but still remain dependent on local support. In my view, Congress and the federal government should have a minimal role in managing local education. Primary control of public school curriculum and administration must be maintained by local interests--elected school boards, parents, municipal governments, and other leadership in the community. With this in mind, I believe that innovation and partnerships with the private sector

should be encouraged, good teachers should be adequately compensated for their efforts, and local school districts should be provided with regulatory and financial relief.

Other important initiatives in this legislation that give parents increased options include public school choice, supplemental services and charter schools. Parents with a child in a failing school will be allowed to send their child to another, better-performing public or charter school immediately after a school is identified as failing and have the transportation costs paid for. H.R. 1 does not allow parents to access private schools but does allow them to get their child out of a failing public school and move them to a public school where they can get adequate education. In addition, for the first time, parents whose child is trapped in a failing school will be able to take a portion of the money available under Title 1 for their child and use it to get the child private tutorial support. This support can come from public institutions, private providers or faith-based educators. A new expansion of charter schools has been created by this bill as well, with increased opportunities for the creation and success of these schools.

Additional issues of importance including school prayer, the Boy Scouts and protections for personal and family beliefs are contained in the measure. Federal funds will be denied to any local school district that prevents participation in constitutionally protected school prayer or to any public school that discriminates against or denies equal access to any group affiliated with the Boy Scouts of America. Provisions that protect personal beliefs specify that tests, including statewide assessments, cannot evaluate or assess any personal or family beliefs and attitudes or publicly disclose personally identifiable information.

H.R. 1 is a definite improvement over existing educational policy and begins to focus our educational priorities on what is in the best interest of our children. The final measure will reauthorize a total of 45 federal education programs, including the Safe and Drug Free Schools and Communities Act, the Javits Gifted and Talented Students Education, the National Writing Project, the Elementary School Counseling Demonstration Act and the Inexpensive Book Distribution Program. I am pleased that this bill has also focused additional resources on priorities such as special education, as we continue to work toward fulfilling the federal government's commitment to IDEA (Individuals with Disabilities Education Act) and free up additional resources for local educational needs (GREATT IDEA).

Since being elected to the Senate, I have visited over 150 schools in Pennsylvania, and have listened to the concerns and advice of teachers, administrators, parents and students about what works best in our schools. I look forward to monitoring the results of this education reform with the Administration and my colleagues in Congress, as we strive to improve the educational system and give all of our children the opportunity they deserve.

Thank you for your input. If I may be of further assistance with this or any other matter, please feel free to call on me again.

Sincerely,

Rick Santorum

Rick Santorum
United States Senate

RJS\els

Education Week

American Education's Newspaper of Record

March 27, 2002

Negotiators Retain Heart of Ed. Dept. Proposals

By Lynn Olson
Education Week

Vienna, Va.



A negotiating committee reached consensus last week on proposed federal rules for state standards and assessment systems under the revised Elementary and Secondary Education Act.

While the committee spent 4½, often intense days in a suburban Washington hotel polishing and clarifying the draft language initially presented by the Department of Education, it made few substantial changes.

The proposed regulations, which will be published in the *Federal Register* for additional public comment, would set a high bar for states that plan to use a mixture of state and local tests, or of criterion-referenced and norm- referenced tests, to measure student performance against state standards.

Even so, Minnie Pearce, a parent representative from Detroit, seriously considered withholding her support of a key section of the draft rules because of concerns that the resulting testing systems would not provide parents with clear information. She withdrew her objection after Joseph F. Johnson, the department's director of compensatory education programs, made it clear that state assessment plans would have to be approved by the federal Education Department.

"He gave me some insight," Ms. Pearce said last week, "but it still didn't brighten up my day."

Ms. Pearce, along with 21 other educators and parents from around the country, joined by two Education Department officials, spent parts of two weeks here in what is called "negotiated rulemaking."

The "No Child Left Behind" Act of 2001, the measure President Bush signed in January reauthorizing the ESEA, required the formal process for the bedrock subject of standards and assessment. The department, however, will have the final say on those rules, and does not have to bring in negotiators as it crafts the myriad other regulations and guidelines to put flesh on the bones of the new education law.

Before that occurs, however, a federal district court in Washington may likewise have

something to say. Four groups sued the Education Department just as the negotiating process was about to begin, arguing that the agency had failed to follow the law's requirement that the committee's membership include "an equitable balance" between educators and their clients: parents and students. If the plaintiffs ultimately prevail, the department may have to convene a new committee. ("Groups Challenge Makeup of Rulemaking Panel," March 20, 2002.)

The department's draft rules, in effect the committee's blueprint, had drawn criticism from some quarters, including members of Congress. Critics said the rules would grant states too much flexibility in putting together their assessment systems, flexibility that state officials by and large welcomed.

In fact, last week six Democratic senators who helped craft the law criticized some elements of the draft regulations. "Of greatest concern," they wrote in a March 20 letter to Secretary Rod Paige, "is the department's proposal to allow a patchwork of state and local assessments."

They said this approach would make it "virtually impossible" to compare student achievement across districts. The signatories were Sens. Jeff Bingaman of New Mexico, Edward M. Kennedy of Massachusetts, Christopher J. Dodd of Connecticut, John Edwards of North Carolina, Hillary Rodham Clinton of New York, and Joseph I. Lieberman of Connecticut.

Language added by the committee to the department's proposed rules would require that state assessment systems "be designed to provide a coherent system across grades and subjects." That wording is intended, in part, to put the burden on states to prove that a mixture of tests could yield valid and useful information.

The negotiators also agreed that if states use a mixture of state and local tests to measure state academic standards, they must show that all of the local tests are "equivalent to one another and to state assessments, where they exist, in their content coverage, difficulty, and quality."

The two testing experts who served as advisers to the committee admitted it would be difficult for states to achieve statistical "equivalency" across tests, particularly if states are using a range of pre-existing assessments. "That would be a rather significant challenge," said Thomas Fisher, the state testing director in Florida.

"The more tests there are, the more difficult it will be to do all this," agreed David Francis, a psychometrician from the University of Houston.

The Democratic senators also said they are worried about provisions in the draft regulations that would allow the use of norm-referenced tests, which are designed primarily to measure how students perform compared with a nationally representative sample of peers. Under the rules as blessed by the panel, norm- referenced tests must be modified to reflect the state's academic-content standards. The senators said they appreciated that caveat, but still had concerns.

"[W]e worry that [this]... will lead to a step backward, rather than forward, with respect to the quality of state assessments," they wrote.

The committee members spent much of their time hammering out requirements for including all students in a state's testing system, among them homeless students, students with disabilities, and those with limited fluency in English.

One of the biggest issues was whether states would be permitted to test special-needs students using "off grade" or "out of level" testing. That means, for example, that an 8th grade special education student might take a test designed to measure 5th grade content standards because the student was working at that grade level.

Charlotte Harris, a senior director of program development for the Boston public schools, wanted the draft regulations to clarify that states had that option, at least for some students. But Education Department officials did not want to provide a loophole that would permit states or districts to test large numbers of students against anything less than grade-level standards.

The draft rules approved by the negotiating committee specify that states must provide "appropriate accommodations" for special-needs students and that those accommodations must measure a student's achievement "relative to the state's academic content and achievement standards for the grade in which the student is enrolled."

States would also have to provide one or more "alternate assessments" for students with disabilities who couldn't participate in all or part of the state assessments, even with accommodations. Although the committee did not define what those alternative tests could look like, the language leaves open the possibility that off-grade testing might be permitted as one form of alternative assessment for at least some students.

Continuing Concerns

Ms. Harris said she was pleased with the compromise. "We got what we needed," she said.

But Susan B. Neuman, the assistant secretary for elementary and secondary education and a participant in the negotiations, said she was dissatisfied with the compromise because of continued concerns that states and districts would identify a disproportionate number of students as needing out-of-level testing to avoid strict accountability.

She said the department would address those concerns through the proposed regulations for "adequate yearly progress," rules that will clarify how states determine the amount of improvement schools and districts must make each year.

Under the revised ESEA, students from schools that fail to make such progress for several years will be allowed a menu of supplemental services and public school choice.

At best, Ms. Neuman suggested, off-grade testing might be appropriate for the fewer than 2 percent of students who have profound disabilities. "It will be clarified in [the "adequate yearly progress" rules] to eliminate any potential loopholes," she said.

The rules as they emerged from the committee's deliberations also would clarify that states must provide appropriate accommodations for all students with disabilities, including those identified under the Individuals with Disabilities in Education Act and those covered under Section 504 of the Rehabilitation Act of 1973.

But the regulations would stipulate that only those identified under the IDEA should be counted as "disabled" when states break down test results to compare the achievement of students with disabilities and that of all other students, as required in the ESEA. That's because students covered under Section 504, those with disabilities such as attention deficit hyperactivity disorder who typically require only special help from a regular teacher, do not have individualized education plans and do not receive special education services.

Similarly, the rules would specify that states must include homeless children in their testing, reporting, and accountability systems. But the states would not report the performance of homeless students as a separate subgroup. Rather, the states would include each of those students in whichever subgroup was appropriate.

On the Web

The Education Department provides assorted resources on the implementation of the reauthorized Elementary and Secondary Education Act.

PHOTOS: Moderator Christopher T. Cross, front, leads a panel of educators and parents as they discuss standards and assessment rules.
--James W. Prichard/Education Week

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May 14, 2002

Eugenie C. Scott, Ph.D.
Executive Director
National Center for Science Education, Inc.
420 40th Street, Suite 2
Oakland, CA 94609-2509

Dear Dr. Scott:

Thank you for contacting me to share the concerns of the National Center for Science Education, Inc. regarding the report language accompanying H.R. 1, now titled, the No Child Left Behind Act of 2001 (NCLB). I am writing to express my views on the compromise language on science education that was agreed to by the conferees.

As you are now aware, NCLB calls for states to implement annual assessments in the subjects of reading and math during grades 3 through 8. The law also requires states to measure the proficiency of all students in science starting with the 2007-2008 school year. To address the importance of these newly required assessments in the area of science education, the conference committee included a compromise version of the Santorum Amendment in report language:

> The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exists, why such topics may generate controversy, and how scientific discoveries profoundly affect society.

Quality assessments involve the application of critical thinking skills, and perhaps this is nowhere more important than in science education. Teachers often encourage critical thinking through the introduction of controversial issues. While

the subject of evolution was used as an example of a controversial issue in the report language, neither the teaching of evolution nor any other specific topic is mandated in NCLB or the conference report. The law restricts the federal endorsement of curriculum, and the report language should not be construed to promote specific topics within subject areas. Congress recognizes that the teaching of the "full range of scientific views" should be encouraged, and such decisions are best left to the scientific community, rather than legislators.

The purpose of the No Child Left Behind Act is to ensure that all children receive a quality education with reading, math and science as its foundation. The report language correctly describes science as a subject of "data and testable theories", different from "religious or philosophical claims." It is critical that the effort to narrow the achievement gap not be burdened with ideology regardless of subject matter. The language is profoundly clear that "science" should be at the center of a quality science education.

Your interest in upholding academic excellence in science is appreciated. If I can be of further assistance, please do not hesitate to contact me.

Very truly yours,

George Miller

George Miller
Ranking Democrat

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Behind the Headlines Newsfax
Standards Under Siege

July 5, 2001

By Charles E. Greenawalt II, Ph.D., Senior Fellow

The U.S. Congress has approved a Bush Administration education initiative that incorporated the concept of establishing standards. Ever since the 1983 publication of A Nation At Risk, standards have come under increasing scrutiny and have created controversy between their champions and their opponents. Under President Bush's legislation, they will take a more central role in attempting to strengthen our educational system and improve its accountability.

Nonetheless, the concept of "standards" means different things to different people. There are really three types of standards: are content standards, performance standards, and opportunity-to-learn standards. Content standards, sometimes called curriculum standards, are what the teachers are supposed to teach and the students to learn. They should provide clear and specific descriptions of the skills and knowledge that is being taught to the students. An outline containing the content standards of each school district or state should be readily available to all students and parents so that the school's expectations are well understood. Finally, content standards should be measurable, so that students can demonstrate their mastery of the knowledge or skills. Content standards should be readily understood by teachers, parents, students, and local resident of the area.

Performance standards define degrees of mastery or levels of attainment. They answer the question of "How good is good enough?" Performance standards describe what kind of performance represents inadequate, acceptable, or outstanding accomplishment. Opportunity-to-learn standards define the availability of programs, staff, and other resources that schools, districts, and states provide so that students are able to meet challenging content and performance standards. Obviously, these three types of standards are interrelated. Content standards without performance standards are meaningless. Opportunity-to-learn standards can not stand without the other two types of standards.

Some countries, such as France, Great Britain, and Japan have a national curriculum that describes content standards. Other countries, such as Canada, Germany, and the U.S., rely on states or provinces to define content standards. In the United States, some school districts and states have curriculum guidelines that contain clear content standards; however, most do not. Many states have curriculum documents that list broad, diffuse objectives or behavioral outcomes or some lofty goal, but these are rhetorical statements rather than content standards because no one is sure how to measure them or what they mean. Nations that establish national standards do so to ensure equality of education as well as higher

student achievement. They make explicit what they expect children to learn to ensure that all children have access to the same educational opportunities.

During his campaign for the Presidency and as Governor of Texas, George Bush has consistently underscored his belief in the need for standards and for using these standards and their accompanying expectations to raise the level of student performance. Here in the Commonwealth, Governor Ridge has made the establishment of strong academic standards for our public schools as one of the crowning accomplishments of his tenure as Governor. He was able to move Pennsylvania and its schools away from the poorly designed social engineering of Outcome Based Education back to a clear emphasis on academics with a new program to gradually create and phase in academic standards and expectations for Pennsylvania students.

Many in the "education establishment" originally resisted these standards, and some still do. Moving past the status quo for any organization or system is difficult, and Pennsylvania schools were no different. Furthermore, the education establishment has generally over the years attempted to resist accountability. We insist that our children be accountable for their work in a school, but we had not historically insisted on a comparable level of accountability from their schools! During the evaluations of our school systems and their standards that will follow our recently completed school year, it is useful to bear in mind the advantages of standards. A list of these that has been presented by Diane Ravitch is presented below for your consideration.

1. Standards can improve achievement by clearly defining what is to be taught and what kind of performance is expected.

2. Standards at the national, state, and local levels are necessary for equality of opportunity.

3. National standards provide a valuable coordinating function.

4. Standards and assessments provide consumer protection by supplying accurate information to students and parents.

5. Standards and assessments serve as an important signaling device to students, parents, teachers, employers, and colleges.

While this is far from a comprehensive list of the advantages of standards and assessment, it serves as a reminder to all of us of the important role that they have played in recent years in reforming and improving our struggling primary and secondary schools systems. We must not lose sight of that fact. Indeed, during the next year the final version of the Commonwealth's science standards will be set. This can finally only help both our schools and our students.

General questions or comments: The Susquehanna Valley Center for Public Policy <susvalley@aol.com>
Questions or comments regarding the site itself: Bradford Hovinen <hovinen@ximian.com>
Created: 3 February 1999, Modified:

Equal time for creation in Cobb County?

by Michael Matthews, AiG–US

26 August 2002

A fight has been brewing for months about the proper teaching of evolution in Cobb County, the second-largest school district in Georgia, USA. On Wednesday, a parent filed suit in federal court to remove a new textbook disclaimer, which says evolution is 'not a fact.' Then on Thursday night, the school board voted unanimously to consider a new policy that claims 'discussion of disputed views of academic subjects is a necessary element of providing a balanced education, including the study of the origin of the species.'[1]

What would the new policy mean?

The Cobb County school board will spend the next 30 days reviewing the proposed policy, which an attorney drew up at the board's request. The new policy is the latest attempt by the board to resolve questions that arose last March, when parents signed a petition complaining about the board's approval of nearly $8 million in new curriculum that pushes 'Darwinism, unchallenged.'

Public school teachers in Georgia—a populous state located in the conservative 'Bible Belt' of the Southern United States—have long expressed confusion about what they can teach in class. The school board in Cobb County had asked its attorney to draft a constitutional policy that would clarify what teachers could say. If the policy hopes to meet this criterion, however, it cannot *mandate* the teaching of creation as science (deemed unconstitutional by the US Supreme Court in 1987), but the courts have not yet clarified what school boards can *allow*.

Evolution disclaimer challenged in court

The American Civil Liberties Union (ACLU) had already filed suit in US district court on 21 August, hoping to force the school board to remove the disclaimers from the county's textbooks. It has vowed to fight the new policy as well.

The textbook disclaimer simply says,

> 'This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully, and critically considered.'

The ACLU called the disclaimer a 'fundamentalist Christian expression' that unconstitutionally foists religion on students in public schools. 'It singles out evolution from all the scientific theories out there,' complained Jeffrey Salman, the parent who brought the lawsuit. 'Why single out evolution? It has to be coming from a religious basis, and that violates the separation of church and state.'[2]

Cobb County's disclaimer imitates the one adopted by the neighboring State of Alabama in 1996.

'In our opinion' ...

It's hard to understand how such an innocuous disclaimer could arouse such a harsh backlash—unless we remember that the root issue is a conflict of worldviews. Most scientists are avowed evolutionists who base their life's work on a materialistic worldview that excludes God, and they feel threatened by anyone who questions the 'fact' of their worldview. The following excerpt by an associate professor of biology at Georgia State University summarizes their worries:

> '... Contrary to what Cobb's textbook disclaimer says, evolution is an observable process, a fact of life. It refers to changes in gene frequencies between generations of animals or plants. It occurs every day and has been demonstrated in many species. And it has its down side: Most laypeople are familiar with the rapid evolution of bacterial resistance to antibiotics, or the evolution of resistance to DDT in mosquitoes.
>
> So where is the theory part? Darwin's theory of evolution by natural selection is a nearly universally accepted scientific explanation for *how*, not *whether*, evolution occurred in the past and how it is occurring in the present.'[3]

Recommended resource

When Two World-views Collide
Institute for Creation Research



A worldview at war with God! Evolution insists that life evolved by random chance. There is no God and no Designer of life to set moral absolutes. Parents, educators, and church leaders must awaken to the struggle Christians, especially students, face living in today's society dominated by the evolution worldview. We all need to go "Back to Genesis!" Featuring John D. Morris, Ph.D.

MORE INFO / PURCHASE ONLINE

Evolutionists keep repeating the same old logical fallacies. They say that evolution occurs 'all the time,' meaning that we see 'change' within species, but then they say that this proves 'evolution in the past,' meaning the rise of completely *new* creatures from simpler ancestors. These are *not* the same thing. Creationists also believe in natural selection and speciation—they merely help to explain how populations change, but true molecules-to-man evolution would involve the appearance of completely new genetic information, which evolutionists have never been able to demonstrate (see Q&A: Information theory).

Is evolution a factual explanation of the origin of living things? Hardly. It is something that evolutionary scientists choose to *believe*—in spite of the factual, eyewitness report that God gives us in the Bible. For people to want to squelch *any* hint of open-minded, critical debate about the merits of their belief-system demonstrates a fanatical religious commitment to evolutionism.

Although we oppose evolution, *Answers in Genesis* does not believe that the government should compel teachers to teach creation. (It would be counterproductive to make an atheist

teach creation, anyway!) However, it seems reasonable that state and local officials should take steps to protect the *liberty* of individual teachers and students who wish to discuss the problems with evolution and offer alternative explanations.

---

[1] Taylor, M., Cobb board to clarify how origin of life can be taught, *Atlanta Journal-Constitution,* 23 August 2002 <http://www.accessatlanta.com/ajc/metro/0802/23evolution.html>.

[2] Fox News Network, ACLU sues over evolution disclaimers in textbooks, <http://www.foxnews.com/story/0,2933,61065,00.html>, 22 August 2002.

[3] Sarah Pallas gave the 'evolution' viewpoint in a debate with Dr Philip Johnson on 'The origin of life' in the *Atlanta Journal-Constitution,* 14 April 2002, <http://www.accessatlanta.com/ajc/opinion/0402/0414origin.html>.

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Psalm 119:160 Thy word is true from the beginning: and every one of thy righteous judgments endureth for ever.

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Nation / World

Fri, August 23, 2002

Georgia school district adopts a creation policy

Teaching on origin of life to be balanced, board says

THE NEW YORK TIMES

ATLANTA

Amid angry debate among parents, Georgia's second-biggest school district adopted a policy last night that would require teachers to give a "balanced education" about the origin of life, giving equal weight to evolution and biblical interpretations.

The district, Cobb County, had already come under attack this summer for attaching disclaimers to all science textbooks, saying that evolution "is a theory, not a fact," and should be "approached with an open mind, studied carefully, and critically considered." On Wednesday, a parent and the Georgia chapter of the American Civil Liberties Union filed suit, demanding that the disclaimers be removed, and vowed yesterday to amend the suit to ask the court to reverse the policy adopted last night.

Members of the Cobb County Board of Education said they were not restricting the teaching of evolution or encouraging the teaching of creationism, but that the policy was simply a reflection of the district's philosophy of teaching a wide and objective range of ideas, particularly in discussing "disputed views of academic subjects, including the origin of species."

After the vote, board member Gordon O'Neill lead his colleagues in prayer: "Heavenly father, we ask that you provide to all of us a clear understanding of our fellow man and an acceptance of a diversity of thinking, amen."

Many parents speaking before a standing-room-only crowd at the board's meeting last night said that the policy was a back door to allow teaching religion in schools. They asked board members not to adopt the policy, saying that it would dilute the quality of science education and make Cobb County graduates the laughingstock of college admissions offices.

"The loud voices of the extremist few have drowned out the voice of the moderate majority," said Adele Marticke, who has a child in middle school and another in elementary school.

Paula Jackson, a parent of an elementary-school student, said, "It's deception and indoctrination."

But others urged the board to open up the classroom to religious points of

view.

"To deny there is a God is to stand on a building and deny there is a building," said Russell Brock, who described himself as an insurance salesman and a minister.

Rick Burgess, another parent, said: "Evolution is strictly a theory, and we don't think it should be taught as fact. It's fine if you don't teach creationism but you ought to be able to open up discussion of it."

The fight over how to teach the origin of life has erupted in several angry spurts ever since a Tennessee court upheld John Scopes' right to teach evolution in 1925.

The state school board in Kansas reinstated the teaching of evolution last year, after striking it from the science curriculum two years earlier. Still, conservatives on the Kansas board have promised to raise the issue again, and a candidate for the Kansas board who opposes the teaching of evolution won a recent primary by a wide margin.

In Ohio, the state board of education is considering a science curriculum that would teach "intelligent design," which accepts some evolutionary notions about how species develop, but which has as a premise that God or a God-like creator must have been in charge of the grand plan.

Discussing the Cobb County policy informally over the past few weeks, board members have said it was responding to community demand to teach a broader range of views in science classes.

About 2,000 parents had signed petitions objecting to the board's purchase of new science textbooks in the spring, because the books taught evolution. The parents asked the schools to give equal time to creationism, and several school-board members then asked the district's lawyers to write a policy that would allow discussion of other theories beyond evolution but not violate the constitutional doctrine of separation between church and state. The board's lawyers said the policy was not unconstitutional because it does not promote any religious view as right or wrong.

But parents said that the disclaimer and talk of balance and objectivity were simply code words for promoting creationism.

"That's what science promotes, is critical thinking, why do we need a disclaimer?" said Jeffrey Selman, who is suing the school district. "It's the back door into pushing religion in schools."

The policy adopted last night states that evolution "remains an area of intense interest, research, and discussion among scholars," and so should be handled with objectivity.

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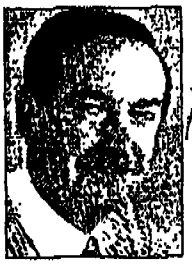


Monkeys out of evolutionists

It's back-to-school time. That means school supplies, clothes, packing lunches and the annual battle over what can be taught.

The Cobb County, Ga., School Board voted unanimously Aug. 22 to consider a pluralistic approach to the origin of the human race, rather than the mandated theory of evolution. The board will review a proposal which says the district "believes that discussion of disputed views of academic subjects is a necessary element of providing a balanced education, including the study of the origin of the species."

CAL THOMAS



Immediately, pro-evolution forces jumped from their trees and started behaving as if someone had stolen their bananas. Apparently, academic freedom is for other subjects. Godzilla forbid! (This is the closest one may get to mentioning "God" in such a discussion, lest the ACLU intervene, which it has threatened to do in Cobb County, should the school board commit academic freedom. God may be mentioned if His Name modifies "damn." The First Amendment's free speech clause protects such an utterance, we are told by the ACLU. The same First Amendment, according to their twisted logic, allegedly prohibits speaking well of God.)

What do evolutionists fear? If scientific evidence for creation is academically unsound and outrageously untrue, why not present the evidence and allow students to decide which view makes more sense? At the very least, presenting both sides would allow them to better understand the two views. Pro-evolution forces say (and they are saying it again in Cobb County) that no "reputable scientist" believes in the creation model. That is demonstrably untrue. No less a pro-evolution source than Science Digest noted in 1979 that, "scientists who utterly reject Evolution may be one of our fastest-growing controversial minorities...Many of the scientists supporting this position hold impressive credentials in science." (Larry Hatfield, "Educators Against Darwin.")

In the last 30 years, there's been a wave of books by scientists who do not hold to a Christian-apologetic view on the origins of humanity but who have examined the underpinnings of evolutionary theory and found them to be increasingly suspect. Those who claim no "reputable scientist" holds to a creation model of the universe must want to strip credentials from such giants as Johann Kepler (1571-1630), the founder of physical astronomy. Kepler wrote, "Since we astronomers are priests of the highest God in regard to the book of nature, it befits us to be thoughtful, not of the glory of our minds, but rather, above all else, of the glory of God."

Werner Von Braun (1912-1977), the father of space science, wrote: "...the vast mysteries of the universe should only confirm our belief in the certainty of its Creator. I find it as difficult to understand a scientist who does not acknowledge the presence of a superior rationality behind the existence of the universe as it is to comprehend a theologian who would deny the advances of science."

Who would argue that these and many other scientists were ignorant about science because they believed in God? Contemporary evolutionists who do so are practicing intellectual slander. Anything involving God, or His works, they believe, is to be censored because humankind must only study ideas it comes up with apart from any other influence. Such thinking led to the Holocaust, communism and a host of other evils conjured up by the deceitful and wicked mind of uncontrolled Man.

There are only two models for the origin of humans: evolution and creation. If creation occurred, it did so just once and there will be no "second acts." If evolution occurs, it does so too slowly to be observed.

Why are believers in one model -- evolution -- seeking to impose their faith on those who hold that there is scientific evidence which supports the other model? It's because they fear they will lose their influence and academic power base after a free and open debate. They are like political dictators who oppose democracy, fearing it will rob them of power.

The parallel views should be taught in Cobb County, Ga., and everywhere else, and let the most persuasive evidence win.

Cal Thomas' column is distributed by Tribune Media Services.

Does Creationism Deserve to be Taught Along with Evolution in the Public Schools?

By Jay Sekulow
Chief Counsel, American Center for Law and Justice

The debate over the origins of life is as old as life itself. In 1925, biology instructor John Scopes was prosecuted for teaching evolution. Now, it's creation science that is in the legal crosshairs. The issue is back in the news - this time an Atlanta-area school district debates whether teachers can discuss the concept of creationism along with evolution.

The Supreme Court has been very clear about this issue. While the Supreme Court has said that the teaching of creation science cannot be required in public schools, it is also very clear that creation science need not be shut out and removed from the discussion of the origins of life in public schools.

In the case of *Edwards v. Aguillard* the Supreme Court in 1987 stated that "teaching a variety of scientific theories about the origins of humankind to school children might be validly done with the clear secular intent of enhancing the effectiveness of science instruction." The court also indicated that there should be no constitutional crisis created with including creation science so long as it is done with the "intent of enhancing the effectiveness of science instruction" and, provided it is not taught to the exclusion of evolution.

That's where the focus needs to be in our educational system today. This is not about replacing evolution with creationism in the public school. But, what's wrong with making sure that other origins of life theories are presented, too?

The debate of how to handle the issue of creation science in our public schools is getting a lot of attention across the country with activity taking place recently in many states including Georgia, Kansas, Pennsylvania, Indiana, Washington, Ohio, Colorado, and Alabama.

And, much of the debate often centers on whether school districts should be permitted to include a sticker in science textbooks - a message that merely acknowledges the fact that evolution is not the only theory when it comes to the origins of life. In the Georgia school district currently grappling with this issue, school officials approved a sticker for textbooks that said evolution is a theory, not fact and stated that evolution should be "approached with an open mind, studied carefully and critically considered." A sound and reasonable approach. But - in Georgia - as well as many other states - critics abound and groups like the ACLU threaten legal action to make sure that creation science gets squashed like a bug or insect.

The fact is that that creationism does deserve to be taught along with evolution in the public schools - as long as it is done in a manner that does not promote a religious purpose and is done in a way that will enhance the educational process.

Why do the defenders of evolution feel so threatened by other theories like creationism and intelligent design, which teaches that a force greater than man created life?

Students should be permitted to examine all sides of an issue - and that includes the origins of life. Don't put up road blocks to knowledge. And, don't make the mistake of thinking this is about teaching religion. The fact is that information is knowledge and there is nothing wrong or unconstitutional with presenting students with alternatives - especially when studying the origins of life.

Jay Sekulow is Chief Counsel of the American Center for Law and Justice, an international public interest law firm specializing in constitutional law. The ACLJ is based in Virginia Beach, VA and its web site address is www.aclj.org.

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Evolution Backers, Critics Claim Victory in Science Standards

By: Catherine Candisky
Cleveland Plain Dealer
December 11, 2002

Original article

Students are to be taught biological evolution under curriculum guidelines adopted yesterday by the State Board of Education, but it will be left to local school officials to decide how much they learn about opposing concepts such as intelligent design.

After a yearlong debate that drew international attention, the state board unanimously adopted grade-by-grade science standards after inserting a disclaimer that the standards do not "mandate the teaching or testing of intelligent design."

Board member Joseph D. Roman of Fairview Park said the clarification was necessary because of erroneous claims that the standards would require instruction of the controversial alternative to Darwinian theory.

"The Board of Education has made a clear statement against pseudoscience," said Patricia Princehouse, a philosophy professor at Case Western Reserve University and director of a pro-evolution group, Ohio Citizens for Science.

"This is a huge victory for science and a huge victory for the kids of Ohio."

Supporters of intelligent design -- the concept that certain life-forms are too complex to be explained by evolution and some unknown intelligence must have played a role -- claimed victory as well. They applauded the school board for adopting standards that require 9th- and 10th-graders to be taught "how scientists continue to investigate and critically analyze aspects of evolutionary theory."

The provision, they argue, ensures that students will learn about the continuing debate surrounding life on Earth.

Although seemingly insignificant to many, the provision was characterized as a setback for evolutionists by an intelligent-design backer.

"Any small victory over the Darwinian juggernaut helps the public to see that scientific dissent from this stifling orthodoxy is legitimate and widespread," said Phillip E. Johnson, a law professor at the University of California at Berkeley. His 1991 critique of evolution, *Darwin*

New curriculum guidelines adopted yesterday by the State Board of Education require that students to be taught about biological evolution as well as criticisms of that theory. But the board also inserted language stipulating that the new standards do not require the teaching of the concept that the world was created by an intelligent designer. The sentences added are in italics:

- Describe how scientists continue to investigate and critically analyze aspects of evolutionary theory. (The intent

on Trial, helped launch the intelligent-design movement.

The board's directive "permits but doesn't mandate the teaching of intelligent design . . . so it gives teachers the chance to teach the controversy," said Robert Lattimer, a Hudson chemist and spokesman for Science Excellence for All Ohioans. He was among a handful of intelligent-design proponents on the 41-member team that drafted the standards.

"Students should be able to hear both sides of the story."

Calling the standards historic, **Stephen C. Meyer** of the **Discovery Institute** in Seattle said, "Ohio has become the first state to require students to learn about scientific criticisms of Darwinian evolution as well as scientific evidence supporting the theory.

"This policy will help remedy the selective presentation of evidence made by most biology textbooks today."

Another supporter of intelligent design, U.S. Sen. Rick Santorum, R-Pa., applauded Ohio's new science standards.

of this indicator does not mandate the teaching or testing of intelligent design.)

- Describe a foundation of biological evolution as the change in gene frequency of a population over time. Explain the historical and current scientific developments, mechanisms and processes of biological evolution. Describe how scientists continue to investigate and critically analyze aspects of evolutionary theory. (The intent of this benchmark does not mandate the teaching or testing of intelligent design.)

Source: Ohio Department of Education

"Today's vote by the Ohio State Board of Education, which mandates critical analysis of evolution, is exactly the kind of decision anticipated by Congress last year when we adopted the No Child Left Behind education act," he said.

"The decision is particularly significant because Ohio was the first state since the passage of the new education act to debate the treatment of evolution within its science standards."

School districts won't be forced to follow the standards. However, they will be the basis for new standardized student tests -- including a 10th-grade graduation exam -- so teachers who ignore them will risk putting their students at a disadvantage.

State law required the board to adopt standards for science and social studies by Dec. 31. The board unanimously passed the social-studies standards without debate yesterday.

Martha Wise, a board member from Avon, said she had planned to oppose the science standards because she feared that they created a back door for the teaching of creationism. Inclusion of the disclaimer, she said, won her vote.

"It's really too bad that we have to use the words intelligent design in the standards, but what we are saying is we don't want to teach or test intelligent design," she said.

Board members supporting intelligent design agreed the standards had been

misinterpreted. But even without the mandate for intelligent design, the standards, they said, are a step in the right direction.

Michael Cochran, a board member from Columbus and intelligent-design proponent, said the standards call for a critique of evolution.

"We're not mandating it, but if a teacher or local board wants to explore alternatives to evolution, they can," he said. "What we have long objected to is the indoctrination of evolution. There is a controversy and students ought to hear about it."

Ohio State anthropologist Jeffrey McKee, also a member of Ohio Citizens for Science, said he opposed singling out evolution for a critique, adding that all scientific theories are subject to analysis.

The disclaimer "satisfies my concerns but it doesn't mean the intelligent-design community will go away. They can still go to local school boards and make their case," Mckee said.

"This process has been a real wake-up call."

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DISCOVERY INSTITUTE Discovery Institute is a non-profit, non-partisan, public policy think tank headquartered in Seattle and dealing with national and international affairs. For more information, browse Discovery's Web site at: http://www.discovery.org.

Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created.**" **Rev 4:11**

BTG No. 107b

Does Science Conflict With the Bible?

by John D. Morris, Ph.D.

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"Nevertheless death reigned from Adam to Moses, even over them that had not sinned after the similitude of Adam's transgression, who is the figure of Him that was to come" (Romans 5:14).

How often have you tried to witness to someone only to be rebuffed by an inappropriate view of science as having disproved the Bible? "Evolution is true, the earth is billions of years old. Science has proved it. Thus the Bible can't be taken at face value. How could all those scientists be wrong?"

We must all ask this question, for if science has disproved Genesis, we have no confidence that John 3:16 is correct. "If I have told you 'earthly things, and ye believe not, how shall ye believe, if I tell you of heavenly things?" (John 3:12).

Indeed, there are some Biblical teachings and doctrines which seem to conflict with majority scientific thought. For instance: Genesis 1:1 vs. the Big Bang; the order of creation vs. the order of evolutionary appearance; the Biblical curse on all creation vs. the evolutionary development of complexity; young Earth vs. old Earth; Adam's sin brought death vs. extinction brought man; the global flood vs. evolutionary uniformitarianism; etc. In each of these cases, the Biblical teaching can be supported but individual scientific observations are hard to accommodate.

We must keep in mind, however, the difference between scientific observations and opinions of scientists, especially in historical arenas. Both evolution and creation rely on "unobserved" events—non-repeatable singularities. Both are views of history outside the realm of observational science. Through careful study, scientists may discern how the human liver works, but this knowledge is far different from knowing how the liver originated.

To make matters worse, scientists often operate from a strictly naturalistic perspective, excluding supernatural creation from the range of possibilities. Surely Christians must not follow this perspective.

We must also remember that majority scientific opinion changes. For instance, the standard Big Bang fizzles more and more with each new discovery. Now is not the time to cite weight of scientific opinion as the reason to distort or disbelieve Scripture.

On the other hand, Scripture doesn't change. Our understanding of it may be enhanced by scientific discoveries, but by definition, it speaks truth without error.

How should a Christian respond? As ICR's physics department chairman Dr. Larry Vardiman writes in a recent paper, "When a conflict. becomes evident between an apparent interpretation of the Bible and an apparent finding of science, it is not necessary to force a final determination to be made immediately without further investigation. It is possible that a misinterpretation of either or both of the statements of Scripture or the evidence from science have occurred. Since of the two, Scripture speaks with greater clarity, until a satisfactory resolution can be made about the conflict, I will proceed with confidence in my interpretation of Scripture. Resolution may not occur in my lifetime."

This is a wonderful time to be a Bible-believing Christian/creationist. The scientific evidence, rightly interpreted, overwhelmingly supports the straight-forward reading of Scripture. Even in those areas of seeming conflict, research continually sheds new light, increasing our confidence in Scripture.

I call on my Christian "semi-creationist" brothers, those who hold to the Big Bang, or the old Earth or theistic evolution, to join the ranks of those who are trying to solve the remaining conflicts from a God-honoring, Bible-upholding perspective. For in the end, Scripture will stand. Rightly observed and interpreted there can be no conflict between science and Scripture.

These "BTG" articles were converted to HTML, for Web use, from the original formatted desktop article. Comments regarding typographical errors in the above material are appreciated. Don Barberor ICR Systems Administrator, Fax: (619) 448-3469

All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

As a missionary organization, ICR is funded by God's people. The majority of its income is provided by individual donors who desire to proclaim God's truth about origins. Gifts can be designated for research, the graduate school, seminars, or any special part of the ICR ministry. All others will be used where most needed. We pledge to use them wisely and with integrity.

If you would like to receive our free monthly newsletter "Acts & Facts," or our free quarterly devotional Bible-study booklet "Days of Praise," just request them by filling out this form. If you would prefer to receive our online/email versions of the Days of Praise devotional and Acts & Facts newsletter, you can use this form.

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians 10:4,5).

Member, Evangelical Council for Financial Accountability

Institute for Creation Research

Frequently Asked Questions - Click Here

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created**." **Rev 4:11**

FAITH UNDER FIRE
Taking Creation Back to School

WHAT CAN TEACHERS DO?



Faith Under Fire


What can students do?


What can parents do?


Why is this so important?


The student packet

Is creation really all that important, even when you teach subjects other than sciences?

Mr. Bill Jack

The issue of creation vs. evolution is crucial in every subject. You see, how you answer the question of origins will effect everything else you do. It determines how you view history, the author's perspective in literature and how you look at yourself. If students are taught that they are nothing more than products of random chance evolutionary processes, then both their moral foundation and how they view themselves is destroyed.

As a Christian teacher, how can you not teach the truth?

Mr. Bill Jack

Christian students are being taught two totally different beliefs. At church, they are being taught that God is the Creator, the one true authority and that the Bible is the actual Word of God given to us. In the classroom students are being taught that they are products of random chance, that they are nothing more than an animal in the evolutionary chain. As a result students are becoming schizophrenic Christians - they are taught to love God with all of their heart, strength and mind, but yet in school they are taught to defy God and all of His Truth.

As a Christian teacher, can you teach creation science in the classroom?

IMPACT ARTICLE 196



What are your legal rights?



Where to find help



About the speakers

Yes, as a science teacher it is important to maintain the integrity of science. Here are some guidelines:

1. Realize that many school administrators, school board members, and teachers are closet creationist. In their hearts they believe in a Creator and many want to support such views but feel their hands are tied. Your task is to show that both evolution and scientific creationism should be presented in the classroom.
2. Provide solid secular information on scientific creationism such as *What is Creation Science?* (published by the Institute for Creation Research, P.O. Box 2667, El Cajon CA 92021).
3. Document the legality of teaching scientific creationism. In 1987, the U.S. Supreme Court ruled in Edwards v. Aguillard (Case No. 85-1513) that in Louisiana law demanding a "balance" of evolution and creationism be taught, had an unconstitutional purpose of advancing a religious opinion. However, the Court also clarified that: Teaching a variety of scientific theories about the origins of humankind to school children might be validly done with the clear secular intent of enhancing the effectiveness of science instruction (p. 14) (previously cited).
   The Supreme Court noted that teachers "already possess" the flexibility to supplement the present science curriculum with the presentation of theories, besides evolution, about the origin of life (p. 8), and are "free to teach any and all facets of this subject" of "all scientific theories about the origins of humankind" (p. 9).
   This is clearly a "green light" for scientific creationism to be taught, *even* though its teaching cannot be mandated, and even though it prohibits the teaching of Biblical Creationism.
4. Sponsor a lecture series at a local public school library or auditorium (not a church) on scientific creationism. Invite teachers, administrators, and school board members. Organize the local churches to support this event.

A great resource to have for learning how to teach creation science

in your public school to the book *Teaching Creation Science in the Public Schools,* by Duane T. Gish. In this book Dr. Gish explains in detail the scientific, pedogogical, and legal foundation for teaching the scientific evidence for creation in public schools, or for more information on how to teach creation science in the public schools, click here to visit our Help and Resource page.

We are all called to be ministers, and as a teacher you have a very unique ministry. You were put into the classroom, by God, to help guide your students and point them to the Truth - God's Truth. God has given you the gift of teaching for that purpose, to point to Him as God and Creator.

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Institute for Creation Research

"Thou art worthy, O Lord, to receive glory and honour and power: for thou hast **created all things**, and for thy pleasure they are and were **created." Rev 4:11**

IMPACT No. 279

TEACHING THE BIBLE IN PUBLIC SCHOOLS?

by Dr. Robert L. Simonds *

Institute for Creation Research, PO Box 2667, El Cajon, CA 92021
Voice: (619) 448-0900 FAX: (619) 448-3469

"Vital Articles on Science/Creation" September 1996
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Perish the thought! What about "Separation of Church and State"? What about pushing off the Christian religion on innocent public-school children? What about offending non-believers who reject God, the Bible, and any form of religious morals? Why should a Christian minority (?) interest be given a preeminent place in a public school? Besides, isn't it against the First Amendment of our Constitution to promote religion in any government entity (a school)? Hasn't the Supreme Court ruled against such a sectarian proposal?

Those are all legitimate questions to ask! They are very serious, concerned, and thoughtful questions that public school curriculum leaders, superintendents, and school board members must know the answers to.

Also, it should be known why such a course is necessary or even helpful. What purpose? What desired outcomes could be realistically expected? Who would object and who would be sued? Can we control the content or the teacher? All good questions! All fair questions that must have honest, fair answers. And they all apply to every other course now being taught.

The very first question a superintendent or a wise board member asks is: "Is it legal? Will it stand up in court? Has the U.S. Supreme Court given us reliable guidelines to go by?" The truth of the matter is, the Supreme Court has given administrators and school boards some very clear guidelines to judge such sticky religious issues.

The proposed mention of religion, along with the use of the Bible, has been strongly misunderstood when applied to public schools. The Supreme Court has ruled that teaching about religion and using the Bible in the classroom may both exist in any curriculum if they are not a part of religious worship, but are integrated as a part of the offerings within a secular program.

The Supreme Court clearly affirmed this position in Stone vs. Graham, when it stated that "the Bible may constitutionally be used in an appropriate study of history, civilization, ethics, comparative religion, or the like."[1]

As one possessing a Masters degree in history, I can tell you that no qualified historian would dispute the simple fact that the Bible is not only a great documented history book of man's beginnings, right up to the modern era, but it is the ONLY documented ancient history account available to mankind on much of that long 4,000 year period B.C. (before Christ). The Bible is not only "appropriate," but necessary for students to have a complete historical picture of mankind.

Through much misinformation given to our schools from sincere but often misguided anti-religious organizations, children have been denied the "right-to-learn," the "right-to-know," and the "right-to-be" all they could become. This unchecked censorship of legitimate knowledge has now become a national issue, being brought out in the open for the first time.

President Clinton has clearly seen the religious freedom issue and its growing importance to his re-election. By particularly addressing religion in our schools, he has touched a nerve in society. Numerous polls over many years have shown the overwhelming public preference in allowing prayer, the teaching of the science of creation, and the Bible as literature in our public schools. The teaching of the Bible, as "history, civilization, ethics, comparative religion, or the like," has now been supported by numerous legal foundations and not just the Supreme Court.

Thirty legislators, congressmen, and attorneys have formed the **National Council on Bible Curriculum In Public Schools** to see that reliable information and legal support of the schools' absolute right to teach the Bible as an elective curriculum in all public schools is available to all schools.

The Supreme Court further stated in Abington vs. Schempp that:

> It certainly may be said that the Bible is worthy of study for its literary and historic qualities. Nothing we have said here indicates that such study of the Bible or of religion, when presented objectively as a part of a secular (public school) program of education, may not be effected consistently with the First Amendment.[2]

In the Supreme Court case of Nyquist, the court outlines clearly "that the First Amendment does not forbid all mention of religion in public schools; it is the advancement or inhibition of religion that is prohibited."[3] In its ruling on the McGowan case, the Supreme Court said, "Government involvement in an activity of unquestionable religious origin does not contravene the Establishment Clause if its present purpose and effect is secular."[4]

The Supreme Court ruled also, in Schempp, that "one's education is not complete without a study of comparative religion or the history of religion and its relationship to the advancement of civilization."[5] This is as close to a mandate on religion and Bible teaching in our public schools as a means of a "complete" education, as the court may ever go. When approached from a historical context, the Bible and religion are **inseparable** from the history of man and government, as the court has clearly stated on several occasions.

The ACLU and others argue that there are those who are hostile to any religion in public schools and therefore the Bible as history and literature should be excluded (censored). But whether the course on Bible Literature is included **or not, some** will be offended. It is the school's duty to do what is right.

The Florey decision stated that it "would literally be impossible to develop a public-school curriculum that did not in some way affect the religious or non-religious sensibilities of some of the

students or their parents."[6]

Since the Bible and religion are extremely valuable components of the study of our history and the development of civilization, they offer much toward attaining a comprehensive, world-class education.

The objectives of a "Bible Literature" class are:

- To equip students with literary forms and symbols in the Bible that are constantly referred to in art,
- music, and literature.
- To give the student understanding of the influence of the Bible on history, law, community, and cultural life.
- To give insight into the founding fathers' worldviews taken from the Bible promoting human rights, women's rights, social justice, etc.
- To provide knowledge of Middle-Eastern history (Jewish-Arab), conflicts, geography, and religions.
- To teach students how to learn, and use, multiple and complex reference skills.

Enforce the importance of religion in world and national history, without teaching or imposing any doctrinal belief.

These objectives will provide constitutional conformity. When the Bible was erroneously removed from our classrooms by school boards or administrators, it was done so with biased information received from many bigoted anti-religious hate groups that have lost almost every case when they reached the Supreme Court. Those misperceptions adopted by otherwise good school people have cost our schools the support and confidence of the public.

Patrick Henry said, *"The Bible is a book worth more than all other books that were ever printed."* Thomas Jefferson was the first President of the Washington D.C. school board which adopted the Bible as a primary reader.

Students have been denied their constitutional rights long enough. And they have not been given all the facts of history and of the influence of the Bible. Most do not know that the Bible has been the number one best-seller each year since the invention of the Gutenberg printing press in 1456. Last year, the Bible outsold its nearest modern rival by more than five times.

No one could rightly claim to be educated today, or to be a true intellectual, who has never read this powerful and exciting book that has transformed innumerable lives, influenced kings and presidents, and guided entire nations. To what can we compare it?

Such vast amounts of writing and art contain Biblical allusions that ignorance of the Bible cripples any meaningful study of literature or the arts.

Even the Dictionary of Cultural Literacy states that, "The Bible, the holy book of Judaism and Christianity, is the most widely-known book in the English speaking world.... No one in the English speaking world can be considered **literate** without a basic knowledge of the Bible" (page 1). Could this censorship of the Bible from our schools be the reason for the growing illiteracy in America, threatening our means of communication?

Our U.S. laws are all based upon our constitution which is a direct pattern of the Old English Law, which unashamedly proclaims its entire jurisprudence system to be based upon the Bible and the Ten Commandments.

Our children are held, **by law,** to all our U.S. laws, derived from the Bible, yet denied the knowledge of the source of our own constitution and national jurisprudence controlling all of society's laws. Parents, the public, and lawmakers are now demanding a reversal in the five-decade-long slide into crime, disrespect for the law and the resulting moral and spiritual decadence. Exposure to the Bible has an almost magical influence against crime and the moral/ethical slide of our youth and our nation.

Many believe that because of the loss of influence of the Bible, our society and our culture of liberty and freedom is collapsing before our eyes. Yet, our schools continue to side with the very forces that have brought us down. This must change for peace and support for our public schools ever to be regained.

The American Association of School Administrators (AASA) outline **"Recommendations for Teaching About Religions,"** fully supports the Supreme Court rulings in their (AASA) seven recommendations.

For support of the idea behind this paper, please obtain a copy of ***"FINDING COMMON GROUND—A First Amendment Guide to Religion and Public Education,"*** by Charles C. Haynes, Ph.D., Editor. You can write to The Freedom Forum First Amendment Center at Vanderbilt University, 1207 18th Avenue South, Nashville, TN 37212—or call (600) 321-9588. (Signators: AASA, ASCD, ACLU, NAE, CLS, NSBA, CEE, NEA and others.)

For Bible curriculum meeting all U.S. Supreme Court requirements and a two-semester elective course covering: semester one—Old Testament, history, eastern geography, culture and the influence of the Torah (first five books of the Old Testament) on world history; semester two—introduction to the New Testament, politics, history, culture of Roman times; Christ, the Christian origins and their impact on all western culture, as it affects today's world. Write to: Elizabeth Ridenour, President; National Council on Bible Curriculum in Public Schools, P.O. Box 9743, Greensboro, NC 27429; (336) 272-3799.

End Notes

[1] U.S. Supreme Court: *Stone* vs. *Graham, 449 U.S.* 39, 42 (1980).
[2] U.S. Supreme Court: *School District of Abington Township vs. Schempp,* 374 U.S. 225 (1963).
[3] *Committee for Public Education vs. Nyquist,* 413 U.S. 756, 788 (1973).
[4] *McGowan vs. Maryland,* 366 U.S. 420, 444-446 (1961).
[5] Schempp, op. cit.
[6] *Florey vs. Sioux Falls School District,* 619 F. 2d 1311, 1314 (8th circuit, 1980). Circuit Court decision and language was reviewed by the U.S. Supreme Court and allowed to stand as constitutional.

* Dr. Simonds is President of Citizens for Excellence in Education and has been a public school teacher, principal, professor, and administrator for over thirty-five years. His address is CEE, P.O. Box 3200, Costa Mesa, CA 92628; (714) 251-9333.

This "Impact" was converted to HTML, for Web use, from the original formatted desktop article. Comments regarding typographical errors in the above material are appreciated. **Webmaster**, ICR Systems Administrator Fax: (619) 448-3469

All ICR staff members adhere to a Statement of Faith in the form of two documents: "Tenets of Scientific Creationism," and "Tenets of Biblical Creationism." (see Impact No. 85)

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Fax

To: Ms. Brenda West **From:** JDA - Arnold

Fax: 304-558-1613 **Date:** 12/12/02

Phone: **CC:**

Re: Science Standards & H.R. #1 **Pages:** 32

☐ **Urgent** ☐ **Please call upon receipt** ☐ **For review** ☐ **Reply requested**

● **Comments:**

1. Santorum letter
2. "Federal Challenges to the Teaching of Evolution" (1-22-02)
3. Discovery Institute News Re: Ohio
4. Public School (Let's Roll) Science Standards Packet Summary
5. 1st Amendment URL's
6. Cobb County, Georgia, decision
7. The American Center for Law and Justice's "Does Creationism Deserve to be Taught Along with Evolution in Public Schools?"
8. The Christian Law Association's "On Legal Issues Involved in the Teaching of Evolution and Creationism in America's Public Schools"
9. "What Should Public School Kids be Taught About Evolution and Creation?"
10. "Public Schools: Christians Have Rights"

RICK SANTORUM
PENNSYLVANIA

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United States Senate

WASHINGTON, DC 20510-3804
202-224-6324

March 20, 2002

Mr. John Morris
Institute for Creation Research
10946 Woodside Avenue North
Santee, California 92071-2833

Dear Mr. Morris,

Thank you for contacting me regarding the reauthorization of the Elementary and Secondary Education Act. I appreciate hearing from you and having the benefit of your views.

As you may know, on December 18, the Senate passed H.R. 1, the Elementary and Secondary Education Act reauthorization bill, by a vote of 87 to 10. The House previously passed the bill on December 13 by a vote of 381 to 41, and it is now cleared for President Bush's signature. I supported the passage of this legislation, which establishes federal policy, programs, and funding with respect to elementary and secondary education, for seven years. Major themes embodied in this comprehensive education reform include accountability, flexibility and expanded parental options.

H.R. 1 will enhance accountability by tying federal aid to achievement, requiring annual student testing in reading and mathematics of all students in grades 3 through 8, and some participation in the National Assessment of Educational Programs (NAEP) biannual testing in grades 4 and 8. Schools failing to achieve adequate yearly progress will receive assistance from the federal government. In addition, parents, voters and taxpayers will be provided with data, including annual report cards on school performance and statewide results. Accountability is crucial to true education reform in our nation's schools, and this bill will put our children first by requiring accountability and ensuring that our children are learning the necessary skills to succeed.

This legislation also provides unprecedented flexibility for all 50 states and every local district in the use of federal funds, in conjunction with performance measures to strengthen accountability. Funds in accounts for teacher quality, technology innovation programs and safe and drug-free schools will be transferable depending on where the state and local community believes it can derive the most benefit from those dollars. I agree that we must provide local communities with the resources and flexibility needed to restore order and improve the quality of education in their schools. I believe families and local communities form the foundation of elementary and secondary education. Geographic boundaries determine which public school a child will attend, and most operating revenue for public schools is derived from local sources. Magnet schools draw from a wider vicinity but still remain dependent on local support. In my view, Congress and the federal government should have a minimal role in managing local education. Primary control of public school curriculum and administration must be maintained by local interests--elected school boards, parents, municipal governments, and other leadership in the community. With this in mind, I believe that innovation and partnerships with the private sector

should be encouraged, good teachers should be adequately compensated for their efforts, and local school districts should be provided with regulatory and financial relief.

Other important initiatives in this legislation that give parents increased options include public school choice, supplemental services and charter schools. Parents with a child in a failing school will be allowed to send their child to another, better-performing public or charter school immediately after a school is identified as failing and have the transportation costs paid for. H.R. 1 does not allow parents to access private schools but does allow them to get their child out of a failing public school and move them to a public school where they can get adequate education. In addition, for the first time, parents whose child is trapped in a failing school will be able to take a portion of the money available under Title 1 for their child and use it to get the child private tutorial support. This support can come from public institutions, private providers or faith-based educators. A new expansion of charter schools has been created by this bill as well, with increased opportunities for the creation and success of these schools.

Additional issues of importance including school prayer, the Boy Scouts and protections for personal and family beliefs are contained in the measure. Federal funds will be denied to any local school district that prevents participation in constitutionally-protected school prayer or to any public school that discriminates against or denies equal access to any group affiliated with the Boy Scouts of America. Provisions that protect personal beliefs specify that tests, including statewide assessments, cannot evaluate or assess any personal or family beliefs and attitudes or publicly disclose personally identifiable information.

H.R. 1 is a definite improvement over existing educational policy and begins to focus our educational priorities on what is in the best interest of our children. The final measure will reauthorize a total of 45 federal education programs, including the Safe and Drug Free Schools and Communities Act, the Javits Gifted and Talented Students Education, the National Writing Project, the Elementary School Counseling Demonstration Act and the Inexpensive Book Distribution Program. I am pleased that this bill has also focused additional resources on priorities such as special education, as we continue to work toward fulfilling the federal government's commitment to IDEA (Individuals with Disabilities Education Act) and free up additional resources for local educational needs (GREATT IDEA).

Since being elected to the Senate, I have visited over 150 schools in Pennsylvania, and have listened to the concerns and advice of teachers, administrators, parents and students about what works best in our schools. I look forward to monitoring the results of this education reform with the Administration and my colleagues in Congress, as we strive to improve the educational system and give all of our children the opportunity they deserve.

Thank you for your input. If I may be of further assistance with this or any other matter, please feel free to call on me again.

Sincerely,

Rick Santorum
United States Senate

RJS\els



Most Recent Action Challenges in the States Background Resources

Federal Challenges to the Teaching of Evolution (1-22-02)

The final version of H.R. 1, the "No Child Left Behind" education bill, which was signed into law on January 8, 2002 does not contain any mention of evolution. A "Sense of the Senate" resolution added to the Senate version by Sen. Rick Santorum (R-PA) was removed during negotiations between the House and Senate. A modified version of the resolution was added to the explanatory language accompanying the final bill rather than the bill itself. Both in its original and modified form, the Santorum resolution labeled biological evolution as a controversial theory. The original amendment stated, " It is the sense of the Senate that 1) good science education should prepare students to distinguish the data or testable theories of science from philosophical or religious claims that are made in the name of science; 2) where biological evolution is taught, the curriculum should help students to understand why the subject generates so much continuing controversy, and should prepare the students to be informed participants in public discussions regarding the subject." The language was crafted by a leading intelligent design proponent to appear innocuous but to provide a potent propaganda tool for evolution opponents in their efforts at the state and local level. And indeed the Santorum resolution already has been invoked in several states. For more on state actions relating to the teaching of evolution, see AGI's state update.

Most Recent Action

In December 2001, the House-Senate conferees removed the Santorum resolution from their final version of H.R. 1, which was subsequently passed by both the House and Senate and sent to the president for his signature.A watered-down version was placed in the conference committee's explanatory report that accompanied the bill. Report language has no force of law. The report language states the importance of separating the science curriculum and "religious and philosophical claims that are made in the name of science." It cites biological evolution as the example for controversial theories rather than as the only controversial theory. In its entirety: "The conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to undertand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society." Although the language will not appear in the final bill, its incorporation in the conference committee's report will be welcomed by evolution opponents. Indeed, in press releases and presentations to school boards, evolution opponents have repeatedly failed to distinguish between the report and the bill, stating that the bill itself contained Santorum's language. For more on the significance of eliminating the Santorum resolution from the final bill, see a discussion by the National Center for Science Education. *(01/22/02)*

Background

A day before the Senate completed six weeks of debate on its version of the comprehensive education bill, S.1 (later folded into H.R.1), Sen. Rick Santorum (R-PA) introduced a two-sentence amendment drafted by evolution opponents. The amendment, presented in the form of a non-binding "Sense of the

Senate" resolution, defines "good science education" and encourages teaching the "controversy" surrounding biological evolution. Amidst a flurry of other amendments, the Senate voted 91-8 in favor of the provision on its way to passing the entire bill by the same margin. Earlier, a group of conservative representatives had stripped a science testing provision out of the House counterpart bill in part because of concerns that the tests would include evolution-related questions. For more on the introduction and passage of the Santorum resolution, see AGI's June 19, 2001 special update. A column in the September 2001 issue of *Geotimes*, entitled "Monkey Business", provides additional analysis and discussion of this issue.

In August 2001, responding to the congressional discord on the teaching of evolution, the leaders of 96 scientific and educational organizations endorsed a letter urging the House-Senate conference committee chairmen for H.R.1 to remove the Santorum resolution. A number of additional organizations signed on to the letter after it was first sent to Capitol Hill on August 22nd with 82 signatures. AGI and 15 of its member societies are among the organizations represented, which also include the National Science Teachers Association and the Association of American Universities. See the AGI's August 23, 2001 special update for the text of the letter. At the time the letter was sent, congressional staff were meeting daily to hammer out a compromise on House-passed and Senate-passed versions of H.R.1, a massive overhaul of federal elementary and secondary education programs. The conference was to have been completed when senators and representatives returned to Washington after Labor Day, but largely due to the events of September 11th, they did not finish until December. President Bush repeatedly urged Congress to present him with a bill. An article in the Sep. 13 *Washington Post* noted the Santorum resolution as one of several "social" issues dividing conferees.

Although the evolution debate has historically taken place at the state and local level, evolution opponents began a concerted campaign in 2000 to involve Congress and federalize the issue. On May 10, 2000, supporters of intelligent design theory brought their message to Capitol Hill in a series of events for Members of Congress and their staff. A three-hour briefing focused on the scientific evidence for the origin and development of life and the universe as the work of an intelligent designer. The speakers presented their version of the scientific debate between Darwinian evolutionary theory and intelligent design theory. Speakers also addressed the social, moral, and political consequences of Darwinism. Sponsored by the Discovery Institute, the briefing was hosted by the chairman of the House Subcommittee on the Constitution, and co-sponsors included Rep. Thomas Petri (R-WI), then expected to be the next chairman of the House Education and the Workforce Committee (he subsequently was named the committee's vice-chair). The briefing took place as the 106th Congress was debating legislation to overhaul federal K-12 education programs: the precursor to H.R.1 in the following 107th Congress. That briefing is described in AGI's May 11, 2000 special update and in a subsequent column, entitled "Creationists Open a New Front", that appeared in the July 2000 issue of *Geotimes*.

A month after the briefing, on June 14, 2000, Rep. Mark Souder (R-IN) gave a speech on the floor of the House responding to a letter he had received from professors at Baylor University criticizing him for sponsoring the May 10th Capitol Hill briefing on intelligent design creationism. He acknowledged University of California Berkeley law professor Phillip Johnson and others for drafting his response. His speech, including the Baylor letter, can be found in the Congressional Record.

More information on the background of this controversy is located on the State Challenges of Teaching Evolution page.

Sources: American Geophysical Union, Library of Congress, National Center for Science Education, National Science Teachers Association, The Washington Post.

Please send any comments or requests for information to the AGI Government Affairs Program at govt@agiweb.org.

Contributed by David Applegate, AGI Government Affairs Program; and AGI/AAPG Geoscience Interns Mary Patterson and Heather Golding.

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Discovery Institute News
1402 3rd Ave - Suite 400 -Seattle, WA 98101 - (206) 292-0401 x107

Ohio Praised for Historic Decision Requiring Students to Critically Analyze Evolutionary Theory

By: Discovery Staff
Discovery Institute
December 10, 2002

Contact: Mark Edwards -- 206.292.0401 x107 -- medwards@discovery.org
SEATTLE--After months of debate, the Ohio State Board of Education has adopted science standards that require Ohio students to know why "scientists continue to investigate and critically analyze aspects of evolutionary theory." The Board unanimously approved the science standards this morning.

Calling this provision in Ohio's science standards "historic," Dr. Stephen C. Meyer, director of Discovery Institute's Center for Science and Culture, noted that "Ohio has become the first state to require students to learn about scientific criticisms of Darwinian evolution as well as scientific evidence supporting the theory. This represents an important milestone in the effort to ensure that students learn the full range of relevant scientific evidence. This policy will help remedy the selective presentation of evidence made by most biology textbooks today."

Ohio's new evolution standard does not require teaching the theory of intelligent design. "In recent weeks some have mischaracterized the new language as an effort to mandate teaching the theory of intelligent design in the classroom, but that is not accurate and is not what we asked for," said Dr. Meyer. "The new standard requires students to learn about the evidence for and against Darwin's theory. It does not mandate that students be tested about the theory of intelligent design, though it does leave teachers free to discuss it."

Dr. Meyer, a Cambridge-trained philosopher of science, and his colleague, Dr. Jonathan Wells, a Berkeley-trained biologist (both of Discovery Institute), were invited by the Board of Education to testify in March at a public hearing about the scientific controversy over Darwinian evolution. At the March hearing, Meyer, an advocate of the theory of intelligent design, proposed a compromise. Meyer suggested that the Board not require students to know the evidence and arguments for the modern theory of intelligent design, but that they should require students to know the scientific arguments for and against neo-Darwinism. The Ohio State Board's decision today essentially affirms this approach by allowing students to learn evidence based scientific critiques of contemporary evolutionary theory. (Meyer's original proposal to the Board can be found in his March 30, 2002 op-ed in the Cincinnati Enquirer, "Teach the Controversy")

Dr. Jonathan Wells, author of "Icons of Evolution," a book that documents scientific errors in textbook presentations of the case for modern Darwinism, urged the Ohio State Board of Education to adopt curricular materials that more accurately represent the current state of scientific knowledge and to remedy the one-sided presentation of evidence in favor of contemporary Darwinian evolution. "Most biology textbooks continue to use outdated and discredited evidences like peppered moths and Haeckel's embryos when it comes to their treatment of

Darwinian theory. It is critically important for school districts in Ohio to revise their biology curricula in order to meet the new standards."

The Ohio State Department of Education already has pledged to carry out the intent of the new evolution standard. Susan Zelman, Ohio's State Superintendent of Public Instruction, testified before the state legislature on Nov. 13 that she would "make a commitment that in our curriculum model we will deal with this controversial issue [of evolution] in an intellectually honest way, to protect the spirit of [indicator] #23 'to investigate and critically analyze aspects of evolutionary theory,' and try to give examples about how to do that."

Discovery Institute is a non-profit, non-partisan policy and research organization that studies issues from transportation to technology to tax policy. In science education, it supports a "teach the controversy" approach to Darwinian evolution. Its Center for Science and Culture has more than 40 affiliated biologists, biochemists, physicists, philosophers and historians of science, and public policy and legal experts, most of whom also have positions with colleges and universities. www.discovery.org

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News stories are not archived please do not link to this page.

DISCOVERY INSTITUTE Discovery Institute is a non-profit, non-partisan, public policy think tank headquartered in Seattle and dealing with national and international affairs. For more information, browse Discovery's Web site at: http://www.discovery.org.

Public School (Let's Roll) Science Standards Packet

10/23/02

A/ Preparation:

Should the Public Schools Teach Creation? (BTG # 28)

Introducing Creationism into the Public Schools (Impact # 20)

Creation Science and the Local School District (Impact # 67)

Establishing Scientific Guidelines for Origins - Instruction in Public Education (Impact # 93)

Summary of Scientific Evidence for Creation (Impacts # 95-96)

What Really Happened on the Kansas School Board? (BTG # 131b)

Teachers Can Teach Creation Science in the Classroom (Impact # 196)

An Educational Step in the Right Direction (Impact # 270)

A Call to Arms for Conservative Christian Science Educators (Impact # 306)

U.S. Senate Passes Amendment and Supports Critical Thinking regarding Evolutionary Theory (6/13/01)

Creationism and First Amendment Rights (7-18-02)

*Teaching Creation Science in Public Schools, Dr. Duane T. Gish (1995, 70 pp.) www.icr.org.

*Scientific Creationism, Dr. Henry M. Morris (2nd. ed., 1985, 294 pp.) www.icr.org

Evolution – Legislation – 1st Amendment Links Re: Current Law on restriction of individual rights to practice one's faith in a classroom setting

What Could Happen Next? – Prepared by Christian Legal Association (CLA)

Legal Opinion Memorandum – May Creationism be legally taught in a public school setting? (CLA)

Department of Education Guidelines for Religious Expression – Prepared by American Center for Law & Justice (ACLJ)

Legally Teaching Creation Science in Public Schools – Prepared by Liberty Counsel (LC)

Public Schools Christians Have Rights! (Answers in Genesis)

B/ The Struggle - Creation vs. Evolution:

Evolution, Creation, and the Public Schools (Impact # 1)

Evolution in Public Schools and Creation in Students' Homes: What Creationists Can Do (Impact # 69)

Evolution in Public Schools and Creation in Students' Homes: What Creationists Can Do (Impact # 70)

Resolution for Balanced Presentation of Evolution and Scientific Creationism (Impact # 71)

Are Schools Teaching Evolution Well Enough? (BTG # 114b)

Evolutionary Indoctrination and Decision-Making in Schools (Impact # 120)

Evolution Verses the People (BTG # 161)

Biology Textbooks Worldview Development and the Creation/Evolution Controversy (Impact # 278)

Should Evolution be Immune From Critical Analysis in the Science Classroom? (Impact # 282)

Evolution is Religion-Not Science (Impact # 332)

Teaching Creation and Evolution in Public Schools (CEN Tech. Journal 13 (2):118-123, 1999

*Evolution the Fossils Still Say No! Dr. Duane T. Gish (1995, 391)

C/ The Result - No Child Shall Be Left Behind education bill: (H.R. 1)

Honest Science "Left Behind" in US Education Bill (1/7/02)

Federal Challenges to the Teaching of Evolution (1-22-02)

Santorum Language on Evolution (1/31/02)

Santorum Letter to ICR (3/20/02)

Negotiators Retain Heart of Education Department Proposals (3/27/02)

Committee on Education and the Workforce Letter to NCSE (5/14/02)

Behind the Headlines Newsfax Standards Under Siege (7/5/02)

Equal Time for Creation in Cobb County? (8-26-02)

Georgia School District Adopts a Creation Policy (8-29-02)

Monkeys Out of Evolutionists (8-29-02)

Does Creationism Deserve to be Taught Along with Evolution in the Public Schools? (ACLJ)

D/ Science and the Bible:

Does Science Conflict With the Bible? (BTG # 107b)

Faith Under Fire Taking Creation Back to School: What can Teachers Do? (Impact # 196)

Teaching the Bible in Public Schools? (Impact # 279)

*Science and the Bible, Dr. Henry Morris (1986 ed. 184 pp.) www.icr.org

*Note: An asterisk (or blue type) indicates a Book (not included in Packet, but available from www.icr.org.) rather than an article.

Name: Evolution

Discipline: Legislation

Category: 1st Amendment

Key Words:

Abstract:

Q 1: What is the current law on the restriction of individual rights to practice one's faith in a classroom setting?

A 1: ICR is not a law firm, does not practice law, and is not in a position to give legal advice. However, the U.S. Congress and the President of our country have passed into law a new education bill entitled "No Student Left Out Education Bill" on January 8, 2002. Details of this law and its intent are found in the following URL's:

URL: http://www.susvalley.bhcom1.com/cgi-bin/db.cgi/7/5/2001?db=newsfaxes
URL: URL://www-acs.ucsd.edu/~idea/senate.htm
URL: http://www.adl.org/religion_ps/evolution.asp
URL: http://www.edweek.org/ew/ew_printstory.cfm?slug=28esea.h21
URL: http://www.infidels.org/activist/state/evolution.shtml
URL: http://www.natcenscledd.org/resources/articles/5445_eight_significant_court_decisi_2_15..
URL: List of Colleges and Universities that Support Creationism - 28k
URL: http://www.icr.org/newsletters/btg/btgjune02.html - 25k
URL: http://www.icr.org/pubs/imp/imp-020.htm - 36k
URL: http://www.icr.org/pubs/imp/imp-279.htm - 28k
URL: http://www.icr.org/pubs/imp/imp-071.htm - 29k
URL: http://www.icr.org/pubs/btg-b/btg-114b.htm - 15k
URL: http://www.icr.org/pubs/btg-a/btg-103a.htm
URL: http://www.icr.org/creationproducts/creationscienceproducts/Teaching_Creation_Science_in_Public_Schools.html - 3k
URL: http://www.icr.org/pubs/president/prz-0205.htm - 25k
URL: http://www.icr.org/pubs/btg-a/btg-161a.htm - 30k
URL: http://www.icr.org/pubs/imp/imp-069.htm - 28k
URL: http://www.icr.org/pubs/imp/imp-070.htm - 25k
URL: http://www.icr.org/newsletters/btg/btgmay02.html - 27k
URL: http://www.icr.org/pubs/imp/imp-306.htm - 26k
URL: Creation Science and the Local School District
URL: http://www.icr.org/pubs/imp/imp-080.htm - 35k
URL: ICR And The Future
URL: http://www.icr.org/pubs/btg-b/btg-028b.htm - 15k
URL: http://www.icr.org/pubs/imp/imp-332.htm - 29k
URL: http://www.icr.org/pubs/btg-b/btg-069b.htm - 16k
URL: http://www.icr.org/pubs/btg-b/btg-131b.htm - 15k
URL: http://www.icr.org/pubs/imp/imp-282.htm - 29k
URL: http://www.icr.org/pubs/president/prz-0205.htm
URL: http://www.freedomforum.org/templates/document.asp?documentID=3924
URL: http://www.icr.org/pubs/imp/imp-080.htm
URL: http://www.icr.org/pubs/imp/imp-303.htm

URL: http://www.icr.org/pubs/imp/imp-170.htm - 24k
URL: http://www.icr.org/pubs/imp/imp-105.htm - 27k
URL: http://www.icr.org/radio/fuf/speakers.htm
URL:http://www.icr.org/pubs/imp/imp-001.htm
URL: http://www.icr.org/newsletters/pc/pcjune02.html - 26k

In addition, the following books are recommended:
Teaching Creation Science in Public Schools, by Dr. Duane Gish
Kansas Tornado, by Dr. Paul Ackerman & Bob Williams
The Origin of Species Revisited, Vol 1 & 2, by Wendall R. Bird

I have also included some information on selecting a Christian University and the related information on legal precedents (from an evolutionary perspective), the new education bill, etc. If you need further assistance please call on us.

Ga. county to permit teaching of creationism alongside evolution

News-Journal wire services

MARIETTA, Ga. -- The Cobb County school board voted unanimously Thursday night to give its teachers permission to introduce varying views about the origin of life in the classroom, including creationism.

The proposal says the district "believes that discussion of disputed views of academic subjects is a necessary element of providing a balanced education, including the study of the origin of species."

Cobb County resident Jeffrey Selman spoke out against the decision.

"I am flabbergasted. All these people want to take a pseudoscientific approach to religion," Selman said. "Let them believe in God. Let me believe in God. But how can they deny that this is bringing religion into classrooms? Science as we know it will lose all its credibility."

Others praised the board's choice as a way to encourage academic freedom and applauded the decision.

"We are not advocating religion in the classroom, but rather a comprehensive presentation both for and against Darwinism," said Cobb County resident Larry Taylor. "We believe teachers should educate, not indoctrinate."

The meeting room was packed with Cobb County parents, educators, theologians and students. The board allowed 48 people to talk, allotting them each one minute.

Hundreds crowded outside the room and a handful of supporters from both sides took their opinions outside, sparking impromptu shouting matches.

After the vote Board Chairman Curt Johnston read a six-paragraph statement. No other school board members made remarks.

"Our intention is to promote a broad-based science curriculum which will acknowledge that there are differences of opinion about the origin of life and to encourage students and others to be tolerant and respectful of those who may have different beliefs," Johnston read.

The school board revised the policy initially proposed by adding, "The purpose of this policy is to foster critical thinking among students to allow academic freedom consistent with legal requirements to promote tolerance and acceptance of diversity of opinion and to ensure a posture of neutrality toward religion."

The policy allows teachers to discuss opposing views to evolution.

Michael Gray, a junior at Pope High School in Cobb County, said he was relieved after the decision.

"I had to do a term paper about evolution and there were just things that I could disprove or have alternate reasons for," Gray said. "I want my brother and sister to be given the option and not told it's the absolute truth."

Despite the board's decision, opponents say it will not be the end of the emotionally charged debate.

"It would be as if Cobb County were putting up a giant sue me' sign," said Barry Lynn, executive director for Americans United for Separation of Church and State, earlier Thursday. "The acceptance of a resolution would inevitably lead to a lawsuit."

Since the board decided to consider the proposal in August, it has been inundated with letters and calls from both sides in a polarized debate that has attracted national attention to the conservative county north of Atlanta.

"This is genuinely a showdown over whether or not we will turn biology classes into Sunday school classes," said Lynn, a lawyer and a Christian minister. "It's as blunt as that."

John Avise, a professor of evolution and genetics at the University of Georgia, said he was concerned that the resolution in the state's second-largest district would create confusion and open the door for religion to enter public schools.

"Subjects are always open for discussion," Avise said. "That doesn't mean any theory dreamed up by someone deserves equal time."

Biology professors at every major university in Georgia and the National Science Teachers Association have told the school board they would be would be making a big mistake if the resolution passed.

The American Civil Liberties Union is already suing the district for putting stickers in thousands of middle and high school science books that said evolution is theory, not fact, and should be critically considered.

The U.S. Supreme Court ruled in 1987 that creationism was a religious belief that could not be taught in public schools along with evolution.

On the Net:

Cobb County Schools: http://www.cobb.k12.ga.us/

Americans United for Separation of Church and State: http://www.au.org/contact.htm

Sent by: ICR 6194483469; 12/12/2002 3:27PM; #972; Page 14/32

Does Creationism Deserve to be Taught Along with Evolution in the Public Schools?

By Jay Sekulow
Chief Counsel, American Center for Law and Justice

The debate over the origins of life is as old as life itself. In 1925, biology instructor John Scopes was prosecuted for teaching evolution. Now, it's creation science that is in the legal crosshairs. The issue is back in the news - this time an Atlanta-area school district debates whether teachers can discuss the concept of creationism along with evolution.

The Supreme Court has been very clear about this issue. While the Supreme Court has said that the teaching of creation science cannot be required in public schools, it is also very clear that creation science need not be shut out and removed from the discussion of the origins of life in public schools.

In the case of *Edwards v. Aguillard* the Supreme Court in 1987 stated that "teaching a variety of scientific theories about the origins of humankind to school children might be validly done with the clear secular intent of enhancing the effectiveness of science instruction." The court also indicated that there should be no constitutional crisis created with including creation science so long as it is done with the "intent of enhancing the effectiveness of science instruction" and, provided it is not taught to the exclusion of evolution.

That's where the focus needs to be in our educational system today. This is not about replacing evolution with creationism in the public school. But, what's wrong with making sure that other origins of life theories are presented, too?

The debate of how to handle the issue of creation science in our public schools is getting a lot of attention across the country with activity taking place recently in many states including Georgia, Kansas, Pennsylvania, Indiana, Washington, Ohio, Colorado, and Alabama.

And, much of the debate often centers on whether school districts should be permitted to include a sticker in science textbooks - a message that merely acknowledges the fact that evolution is not the only theory when it comes to the origins of life. In the Georgia school district currently grappling with this issue, school officials approved a sticker for textbooks that said evolution is a theory, not fact and stated that evolution should be "approached with an open mind, studied carefully and critically considered." A sound and reasonable approach. But - in Georgia - as well as many other states - critics abound and groups like the ACLU threaten legal action to make sure that creation science gets squashed like a bug or insect.

The fact is that that creationism does deserve to be taught along with evolution in the public schools - as long as it is done in a manner that does not promote a religious purpose and is done in a way that will enhance the educational process.

Why do the defenders of evolution feel so threatened by other theories like creationism and intelligent design, which teaches that a force greater than man created life?

Students should be permitted to examine all sides of an issue - and that includes the origins of life. Don't put up road blocks to knowledge. And, don't make the mistake of thinking this is about teaching religion. The fact is that information is knowledge and there is nothing wrong or unconstitutional with presenting students with alternatives - especially when studying the origins of life.

Jay Sekulow is Chief Counsel of the American Center for Law and Justice, an international public interest law firm specializing in constitutional law. The ACLJ is based in Virginia Beach, VA and its web site address is www.aclj.org.

LEGAL OPINION MEMORANDUM

March 2000

On Legal Issues Involved in the Teaching of Evolution and Creationism

in America's Public Schools

By

The Christian Law Association

Seminole, Florida

Question Presented

May creationism be legally taught in a public school science setting?

Summary

While creationism may not legally be taught in America's government schools, nothing prohibits public school teachers from presenting legitimate evidence in science class that both supports and refutes Darwinism, even if such evidence would tend to support the religious theory of creation.

Legal Analysis

The United States Supreme Court has held that scientific creationism is a religion, while it does not regard evolution as religious. This was the Court's determination in the case of *Edwards v. Aquillard*, 482 U.S. 578 (1987). The key case regarding the teaching of religion in public schools is *Abington v. Schempp*, 374 U.S. 203 (1963), which prohibited the *devotional* use of religious materials in public school classrooms. At the same time, however, the Court affirmed the continuing *educational* use of religious materials, presented objectively.

The Court said:

> Nothing we have said here indicates that such study of the Bible or of religion, when presented objectively as part of a secular program of education, may not be effected consistently with the First Amendment.

Therefore, religion, including the religious belief in creation, is appropriately brought into the public school curriculum wherever it naturally arises—as it does in the study of origins. Scientific evidence pertaining to all theories of origin can be objectively overviewed in a public school science class without the teacher crossing the constitutional line of proselytizing or devotional use of religion. In fact, the student who is only taught to blindly accept the unproven theory of Darwinian macroevolution despite mounting scientific evidence against it is poorly served by the school district.

The real issue regarding the teaching of evolution in public schools is not a legal question. The real question is whether a science teacher who does not recognize that evolution is merely a theory and not a scientifically proven fact is qualified to teach it in a public school science class. Public school teachers should be required to keep up with current scientific data on evolutionary theories of macroevolution. One good starting point for a teacher to update his or her skills would be to read the significant work of Dr. Michael Behe of Lehigh University, who has effectively challenged Darwinian theories based on recent scientific data in his book, Darwin's Black Box. Dr. Behe teaches biochemistry and molecular biology at Lehigh University in Bethlehem, Pennsylvania. In his book, Dr. Behe spells out his theory of "irreducible complexity." Both the book and the theory were favorably reviewed in the New York Times and Dr. Behe was himself asked to produce a column for the Times outlining his theory. Public school teachers of evolutionary theory should be required to keep up with such new information.

Even before Dr. Behe's book appeared, Dr. Charles Thaxton was the first scientist to propose the theory of "intelligent design" as an alternative to evolution. The forward to Dr. Thaxton's groundbreaking book was written by a prominent atheistic scientist. Dr. Thaxton, who now teaches in Czechoslovakia, first presented his views on The Mystery of the Origin of Life at the state university at Austin, Texas, in 1989. He demonstrated that when scientists attempt to prove evolutionary theory, they are required to manipulate the building blocks of life in a manner that actually disproves evolution and points toward the necessity for an intelligent designer of the processes of life. This theory is compatible with religious views of creation, but not with Darwinism. It is this sort of evidence that must be presented to school children in order to educate them sufficiently in the most modern views of evolution. Instead of presenting a religious theory, public school teachers need only present these new scientific evidences and let the students evaluate which theories of origin they best support. Information about what various religions believe about the origins of life can be presented in an objective manner. Evolutionary theories can be weighed objectively against the emerging evidence to see whether they hold up. This is not teaching religion, but teaching good science.

While Dr. Behe and Dr. Thaxton never mention creationism, their theories support the thesis that some intelligent designer must be linked to the origin of life in much the same way that computer programs can be shown to be intelligently designed. Dr. Phillip Johnson and Charles Colson have both authored numerous books analyzing and debunking myths associated with evolution. Mr. Colson's new book, How Now Shall We Live, focuses on the fact that evolution is primarily a philosophy that undergirds a specific secular world view, and is not a science at all.

Evolution's hold on academe is weakening and will likely continue to wan rapidly as new scientific evidence regarding DNA and the building blocks of life are unlocked. The new scientific evidence presented by Dr. Behe and Dr. Thaxton has not been refuted by

evolutionary scientists. Dr. Behe notes that Darwin himself recognized that if some irreducibly complex organism were identified that did not permit gradual evolution, the theory of evolution would become untenable. Dr. Behe has done exactly that in his work on cellular biology. Public school boards need to mandate that evolution be taught by presenting both the scientific pros and cons. There is no question that such a curriculum would be constitutional. The new evidences are not based on God, but on science. Students would need to take the next step on their own if they choose to plug in God as the "intelligent designer." That is as far as teachers can constitutionally go at the present, but it is probably far enough.

The Kansas Board of Education recently voted to omit questions on evolution from the statewide science exam because they did not feel the state recommended science textbook, which only provided a positive view of evolution, was factual. The Supreme Court has never mandated that Darwinism must be taught as fact; nor have they ever prohibited science teachers from teaching scientific evidence disproving evolution to public school students. If such scientific evidence better supports religious views of the origin of life, there is no constitutional foul. Public school science teachers may constitutionally teach the fact that scientists are beginning to take a new critical look at evidence supporting evolution, which is an objective development in the field of science.

By any modern scientific measure, macroevolution is a theory, not a proven fact. Students who are not given arguments that both support and refute this theory are not being given a good science education. This issue transcends the question of whether the Supreme Court would ever permit the teaching of creationism in public schools. The issue really becomes whether public school science teachers are well or ill informed regarding their subject matter from a scientific perspective.

The United States Supreme Court struck down the State of Arkansas' anti-evolution statute that prohibited the teaching of evolution in public schools. The Court found in *Epperson v. Arkansas*, 939 U.S. 97 (1968), that the primary purpose of the Arkansas statute was religious and had no objective secular or scientific basis. The Supreme Court ruled in *Edwards v. Aquillard*, 482 U.S. 578 (1987), that a state could not mandate the teaching of creationism by requiring that creation theories be taught whenever evolutionary theories were taught. But objective presentations of religious views, which are not devotional or proselytizing, have never been banned from the classroom where they logically fit as they do in any analysis of the origins of life.

There are two lower court cases where teachers were prohibited from presenting views contrary to evolution in a science class. In one, *Peloza v. Capistrano Unified School Dist.*, 37 F.3d 517 (9th Cir. 1994), the teacher was combining religious proselytizing with teaching about creation in the classroom. In the other, *Webster v. New Lenox School Dist.*, 917 F.2d 1004 (7th Cir. 1990), the issue was whether the teacher's First Amendment rights were violated by the school curriculum policy regarding evolution. The court held that the teacher "had not been prohibited from teaching any nonevolutionary theories," but was merely prohibited from "religious advocacy." *Id.* at 1008.

Finally, it is entirely constitutional for a teacher to permit a student to bring his or her own religious perspective into the science classroom discussion. It is perfectly appropriate for a teacher to permit students to present scientific evidence against macroevolution, even if that evidence includes discussion of a religious perspective. It is not good educational

policy to advocate a blind adherence to any particular evolutionary scheme. Furthermore, it is religious discrimination to prohibit students from expressing their religious viewpoints objectively in class. Teachers could set up student debates and other assignments where students were invited to evaluate the conflicting scientific evidence that is currently emerging.

The teacher is an agent of the state capable of violating the Establishment Clause if he or she brings religion into the classroom in a non-objective manner. The student, on the other hand, stands outside of an Establishment Clause analysis because the student is not an employee or agent of the state. With respect to student debates or discussions, the issue is placed squarely into a Free Speech analysis where the issues become religious discrimination and the free expression rights of students in school.

The United States Supreme Court held in the case of *Bd. Of Educ. V. Mergens*, 496 U.S. 226, 250 (1990), that "there is a crucial difference between *government* speech endorsing religion which the Establishment Clause forbids, and *private* speech endorsing religion which the Free Exercise and Free Speech Clauses protect." While the teacher's speech is government speech, a student's speech is private speech protected by the Free Speech Clause even in the public school classroom.

Guidelines for Religious Freedom in Public Schools, was a document that was first issued to all school districts in the United States by President Clinton, Attorney General Reno and Secretary of Education Riley in August, 1995. It was reissued by Secretary Riley in May, 1998. In the section regarding the rights of students with respect to class assignments the document states:

> Student Assignments: Students may express their beliefs about religion in the form of homework, artwork and other written and oral assignments free of discrimination based on the religious content of their submissions. Such home and classroom work should be judged by ordinary academic standards of substance and relevance, and against other legitimate pedagogical concerns identified by the school.

It is not a legitimate pedagogical concern for a teacher to prohibit a student from expressing scientific and objective information that refutes evolution, even if such information contains a religious viewpoint. Every school should have a copy of the Religious Expression Guidelines in its school library and educators should abide by its legal conclusions. The Guidelines reflect the current state of the law.

Conclusion

A teacher does not engage in prohibited religious speech when the teacher presents credible scientific information in a public school science class that refutes the theory of evolution. Similarly, a teacher does not violate the Establishment Clause when he or she teaches objectively about various religious beliefs regarding origins. Furthermore, it would be a violation of the First Amendment right of Free Speech in public school if a teacher prohibited students from doing assignments or making class presentations

analyzing which theories of origins best fit with current scientific evidence—whether those theories are secular or religious. Teachers may not chill students' exercise of their own constitutional rights of free speech in completing school assignments. A science teacher may not teach the religion of creationism in the classroom, but may present evidences to objectively support and refute all theories of the origins of life and the universe.

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Home

WHAT SHOULD PUBLIC SCHOOL KIDS BE TAUGHT ABOUT EVOLUTION AND CREATION?

DIFFERENT APPROACHES

More than two-thirds of Americans favor teaching both evolution and creation in public schools. This could explain why so many states and local school districts are beginning to ~~look again~~take another look at their science curriculum. Can a public school present the latest scientific theories refuting evolution without violating the First Amendment's prohibition on government sponsored religious instruction?

State and local school officials have broad discretion in determining the public school curriculum. Approaches to teaching evolutionary theories vary greatly from region to region. There is a broad spectrum of approaches to this issue being considered by various states and localities:

- Ohio and Michigan are considering a curriculum that would present two theories of origins—evolution and intelligent ~~d~~design—neither of which would be presented as a fact. Students would be encouraged to weigh the evidence for and against each theory and decide for themselves what theory the evidence best supports. The intelligent design theory (ID) would be taught from a secular and scientific perspective, and the theory would not answer the question of who or what might be behind the design seen in the scientific evidence.

- Alabama and Cobb County, Georgia currently teach evolution as a theory, not as a fact. Textbook disclaimers direct students to approach the material with an open mind, to study it carefully, and to consider it critically.
- Colorado, Hawaii, Indiana, and Oklahoma failed in their legislative attempts to mandate teaching creation science as an alternative theory to evolution.
- Washington's attempt to pass a state law replacing the theory of evolution with the self-evident truth of creation failed.
- The Kansas Board of Education reversed an earlier standard that would- give school districts a choice of whether or not to not teach the "Big Bang" theory and macroevolution (the theory that large-scale evolutionary changes created new species). School board members supporting that ~~trend~~ standard were voted out of office.
- Most states present evolution as an indisputable fact.

This variety in approach, combined with the emergence of new scientific evidence refuting evolution, has caused great uncertainty among public school science teachers when planning their science curriculum. Lawsuits and threats of lawsuits cause teachers and school districts to back away from teaching the science of origins in any way that would permit criticism of evolution. Some believe that even teaching ***about*** the controversy surrounding the theory of evolution would be a violation of the Establishment Clause of the United States Constitution. ~~But, in~~ fact, there is much that science teachers can present in their

classrooms about various scientific theories surrounding the origins of life that in no way crosses the Constitutional line.

GOOD SCIENCE

The most important issue regarding the teaching of up-to-date evolutionary theories in public school classrooms should not be the legal one. Instead, the question should be whether a science teacher who does not recognize that evolution is merely a theory and not a scientifically proven fact is really qualified to teach science at all.

By any modern scientific measure, macroevolution is an unproven theory, not a fact. Indeed, there is much lively debate in scientific circles today about macroevolution, about the "Big Bang" theory, and about many other issues of origins. Students who are not taught scientific arguments that both support and refute the theory of evolution, particularly macroevolution, are simply not being given a good science education.

Good science would allow public school teachers to teach the significant work of Dr. Charles Thaxton, who currently teaches in Czechoslovakia, and Dr. Michael Behe who teaches biochemistry and molecular biology at Lehigh University in Bethlehem, Pennsylvania. Dr. Thaxton was the first scientist to propose the theory of intelligent design as an alternative to evolution. A prominent atheistic scientist even wrote the forward to Thaxton's groundbreaking book, *The Mystery of the Origin of Life*. Thaxton demonstrated that when scientists attempt to prove evolutionary theory, they are required to manipulate

the building blocks of life in a manner that actually disproves evolution and points toward the necessity for an intelligent designer to be involved in the origins of life.

Behe's effective challenge to Darwinian theories is based on recent scientific data reported in his book, *Darwin's Black Box: The Biochemical Challenge to Evolution*. In this book, Behe spells out his theory of "irreducible complexity." For example, he shows that the biochemical cell structure could not have evolved as Darwin theorized.

Neither Behe nor Thaxton ever mention creationism. They never suggest who or what may have been behind the intelligent design seen in the universe. Their theories support the thesis that some intelligent designer must be linked to the origin of life in much the same way as an intelligent designer is linked to the development of a computer program. Intelligent dDesign, as suggested by these and other scientists, is a theory that is more compatible with religious views of creation, than it is with Darwinism. For this reason, proponents of the exclusive teaching of macroevolution as a fact are attempting to suggest that ID is really just a back door way of getting religion into the public schools. However, proponents of freethinking in the field of science argue that public school children cannot be properly educated without learning the broad range of scientific theories in the field of evolution. In fact, they contend that school children cannot be properly educated about these controversial issues unless all evolutionary theories are taught objectively. Proponents who argue that public schools should teach iintelligent ddesign theories along with scientific evidence that both supports and refutes evolution argue that this approach is not teaching religion; it

is merely teaching good science. A sound education, they argue, is based on intellectual fairness, not on the suppression of relevant evidence that does not support the current dominant theory.

Evolutionary scientists have not refuted the new scientific evidence presented by scientists such as Behe and Thaxton. Instead, most continue to argue that teaching *any* theory other than evolution is teaching religion.

TEACHING ALTERNATIVE THEORIES

The United States Supreme Court has never mandated that Darwinism must be taught as fact rather than theory; nor have judges ever prohibited science teachers from teaching scientific evidence disproving evolution to public school students. In fact, the Supreme Court has already indicated approval of a science curriculum that would teach much more than evolution. In the case of *Edwards v. Aguillar*, 482 U.S. 578 (1987, U.S.) the Supreme Court said:

> *Teaching a variety of scientific theories about the origins of humankind to schoolchildren might be validly done with the clear secular intent of enhancing the effectiveness of science instruction.*

Congress has also endorsed teaching evolution in a more balanced manner. The Congressional Report, which accompanied President Bush's education initiative in the No Child Left Behind Act of 2001, said:

> *"Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society."*

The record is clear that it is constitutional for school boards to permit public school teachers to teach the critical new theories scientists are developing

based on emerging data in the field of evolution. The theory of Intelligent dDesign is an objective development in the field of science, based upon new scientific data and research. ID would not directly bring God into the classroom. The students would be free to independently determine whether they believe God, an alien, or something else provided the intelligence for triggering life's origin. There is no constitutional foul in such a scientific approach.

Some school boards already concede that evolution is only a theory. They have communicated this message to their students by printing disclaimers on science textbooks. Both the State of Alabama and Cobb County, Georgia have adopted this approach. However, sBut school districts must be careful not to use such disclaimers as an inappropriate and unconstitutional way of injecting creationism into the science classroom. The newest disclaimer in Cobb County, Georgia appears to have no such religious content or purpose. Nevertheless, on August 21, 2002, a lawsuit was filed in Atlanta, seeking to force the Cobb County school board to remove the disclaimers. The complaint says that asking students to critically consider evolution as merely a theory violates the First Amendment because it is an attempt to inject religion into public schools. It remains to be seen whether this charge will hold up in court.

TEACHING CREATIONISM

Although the Supreme Court permits science teachers to teach a variety of scientific theories about the origin of life, when it comes to the teaching of creation science, different rules come into play. Creation science may not be taught alongside evolution as an alternative scientific theory. The reason

creationism may not be taught as science in the classroom is because in the case *Edwards v. Aguillard*, the United States Supreme Court held that creation science is a religious belief that may not be advanced as science in public schools. This does not mean that creationism may not be taught at all, but rather that it may only be taught as a religion. There are appropriate and constitutional places in a school curriculum where various religious viewpoints regarding the origins of life may be presented. So long as such religious material is taught in a neutral, objective and academic manner—i.e., presenting students with various cultural and religious theories without expressing approval or disapproval of any one in particular—the constitutional standards for teaching religion in school have been met.

TEACHER COMPLIANCE WITH CURRICULUM CRITICAL

There is one critical warning bell that must be sounded in the current debate regarding teaching evolution in public schools. No teacher should overlook this important principle. No matter what the Constitution says, no matter what Congress says, and no matter what the courts say about teaching alternative evolutionary theories, teachers are bound to teach the curriculum approved by the school board that employs them.

Teachers do not always have individual discretion to create their own curriculum. Therefore, for instance, if a school board policy requires the teaching of evolution as a fact, the science teacher does not have the discretion to ignore that policy and teach evolution only as a theory. If the school board requires the exclusive teaching of evolution, a teacher does not have the discretion to teach

alternative theories. A teacher who teaches material outside a school board established science curriculum policy should expect to be disciplined by the school board. Such a teacher can also expect that a court would uphold the authority of the school board to enforce the teaching of its approved curriculum. This is why it is so important for citizens to be active in school board elections and to follow school board decisions. Ultimately, it is the school board that sets school policy regarding the teaching of science and every other school related issue.

STUDENT FREEDOM OF EXPRESSION

It is important to remember that no matter what curriculum is mandated for science class, it is entirely constitutional for students to bring their own religious perspectives into the science classroom discussion. Students have a constitutional right to express their religious viewpoints in class. For example, it would be appropriate ~~for~~ for ~~a teacher to permit~~ students to choose ~~assignments~~ topics or ~~to~~ do ~~make~~ class ~~presentations~~ assignments analyzing which theories of origins best fit with current scientific evidence—whether those theories are secular or religious.

The United States Department of Education affirms this view. The 1998 *Guidelines for Religious Freedom in Public Schools* address the issue of class assignments as follows:

> *Student Assignments: Students may express their beliefs about religion in the form of homework, artwork and other written and oral assignments free of discrimination based on the religious content of their submissions. Such home and classroom work should be judged by ordinary academic standards of substance and relevance, and against other legitimate pedagogical concerns identified by the school.*

CONCLUSION

Because sState and local school officials have broad discretion to establish the public school curriculum, there is a great opportunity for Christians to influence what is taught in their local school district. Christians can elect school board members who are committed to teaching good science. Under the principle of academic freedom and excellence, Christians can lobby the school board for a curriculum that teaches more than one theory of origins.

Christians should promote the teaching of alternative theories for the origin of life as a matter of good science. This will prevent students from being indoctrinated into the unproven theory of macroevolution. Only then will children in the public schools be free to weigh the scientific evidence in a neutral manner, and after weighing that evidence, children will even be free to conclude that God is our Creator. ~~to follow that evidence wherever it leads.~~

To contact the legal missionary ministry of the Christian Law Association, please call (727) 399-8300 or visit www.ChristianLaw.org.

Other freedoms

Did you know that a sidewalk which abuts a public school – and is open to public traffic — is a public forum? Witnessing and Bible/tract (e.g., creation tracts) distribution may not be prevented in such areas (subject to limited controls in the interest of public safety and order).

Did you know that "release time" (i.e., when students are excused to go off campus for other learning experiences) is one of the most under-used, constitutionally permitted tools for churches and parents to influence public schools for good?

Did you know that public schools may teach about religion, including material about the Bible and other religious matters, including the history of religion, comparative religion, Biblical literature, and the role of religion in American history and in other countries?

Did you know that school libraries can't discriminate against Creation/Christian books on the basis of ideology?

WAKE UP AMERICA!

There is actually MUCH that can be done to present the Gospel to today's generations. Use your FREEDOMS to reach these generations who are being indoctrinated in the hopelessness of evolutionary humanism!

Sincerely,

Ken Ham

P.S. The Christian Law Association (CLA) has two booklets that EVERY Christian needs to read. By the way, *AiG* receives nothing from the sale of these books. We just want the American public to know they exist and to obtain them to spread the Gospel. CLA is offering a special reduced price for both booklets, which involved many hours of research and writing. Mention *AiG* when ordering.

Titles:

Do Christian Students have any Rights in Public Schools?, $7.00 post paid.

Witnessing: The New Frontiers, $7.00 post paid.

SPECIAL PRICE FOR BOTH BOOKS: $10.00 POST PAID.

Order directly from: Christian Law Association, P.O. Box 4010 Seminole, FL 33775-4010, or phone: (813) 399-8300; Fax (813) 398-3907. Mention *"AiG."*

Do Christian Students have any Rights in Public Schools?



Christian Law Association
P.O. Box 4010
Seminole, FL 34645

A ministry of help to Bible-believing churches and Christians

Make copies of this fact sheet to pass out to others! (For example, copy, fold, and use as a church bulletin insert.) Not copyright restricted.

Public schools: Christians have rights!

by Ken Ham, Executive Director, Answers in Genesis

In 1995 President Bill Clinton sent a memorandum to Attorney General Janet Reno and Secretary of Education Richard W. Riley. The President stated:

I have been advised by the Department of Justice and the Department of Education that the First Amendment permits – and protects – a greater degree of religious expression in public schools than many Americans may now understand. (emphasis ours)

Over the years as I've traveled all across America, I've found that many people believe that the Bible, prayer, Christian clubs, discussions on Creation – both Biblical and scientific – or almost anything to do with Christianity are not allowed in any way in public schools. This is FALSE.

It's about time that Americans knew the facts! Christians actually have much more freedom than they've been led to believe. There are great opportunities to present the Creation/Gospel message in public schools. Christians need to aggressively use their rights and freedoms and stop being intimidated by people who don't really understand the law.

Sadly, because of intimidation by the American Civil Liberties Union (ACLU) and other humanist organizations with an agenda to rid society of anything Christian, teachers and school districts have tried to purge the public school classroom of anything they deem religious.

IMPORTANT NOTE: This article is not intended to be, and does not constitute, the giving of legal advice. In this short article we can only summarize the rights of students and teachers in public schools. It's important that one understand exactly how things can be effectively accomplished under the law and by understanding decisions by the U. S. Supreme Court. It is important to remember that this area of the law is constantly changing. For this reason we urge readers that before implementing anything mentioned in this article that you obtain copies of two booklets available from the Christian Law Association (CLA), and that you contact competent legal counsel for advice.

These booklets were written by Christian lawyers who have carefully studied the U. S. Supreme Court (and other court) decisions.

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If you follow their guidelines, you will be amazed at how much freedom there is to present the Christian message to public school students. Information will be given at the end of this article as to how to obtain these booklets. We thank the Christian Law Association for the special offer they've made to get these booklets into the hands of Christians.

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Teachers and school officials

The First Amendment to the U.S. Constitution declares that "Congress shall make no law respecting an establishment of religion" by government.

For the public schools of America, the word **establishment** has been now deemed to mean this: Teachers and school officials, who are representatives of the government, may not do anything to favor religion. This means that teachers may not conduct religious devotions, prayer or Bible reading at the start of the school day. School officials may not sponsor prayers at graduation services, or post the Ten Commandments or religious symbols.

However, school teachers may use the Bible in instructional ways – as literature, history, in comparative religions classes, and ethics. It is only formal, structured prayer and formal, structured devotional use of the Bible in public schools that are forbidden under the First Amendment's "establishment of religion" clause.

Students

American citizens need to remember that the First Amendment also guarantees that individuals have the right to the **"free exercise"** of their religion (or non-religion) and free speech rights. **Therefore, public school children have rights in public schools, and schools must accommodate the religious expression of public school children.**

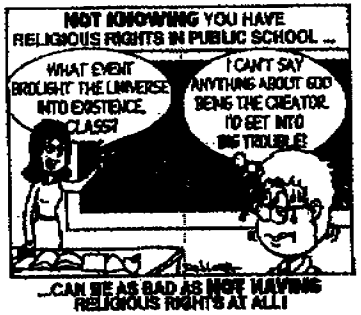
Keep in mind that because most public school teachers and school district officials are typically not lawyers, many are not familiar with what the U. S. Supreme Court permits in public schools. This lack of knowledge will require an education process. The lawyers from the Christian Law Association (CLA) are willing to help at any time concerning these matters. (See information on page iv.)

Specific freedoms

Many will be surprised at the freedoms in public schools. The following are just some of these many freedoms that are described in detail in the CLA booklets. **Again, it is imperative that one read the details in these booklets before trying to implement any of the following.**

- **May a student give out Gospel tracts or religious literature to his classmates? YES!** However, this can only happen in the same manner as it would be for students permitted to distribute non-religious material.

- **May a student witness to his classmates about Jesus or pray with other students on the school campus? YES!** (before or after



school, at lunch or during other times when students are permitted to interact with other students).

- **May a student read the Bible during the school day? YES!** (Any time that students are allowed to read *non*-instructional books, Bible reading must be permitted.)

- **May students organize Bible clubs in public school? YES!** (Public secondary schools must allow Bible clubs the same privileges as any other school club.)

- **May students write book reports, English papers or do oral assignments based on religious subjects? YES!** (Such work must be judged by teachers using ordinary academic standards, and religious topics may *not* be discriminated against or singled out for special restrictions.)

NOTE: It would *not* be unconstitutional for a teacher to allow students to share their personal religious viewpoints in the classroom at appropriate times or in appropriate assignments. The teacher may (constitutionally) permit religious students to share their views if the views of all other students are also allowed.

Freedoms to present Creation!

Can the Biblical and scientific aspects of the creation message be presented in the classroom? A teacher in a public school could permit **student-led** discussions in the classroom on such issues as the origins of man and the universe, *including* creation science. The teacher may also permit the students to research and write papers on these issues. However, the teacher must be careful to remain neutral throughout the discussion.

Christian students could request their teachers to allow student-led discussions. They could then share the material from *AiG*'s books, and its *Creation* magazine, etc., as part of this discussion. Students can share their faith in Jesus Christ explicitly.

Depending on the individual school board policy, teachers may present views of origins other than evolution to their students, provided they don't favor any one view and all views are presented in a "non-religious" way.

Students could also form a creation science club at the school. This student club will be subject to the same restrictions as all other clubs at the school, but the school may not discriminate against this club on the basis of ideology.

Public school students also have the right to witness to fellow students and even hand out Creation/Gospel tracts as long as such expressive activity does not interfere with the educational mission of the school or the rights of other students.

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Aggressive Stock Picks

Symbol:	**ETTC**
Rating:	**Strong Buy**
Target Price:	**$1.00**

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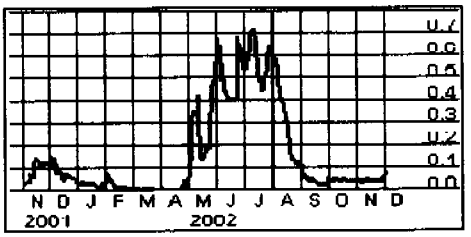
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About The Company:

ET Corporation (ETTC) owns several exclusive 1-900 telephone numbers. ET Corporation has combined 1-900 telecommunications with a 501 (c)(3) not-for-profit fund raising format to pioneer a revolutionary program to fund election campaigns. This program, which will assist political organizations when competing for funds in today's market, uses two of ET's telephone numbers, which have been approved by regulators, 1-900 DEMOCRAT and 1-900 REPUBLICAN.

Chart:



ETTC chart shows consolidation at current levels, and is now beginning to increase in price. This is a BULLISH pattern. Can you afford to miss out on the next market rally?

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2) ETTC can now solicit tens of millions of individuals that have never before been asked to contribute, ask for only $10 and guarantee that payment of $6.50, 65%!

3) ETTC can help individuals that have been disenfranchised in the past because they could not make a large political contribution will now be the main source of campaign contributions and they will take back political control from the Special Interest groups and Lobbyists.

Stock Stats:

Stock Symbol:	**ETTC**
Rating:	**Strong Buy**
Current Price:	**$.05**
6 Month Target Price:	**$1.00**

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