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Fall 2008

**PROGRAM CONCENTRATION: Agriculture**  
**CAREER PATHWAY: Horticulture/Plant Science**  
**COURSE TITLE: Nursery and Landscape**

This course is designed to provide students with the basic skills and knowledge utilized by the green industry in nursery production and management and landscape design and management. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**AG-NL-1. Students will become oriented to the comprehensive program of agricultural education, learn to work safely in the agriculture lab and work sites, demonstrate selected competencies in leadership through the FFA and agricultural industry organizations, and develop plans for a supervised agricultural experience (SAE) program.**

- a. Explain the role of the Agriculture Education program and the FFA in personal development.
- b. Demonstrate knowledge learned through a Supervised Agricultural Experience (SAE) program.
- c. Develop leadership and personal development skills through participation in the FFA.
- d. Explore career opportunities in nursery and landscape through the FFA and Agriculture Education Program.
- e. Explore the professional agricultural organizations associated with the course content.

***Academic Standards:***

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh3. Students will identify and investigate problems scientifically.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*MM1P3. Students will communicate mathematically.*

*MM1P4. Students will make connections among mathematical ideas and to other disciplines.*

*MM1P5. Students will represent mathematics in multiple ways.*

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*ELA9RC2. The student participates in discussions related to curricular learning in all subject areas.*

*ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.*

*ELA9RC4. The student establishes a context for information acquired by reading across subject areas.*

*ELA9LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

**AG-NL-2. Students will develop a broad understanding of the green industry including its scope, importance, and careers available in the nursery and landscape industries.**

- a. Define and describe the overall structure, scope, and importance of the green industry.
- b. Explain the scope and importance of the nursery and landscape industries.
- c. Explore career opportunities in the green industry related to nursery and landscape.

***Academic Standards:***

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.*

*ELA9LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

**AG-NL-3. Students will identify tools and equipment and their use in the nursery and landscape industries.**

- a. Identify hand and power tools and equipment used in landscape operations.
- b. Demonstrate proper tool and equipment safety procedures in nursery and landscape operations.
- c. Demonstrate proper maintenance and storage for tools and equipment.

***Academic Standards:***

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*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.*

**AG-NL-4. Students will understand and apply scientific methods for plant nomenclature and identification and to provide for plant environmental needs.**

- a. Classify plants using horticultural characteristics (i.e.... trees, shrubs, vines, groundcovers, etc.)
- b. Identify plants by their environmental needs (sun/shade, drought tolerant, etc.).
- c. Identify common landscape and nursery plants by common and scientific names.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*ELA9RC2. The student participates in discussions related to curricular learning in all subject areas.*

*ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.*

*ELA9LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

**AG-NL-5. Students will investigate the properties of soils and the factors that affect crop productivity and plant health.**

- a. Describe soil structural characteristics that affect fertility and plant growth.
- b. Identify types, characteristics, and uses of soil amendments.
- c. Demonstrate soil testing procedures and prescribe treatments based on the interpretation of soil test results.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

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*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*SES3. Students will explore the actions of water, wind, ice, and gravity that create landforms and systems of landforms (landscapes).*

*SES4. Students will understand how rock relationships and fossils are used to reconstruct the Earth's past.*

*MM1A1. Students will explore and interpret the characteristics of functions, using graphs, tables, and simple algebraic techniques.*

*MM1A3. Students will solve simple equations.*

*SSWG1. The student will explain the physical aspects of geography.*

**AG-NL-6. Students will prepare new and existing landscape planting sites for nursery and landscape plants.**

- a. Explain the importance of preparing beds for planting.
- b. Determine the area of planting sites.
- c. Calculate the amount of fertilizer, lime, and/or other soil amendments needed for the planting site.
- d. Demonstrate preparation of the planting site using hand tools and power equipment.
- e. Renovate an existing landscape site.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

**AG-NL-7. Students will create and interpret landscape plans.**

- a. Identify equipment used in site analysis and landscape drawing processes.
- b. Assess client and site needs.
- c. Measure and draw to scale a given landscape field notes and desired specifications.
- d. Utilize standard landscape drawing practices including landscape symbols, computer programs, hand tools, etc.
- e. Apply the principles of good landscape design.
- f. Select appropriate landscape plant materials.
- g. Produce a landscape plan.

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**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*MM1P1. Students will solve problems (using appropriate technology).*

*MM1P3. Students will communicate mathematically.*

*SSWG1. The student will explain the physical aspects of geography.*

*SSEM12. The student will explain how the Law of Demand, the Law of Supply, prices, and profits work to determine production and distribution in a market economy.*

*SSEM13. The student will explain how markets, prices, and competition influence economic behavior.*

**AG-NL-8. Students will install and maintain landscape plants to industry standards and recommended practices.**

- a. Identify and practice correct planting procedures.
- b. Identify and practice mulching applications.
- c. Identify and practice fertilizer applications.
- d. Describe and practice proper pruning techniques.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*MM1P1. Students will solve problems (using appropriate technology).*

*ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.*

**AG-NL-9. Students will develop a pricing strategy for landscape planning, design, and installation.**

- a. Calculate the cost of a landscape plan and installation.

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- b. Identify different methods used to price landscape plans and installation.

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*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh3. Students will identify and investigate problems scientifically.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*MM1P1. Students will solve problems (using appropriate technology).*

*MM1P3. Students will communicate mathematically.*

*MM1P5. Students will represent mathematics in multiple ways.*

*SSEM13. The student will explain how markets, prices, and competition influence economic behavior.*

*ELA9RC2. The student participates in discussions related to curricular learning in all subject areas.*

**AG-NL-10. Students will identify plant pests and pest control practices and prescribe the use of cultural, biological, and chemical materials and methods to protect nursery crops and landscape plantings.**

- a. Identify landscape pests.
- b. Analyze damage to landscape plants from pests.
- c. Identify different types of management approaches to control pests.
- d. Explain the concepts of integrated pest management.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*SB1. Students will analyze the nature of the relationships between structures and functions in living cells.*

*SB2. Students will analyze how biological traits are passed on to successive generations.*

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*SB4. Students will assess the dependence of all organisms on one another and the flow of energy and matter within their ecosystems.*

**AG-NL-11. Students will compare and contrast the use of various plant irrigation methods based on plant needs, effectiveness and economic feasibility.**

- a. Explain the relationship between water and plant growth.
- b. Judge types of irrigation systems based on plant needs, effectiveness, feasibility, ease of use, etc.
- c. Practice effective watering methods and techniques.

***Academic Standards:***

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

*SC7. Students will characterize the properties that describe solutions and the nature of acids and bases.*

**AG-NL-12. Students will identify and select turf grasses for various landscape situations.**

- a. Identify characteristics of turf leaves, seeds and stems.
- b. Identify and classify turfgrass species.
- c. Select turf grasses for specific purposes (i.e. athletic fields, golf courses, lawns, shade areas)

***Academic Standards:***

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.*

**AG-NL-13. Students will prepare a calendar of activities for nursery and landscape operations.**

- a. Identify the seasonality of landscape and nursery jobs.
- b. Develop an annual calendar for activities for a landscape or nursery operation.

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- c. Identify labor needs based on seasonality of landscape and nursery operations.

**Academic Standards:**

*SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.*

*MM1P1. Students will solve problems (using appropriate technology).*

*MM1P3. Students will communicate mathematically.*

*ELA9W1. The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals closure.*

**CTAE Foundation Skills**

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

**CTAE-FS-1 Technical Skills:** Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

**CTAE-FS-2 Academic Foundations:** Learners achieve state academic standards at or above grade level.

**CTAE-FS-3 Communications:** Learners use various communication skills in expressing and interpreting information.

**CTAE-FS-4 Problem Solving and Critical Thinking:** Learners define



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and solve problems, and use problem-solving and improvement methods and tools.

**CTAE-FS-5 Information Technology Applications:** Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

**CTAE-FS-6 Systems:** Learners understand a variety of organizational structures and functions.

**CTAE-FS-7 Safety, Health and Environment:** Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

**CTAE-FS-8 Leadership and Teamwork:** Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

**CTAE-FS-9 Ethics and Legal Responsibilities:** Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

**CTAE-FS-10 Career Development:** Learners plan and manage academic-career plans and employment relations.

**CTAE-FS-11 Entrepreneurship:** Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.