

**STATE OF SOUTH CAROLINA  
DEPARTMENT OF EDUCATION**

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**AGRICULTURAL  
EDUCATION PRIORITY  
STANDARDS**

Office of Career and Technical Education  
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## Agriculture, Food, and Natural Resources Cluster

Course Code	Course Name	Priority Standards
<b>Agricultural Mechanics and Technology</b>		
5660	Agricultural Mechanics and Technology	B.1.2 Select and use hand and portable power tools. B.2.3 Demonstrate how to properly use the table-saw, radial-arm saw, band-saw, jointer, planer, and drill press. D.1.5 Explain the fundamentals of arc welding. D.3.4 Operate an oxy-fuel gas-welding torch. E.1.2 Identify the major parts and systems of small engines. E.2.3 Describe the components of a wiring system.
5610	Agricultural Power Mechanics	A.4.1 Explain the importance of agricultural power mechanics to the industry of agriculture C.1.1 Define internal combustion engine and explain its principal parts. C.4.3 Identify common maintenance practices associated with major engine systems. C.5.1 Explain general maintenance guidelines associated with multiple cylinder engines. C.5.4 Describe the operating characteristics of a diesel engine. D.2.3 Describe the calibration of the systems used in agriculture.
5611	Agricultural Structural Mechanics	A.5.1 Explain the importance of agricultural structural mechanics to the industry of agriculture. B.1.1 Explain how to read project plans and blueprints. B.2.1 Discuss how to select hand tools. B.3.3 Explain how to operate portable power tools. B.3.4 Discuss the operation of stationary woodworking power tools. B.7.4 Explain how to identify building framework components. C.1.3 Describe the methods of heating, cutting, squaring, drawing out, upsetting, bending, twisting, and punching holes in hot metal. C.2.3 Describe how cold metal stock is marked, bent, shaped, cut, drilled, filed, and punched. C.2.4 Describe the methods used in tapping, threading, bolting, and riveting metal. C.3.1 Explain the fundamentals of fuel gas welding. C.5.4 Describe the procedures and techniques for shielded metal arc welding. E.3.2 Explain wiring materials and installation methods as well as plan and wire circuits to function as specified.

Course Code	Course Name	Priority Standards
5621	Equipment Operation and Maintenance	<p>A.4.1 Select, Identify and properly use tools utilized in machinery and equipment maintenance.</p> <p>A.5.1 Explain the importance of maintenance and storage of equipment.</p> <p>B.2.1 Identify the kinds and uses of agricultural tractors.</p> <p>B.2.3 Demonstrate the safe operation of a tractor.</p> <p>B.2.5 Perform preventive maintenance procedures.</p> <p>C.1.3 Identify and describe the functions of engine components.</p> <p>C.2.4 Describe a general method of diagnosing small-engine problems.</p> <p>C.3.3 Identify the maintenance practice for diesel engines.</p> <p>C.5.1 Explain the meaning and components of a power train.</p> <p>C.6.1 Define precision technology and explain its role in agriculture.</p>
5604	Agricultural Mechanics and Technology for the Workplace I (2 unit course)	<p>A.4.1 Explain how to create a safe place to work.</p> <p>B.1.3 Explain the benefits of supervised agricultural experience programs.</p> <p>C.1.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA.</p> <p>D.1.1 Explain how to read project plans and blueprints.</p> <p>D.2.2 Select and use hand and portable power tools.</p> <p>D.3.3 Demonstrate how to properly use the table-saw, radial-arm saw, band-saw, jointer, planer, and drill press.</p> <p>D.6.1 Identify and use the safety practices that should be observed in doing carpentry work.</p> <p>D.6.5 Lay out a wood construction member by using measuring and marking tools and supplies.</p> <p>E.2.5 Bend and shape hot metal.</p> <p>E.3.4 Select and use cold metal layout tools.</p> <p>E.3.9 Tap and thread cold metal.</p> <p>F.1.4 Explain how to operate fuel gas welding equipment.</p> <p>F.2.4 Describe the procedures and techniques for shielded metal arc welding.</p> <p>G.1.1 Define the plumbing system and show how it works.</p> <p>I.1.1 Explain precision farming.</p> <p>J.1.1 Explain the purpose of land measurement and legal descriptions.</p>

Course Code	Course Name	Priority Standards
5605	Agricultural Mechanics and Technology for the Workplace II (2 unit course)	C.4.1 Identify and describe the major causes of accidents C.6.1 Select, Identify and properly use tools utilized in machinery and equipment maintenance D.1.4 Identify and use the safety practices that should be observed in doing electrical work D.7.3 Describe the basic parts of an electric motor E.2.1 Define internal combustion engine and explain its principal parts E.5.5 Perform and conduct small-engine diagnostic tests E.6.3 Identify common maintenance practices associated with major engine systems E.10.1 Explain the operation of a diesel engine E.12.1 Explain the meaning and components of a power train E.13.1 Define precision technology and explain its role in agriculture F.1.1 Identify the kinds and uses of agricultural tractors F.2.1 Describe the importance of equipment in agricultural production F.3.2 Identify the kinds and uses of turf power equipment
<b>Biosystems Engineering Technology</b>		
5691	Agricultural and Biosystems Science	A.4.3 Explain safety procedures that should be followed in the agriscience laboratory. B.1.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA. C.1.3 Explain the benefits of supervised agricultural experience programs. D.1.1 Explain how the resources soil provides help in supporting life. F.1.2 Identify the various components of animal and plant cells and explain their functions. F.4.2 Identify methods used in agriscience to improve organisms. G.1.3 List characteristics that determine the classification of plants. G.6.1 Describe common pests and their major classifications. G.8.1 Identify the essential nutrients for plant growth. H.1.5 List and explain differences in the life processes of plants and animals.

Course Code	Course Name	Priority Standards
5692	Biosystems Mechanics and Engineering	<p>D.1.4 Explain the concepts of precision farming and site specific crop management.</p> <p>F.2.1 Identify the steps in creating a safe working environment.</p> <p>F.3.1 Read project plans and blueprints.</p> <p>G.3.1 Safely measure voltage, amperage, resistance, watts, kilowatts and kilowatt-hours.</p> <p>G.5.1 Identify and draw various symbols used in wiring diagrams or schematics.</p> <p>H.1.1 Define internal combustion engine and explain its principal parts.</p> <p>H.5.1 Define force, torque, work, power and energy and explain their relationship to each other and mechanical power transmission.</p> <p>I.1.5 Identify other alternative sources of energy.</p> <p>I.4.3 Explain what renewable resources are used to create biofuels and why they are good sources of energy.</p>
5695	Biosystems Technology 3	<p>F.1.1 List examples of economically important compounds.</p> <p>F.2.3 Identify Agricultural crops and by-products used to produce biofuels.</p> <p>H.1.4 Identify organisms, culture environment and substrates needed to produce ethanol from biological growth.</p> <p>H.2.1 List crops used to produce oils.</p> <p>I.1.1 Define heat transfer and condition needed for heat transfer to occur.</p>
5696	Biosystems Technology 4	<p>D.1.1 List the major unit operations used in bioprocessing – pretreatment (crushing/grinding, nutrient addition); bioreactor; heat exchanger; cell/product separations;</p> <p>D.2.1 List the unit operations specific to biodiesel production (from oil to biodiesel).</p> <p>D.3.1 List the unit operations specific to nutraceutical oil production (from sugar to final processed oil).</p> <p>E.2.2 Identify considerations for selecting appropriate heat exchanger for given application.</p> <p>E.3.4 Identify considerations for selecting appropriate separations technology for given application.</p> <p>E.4.4 Use laboratory equipment for mixing liquids in a liquid, solid in a liquid, and gas in a liquid</p> <p>E.5.4 List and identify common biosensors used for detection of substrates and products in bioprocessing, including glucose, pyruvate, ethanol etc.</p>

Course Code	Course Name	Priority Standards
5693	Biosystems Technology Career Development 1 (2 unit course)	<p>A.4.3 Explain safety procedures that should be followed in the agriscience laboratory.</p> <p>B.1.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA.</p> <p>C.1.3 Explain the benefits of supervised agricultural experience programs.</p> <p>D.1.1 Explain how the resources soil provides help in supporting life.</p> <p>F.1.2 Identify the various components of animal and plant cells and explain their functions.</p> <p>F.4.2 Identify methods used in agriscience to improve organisms.</p> <p>G.1.3 List characteristics that determine the classification of plants.</p> <p>G.6.1 Describe common pests and their major classifications.</p> <p>G.8.1 Identify the essential nutrients for plant growth.</p> <p>H.1.5 List and explain differences in the life processes of plants and animals.</p> <p>K.2.1 Identify the steps in creating a safe working environment.</p> <p>K.3.1 Read project plans and blueprints.</p> <p>L.3.1 Safely measure voltage, amperage, resistance, watts, kilowatts and kilowatt-hours.</p> <p>M.5.1 Define force, torque, work, power and energy and explain their relationship to each other and mechanical power transmission.</p> <p>N.1.5 Identify other alternative sources of energy.</p>

Course Code	Course Name	Priority Standards
5694	Biosystems Technology Career Development 2 (2 unit course)	<p>F.1.1 List examples of economically important compounds.</p> <p>F.2.3 Identify Agricultural crops and by-products used to produce biofuels.</p> <p>H.1.4 Identify organisms, culture environment and substrates needed to produce ethanol from biological growth.</p> <p>H.2.1 List crops used to produce oils.</p> <p>I.1.1 Define heat transfer and condition needed for heat transfer to occur.</p> <p>J.1.1 List the major unit operations used in bioprocessing – pretreatment (crushing/grinding, nutrient addition); bioreactor; heat exchanger; cell/product separations;</p> <p>J.2.2 List the unit operations specific to biodiesel production (from oil to biodiesel).</p> <p>J.3.1 List the unit operations specific to nutraceutical oil production (from sugar to final processed oil.</p> <p>K.2.2 Identify considerations for selecting appropriate heat exchanger for given application.</p> <p>K.3.4 Identify considerations for selecting appropriate separations technology for given application.</p> <p>K.4.4 Use laboratory equipment for mixing liquids in a liquid, solid in a liquid, and gas in a liquid.</p> <p>K.5.4 List and identify common biosensors used for detection of substrates and products in bioprocessing, including glucose, pyruvate, ethanol, etc.</p>

Course Code	Course Name	Priority Standards
<b>Environmental and Natural Resources Management</b>		
5663	Aquaculture	C.1.1 Define Terms most common to Aquaculture. C.1.3 List the types of aquaculture environments. C.1.5 Identify the species of economic importance. D.2.2 Identify the links in the aquatic food chain. D.2.5 Define sources of water pollution. D.3.2 Identify the basic parts of various finfish, crustaceans, and mollusks. D.3.2 Identify the basic compounds and elements found in water. D.3.3 Explain the importance of oxygen in water quality management. D.3.5 Explain the effects of water pH and quality on crop production. E.1.1 List and define three basic site requirements. E.1.2 Describe facts to consider when evaluating a site's water resources. E.2.1 List types of farm water enclosures. E.2.2 Identify facility requirements for food-fish production.
5626	Environmental and Natural Resources Management	C.1.1 Define and identify types of natural resources. 1.2 Distinguish between renewable and nonrenewable resources. C.2.1 Define ecology and ecosystems. C.2.2 Explain natural selection and succession. C.3.1 Explain how humans use natural resources. 3.3 Identify the urban and rural impacts of natural resource use. C.4.1 Explain the importance of conservation and preservation. C.5.1 Identify basic career information related to environmental science. F.1.1 Explain the meaning of air pollution. F.1.3 Explain the effects of air pollution on humans.

Course Code	Course Name	Priority Standards
5627	Soil and Water Conservation	C.1.2 Describe a mature soil profile. C.2.3 List and define the major types of soil erosion. C.3.2 Describe the main vegetation methods farmers use to control water-caused soil erosion. C.3.3 Describe the main mechanical methods farmers use to control water-caused soil erosion. C.5.1 Explain why land-use planning is important to our ecosystem and to our economy. C.6.1 Identify the soil characteristics that effect soil drainage. E.1.1 Describe the water cycle. E.2.1 Explain the importance of water. E.2.3 Identify methods of water management. E.4.1 Explain the difference between point and non-point source pollution. E.5.1 Define watershed. E.7.1 Define groundwater. E.7.2 List causes of groundwater contamination. G.1.1 Outline several career areas in soil and range management.
5630	Soil and Soiless Research	D.1.1 Explain the chain of events that occur during the germination process. D.4.1 Explain why the seed coat ruptures during germination. D.4.2 Understand how soil condition affects seed germination and seedling establishment. D.4.3 Explain how seedbed preparation affects germination. D.5.1 Identify the importance of photosynthesis. D.7.1 Describe the transpiration process. D.9.1 Explain sexual reproduction of plants and its importance. D.11.1 Explain asexual propagation. D.12.1 Name the nutrients needed for plant growth.

Course Code	Course Name	Priority Standards
5642	Forestry	C.1.2 Explain the importance of forests. C.2.2 Identify the components of forest ecosystems. C.3.3 Describe the economic importance of forests. D.1.2 Explain the functions of the various parts of the tree. E.3.1 Explain how to calculate board feet. E.5.1 Identify the major activities involved in harvesting forest trees. E.6.1 Identify methods of reforestation. F.1.2 Identify forest products. G.1.1 Define urban forestry.
5674	Wildlife Management	C.1.1 Explain the history of wildlife conservation. C.2.1 Define endangerment and extinction. C.3.1 Describe human health problems associated with wildlife. D.1.4 Describe how ecosystems are important in wildlife biology. D.2.1 Describe scientific classification and naming of animal wildlife. D.3.1 Describe and list the types of wildlife habitat. D.6.1 Discuss problems that humans face with wildlife and urban sprawl. F.1.1 Describe the characteristics and types of Reptiles. G.4.1 Explain the four basic habitat requirements.
5602	Outdoor Recreation	C.1.1 Describe hunting as a sport. C.2.1 Explain sport fishing. C.3.1 Discuss safety regulations that apply to boating. C.4.1 Discuss safety regulations that apply to ATV's. C.5.1 Discuss basic survival techniques. D.1.1 Discuss the recreational possibilities on public lands. F.1.1 Discuss kinds of outdoor recreation. F.2.1 Discuss agritourism enterprises.

Course Code	Course Name	Priority Standards
5628	Environmental and Natural Resources Management for the Workplace I (2 unit course)	<p>A.1.1 Define and identify types of natural resources.</p> <p>A.2.1 Define ecology and ecosystems.</p> <p>A.3.1 Explain how humans use natural resources.</p> <p>A.4.1 Explain the importance of conservation and preservation.</p> <p>A.4.2 Identify the effects of humans on the environment.</p> <p>A.5.3 Identify ways in which people can make a difference through recycling.</p> <p>A.6.1 Identify basic career information related to environmental science.</p> <p>B.3.1 Describe information sources for job opportunities.</p>
5629	Environmental and Natural Resources Management for the Workplace II (2 unit course)	<p>C.1.5 Identify the major forest regions of United States.</p> <p>C.2.3 Explain the processes and relationships of natural ecosystems.</p> <p>E.1.1 Explain the history of the National Forest Service.</p> <p>E.4.1 Explain the purpose of prescribed fire.</p> <p>E.6.1 Identify methods of reforestation.</p> <p>I.1.2 Explain the government regulations regarding wetlands.</p> <p>J.1.2 Describe the national policies that impact wildlife conservation.</p> <p>K.6.1 Identify ten game species found in South Carolina.</p> <p>O.1.2 List important regulations that govern hunting.</p> <p>O.2.3 Discuss hunting rights and privileges.</p> <p>O.4.2 Discuss legal regulations regarding fishing and boating.</p>

Course Code	Course Name	Priority Standards
<b>Horticulture</b>		
5650	Introduction to Horticulture	<p>A.3.2 Identify the FFA proficiency awards.</p> <p>A.3.3 Explain various team and individual Career Development Events.</p> <p>B.1.2 Define supervised agricultural experience.</p> <p>B.1.3 Explain the benefits of supervised agricultural experience programs..</p> <p>C.2.2 Explain how to prepare for a horticulture career.</p> <p>E.1.1 Describe the system used for naming and classifying plants.</p> <p>E.1.2 Identify the major groups of plants.</p> <p>E.1.3 Describe the differences between annuals, biennials, and perennials.</p>
5634	Floriculture	<p>C.1.1 Describe the scope of the international flower market in the florist industry.</p> <p>D.1.1 Explain the basic requirements of cut flowers.</p> <p>E.1.2 List the principles of design.</p> <p>E.1.3 Explain the concept of proportion.</p> <p>E.1.4 Explain how the concept of balance is applied to floral design.</p> <p>E.2.1 List and describe the major forms (or shapes) used in floral design.</p> <p>E.5.1 Identify and describe supplies and tools needed in floral work</p> <p>E.6.1 Identify types of centerpieces.</p> <p>E.7.3. Identify and describe types of wedding bouquets.</p>

Course Code	Course Name	Priority Standards
5672	Nursery, Greenhouse and Garden Center Tech	<p>C.1.1 Identify greenhouse designs.</p> <p>C.1.4 Describe the functions of the headhouse.</p> <p>C.2.3 Identify greenhouse climate control systems.</p> <p>C.3.1 Discuss the advantages of automated systems.</p> <p>D.1.1 Gather a soil sample using recommended procedures</p> <p>D.2.1 Identify the varieties of flowering plants most profitably grown locally community.</p> <p>D.2.2 Select and prepare a media for a seed flat to germinate bedding plants.</p> <p>D.2.3 Demonstrate the ability to seed a flat or individual container using recommended procedures.</p> <p>D.4.1 Plan and implement a watering schedule using an automatic irrigation system.</p> <p>D.5.1 Demonstrate the ability to examine plants and recognize and report damage resulting from disease and insects.</p> <p>D.8.1 Describe the importance and scope of perennials.</p> <p>E.1.1 Identify types of greenhouse businesses.</p> <p>F.1.2 Describe the different types of nurseries.</p> <p>F.2.2 List and describe the proper nursery field practices.</p>

Course Code	Course Name	Priority Standards
5654	Turf and Lawn Management	<p>C.1.2 List and compare the four types of turf and their functions: lawns, golf courses, sports turf, and utility turf.</p> <p>C.1.4 Discuss career opportunities in the turf grass industry.</p> <p>C.3.1 Identify five related career opportunities in the lawn care industry.</p> <p>D.1.1 Identify the major parts of a typical turf grass plant.</p> <p>D.3.1 Identify the five warm-season turf grass species.</p> <p>D.4.1 Identify the four major cool-season turf grass species and their seeds.</p> <p>E.1.1 Explain the proper times to start a new lawn using both cool-season and warm-season turf grasses.</p> <p>E.1.2 List the items necessary for establishing a new lawn.</p> <p>E.2.1 List the three major benefits of mowing.</p> <p>E.3.2 List 13 nutrients required by turf grasses.</p> <p>E.3.3 Describe the basic lawn fertilization process.</p> <p>E.4.1 Describe the two ways that a lawn loses water.</p> <p>F.1.1 1. After being given the gallons per minute (GPM) flow rate, water pressure (PSI), and field dimensions, the student will use a catalog to select the type and then determine the number of sprinklers necessary to water the entire area.</p>

Course Code	Course Name	Priority Standards
5670	Landscape Technology	<p>C.1.1 Describe how to determine the client’s needs and desires.</p> <p>C.4.1 Describe the basic principles of Landscape Design.</p> <p>C.6.3 Identify 50 common landscape plants used in the southeast</p> <p>D.1.2 Explain how to interpret a landscape plan.</p> <p>D.3.4 Describe the methods of planting annuals and perennials.</p> <p>D.3.5 Understand the importance of the use of mulch, landscape fabric, antitranspirants, and climate.</p> <p>E.1.2 Explain recommended watering practices for woody landscape plants.</p> <p>E.2.4 Explain practices for controlling weeds in turf.</p> <p>E.4.1 Describe how to estimate landscape maintenance costs.</p>
5655	Sports Turf Management	<p>C.1.1 Identify the career opportunities in the sports turf industry.</p> <p>C.2.1 Identify the three main types of sports fields.</p> <p>C.2.2 Explain the three critical features in sports field management.</p> <p>C.3.3 Understand the use of different turf grasses for different sports fields.</p> <p>D.4.1 List the officially recommended dimensions of a high school soccer field, football field and baseball field.</p> <p>E.1.1 Describe the types of fertilizers used on sports fields.</p> <p>E.2.2 List the factors that must be considered when planning a turf grass irrigation program</p> <p>E.3.6 Identify the common growth regulators used on turf grasses and their advantages and disadvantages.</p> <p>F.1.2. Using the above information, the student will make a scale drawing that clearly shows the following:</p> <ul style="list-style-type: none"> <li>- the location of the incoming water line.</li> <li>- the dimensions and proportional size of the field.</li> <li>- the irrigation supply line connected to the incoming water line.</li> <li>- the irrigation lateral lines.</li> <li>- the location of the sprinklers on the laterals.</li> </ul>

Course Code	Course Name	Priority Standards
5667	Golf Course Technology	<p>C.1.1 List three major aspects of golf course management.</p> <p>C.2.1 List five jobs and their responsibilities in golf course management.</p> <p>D.1.1 Describe and recognize the rules of the game of golf as applied to the following:</p> <ul style="list-style-type: none"> <li>a. Types of play</li> <li>b. Clubs and Balls</li> <li>c. Player responsibility</li> <li>d. Order of play</li> <li>e. Teeing ground</li> <li>f. Playing the ball</li> <li>g. The putting green</li> <li>h. Moved or deflected balls</li> <li>i. Relief situations</li> <li>j. Other forms of play</li> </ul> <p>E.1.6 Describe the major management practices used for roughs, bunkers, and hazards.</p> <p>E.2.1 List the mowing height ranges of greens, tees, and fairways.</p> <p>F.3.1 Connect the field wires to a valve solenoid following manufacturer's specifications.</p> <p>H.1.1 Identify five major turf grass diseases: dollar spot, brown patch, pythium blight, snow molds, and spring dead spot.</p>

Course Code	Course Name	Priority Standards
5652	Horticulture for the Workplace I	<p>A.1.2 Identify the three major segments of the horticulture industry.</p> <p>A.2.3 List examples of horticulture jobs and careers.</p> <p>D.1.4 1 Demonstrate proper maintenance and storage procedures for tools used in the greenhouse, turf management and landscaping.</p> <p>E.1.1 Describe the system used for naming and classifying plants.</p> <p>E.1.3 Describe the differences between annuals, biennials, and perennials.</p> <p>F.1.1 Discuss the importance of plant propagation.</p> <p>F.1.2 Explain the difference between sexual and asexual propagation.</p> <p>G.1.2 Describe the functions of growing media.</p> <p>G.1.3 Explain the relationship between growing media and plant growth.</p> <p>H.1.1 Explain integrated pest management.</p> <p>H.1.2 Explain best management practices.</p> <p>H.3.4 Identify the safety practices that should be followed when applying pesticides.</p> <p>K.1.1 Identify greenhouse designs.</p> <p>L.1.2 Describe the different types of nurseries.</p>
5653	Horticulture for the Workplace II	<p>C.1.1 Describe how to determine the client's needs and desires.</p> <p>C.2.1 Describe the major areas of a residential landscape.</p> <p>C.4.2 Explain how to use the principles of Landscape Design in landscaping.</p> <p>C.6.3 Identify 50 common landscape plants used in the southeast.</p> <p>D.1.1 Read a site analysis or landscape plan.</p> <p>D.1.5 Analyze and prepare soil for planting.</p> <p>E.1.4 Describe how to select and apply mulches to the landscape.</p> <p>F.1.5 Explain how to maintain hand tools.</p> <p>F.2.2 Demonstrate proper use of common landscape installation and maintenance tools and equipment.</p> <p>F.4.2 Explain how to service intake/exhaust and fuel systems.</p> <p>K.1.1 Explain interior plant scraping and its basic design principles.</p>

Course Code	Course Name	Priority Standards
<b>Plant and Animal Systems</b>		
5624	Agricultural Science and Technology	<p>A.1.1 Name and describe the major areas of agriculture occupations based on the nature of the work.</p> <p>B.2.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA.</p> <p>C.4.1 Identify the steps in planning an SAE Program.</p> <p>D.1.1 Explain how the resources soil provides help in supporting life.</p> <p>E.2.2 Identify common agriscience equipment.</p> <p>G.2.2 Identify the major parts of plants and explain their functions.</p> <p>H.2.3 Describe the importance of anatomy and physiology in animal production.</p>
5600	Agribusiness and Marketing	<p>D.1.7 Discuss methods of marketing ag products.</p> <p>D.2.3 What is a commodity futures exchange?</p> <p>D.3.4 Describe the ag trade balance.</p> <p>D.4.1 Describe wholesaling.</p> <p>D.4.2 Describe retailing.</p> <p>F.1.2 Determine the difference between gross salary versus net pay.</p> <p>F.3.3 Discuss the importance of time management on the job.</p>

Course Code	Course Name	Priority Standards
5614	Agricultural Crop Production and Management	C.1.3 Explain the crucial role plants play in providing food for humans. C.2.5 Describe the concepts of precision farming. D.3.4 Demonstrate soil sampling and analysis. F.1.2 Describe Integrated Pest Management (IPM). F.2.5 Explain how insect and nematode control is monitored. G.1.4 Demonstrate cultural requirements of major grain crops. G.3.3 Discuss cultural practices for oil crops. G.4.2 Apply the cultural requirements of cotton. G.5.2 Explain the cultural requirements of various specialty crops. G.6.2 Apply cultural practices to forage crops. G.7.3 Conduct cultural practices for vegetable crops.
5679	Equine Science	D.1.2 Identify various breeds of horses by viewing pictures or live animals. E.2.1 List and discuss the functions of the nine systems of horses. H.1.4 Describe 10 factors to consider when selecting a horse to purchase. H.2.2 List five steps in judging a horse. J.2.3 Discuss different types of breeding programs. K.2.7 Develop a feeding program for horses. L.2.6 Plan a vaccination program for horses. O.1.1 Identify the space requirement for a horse. P.2.7 Outline a proper exercise program for horses.

Course Code	Course Name	Priority Standards
5657	Food Processing	C.1.1 Explain why proper nutrition is important for all organisms C.2.1 Explain why food packaging is a critical component for the food industry C.4.1 Describe food preservation and its benefits D.1.2 Explain why curing increases the shelf life and palatability of meat products D.5.2 Explain the processing of raw milk and the pasteurization process E.2.3 Explain the need for understanding the physical properties of biological materials E.3.2 Explain why a salt-ice water solution causes food to chill more rapidly and explain why salt is used as the solute in the process of chilling meat E.7.3 Describe how the boiling point of a liquid can be manipulated E.8.1 Explain the effects of microorganisms in the cheese-making process
5646	Cattle Production	C.3.2 Describe methods of handling livestock wastes which reduce environmental pollution and are within the guidelines of current laws and regulations D.1.4 Demonstrate proper handling of animals E.2.4 Balance livestock rations using commonly accepted practices including using computers F.1.2 Identify various breeds of beef cattle by viewing pictures or live animals F.2.6 Judge classes of market animals and breeding animals F.3.4 Recommend preventive measures and treatment for beef cattle diseases and parasites common to the local area F.5.2 Describe the facilities and equipment required for beef operations G.1.2 Discuss breeds of dairy cows their characteristics G.2.2 Explore the scientific processes of pasteurization and homogenization in milk processing G.3.3 Review the equipment and procedures involved in milking G.4.5 Evaluate and place animals in order of relative merit

Course Code	Course Name	Priority Standards
5647	Farm Animal Production	<p>C.3.2 Describe methods of handling farm animal wastes which reduce environmental pollution and are within the guidelines of current laws and regulations.</p> <p>E.1.2 Describe the functions of the parts of the digestive systems of ruminant and non-ruminant animals.</p> <p>E.2.4 Balance livestock rations using commonly accepted practices including using computers.</p> <p>F.1.2 Identify the major breeds of swine by body characteristics.</p> <p>F.2.3 State reasons for placing of four market and four breeding hogs.</p> <p>F.4.1 Describe facilities required for swine production.</p> <p>G.1.1 Identify the common breeds of sheep and goats.</p> <p>G.2.4 Classify market lambs and breeding animals.</p> <p>G.2.5 Classify goats.</p> <p>H.2.2 Identify common breeds of poultry.</p> <p>H.3.2 Describe the management practices for different kinds of poultry.</p>
5612	Small Animal Care	<p>C.1.1 Describe the opportunities in the pet care industry.</p> <p>D.2.3 Explain the importance of proper pet health care.</p> <p>E.1.6 Balance a feed ration.</p> <p>F.2.5 Describe the various the grooming techniques used for dogs.</p> <p>K.1.8 Handle grooming tools.</p>
5613	Introduction to Veterinary Science	<p>C.1.2 Describe the opportunities in the pet care industry.</p> <p>D.3.3 Identify the bones of the skeleton and relate them to a live animal.</p> <p>D.4.4 Demonstrate common sites for measuring pulse and collecting blood samples.</p> <p>D.5.2 Identify the basic components of the respiratory tract.</p> <p>D.7.2 Identify the basic structures of the digestive system.</p> <p>E.1.2 List and discuss the six major components of animal diets.</p> <p>F.2.2 Differentiate between signs and symptoms.</p> <p>G.1.1 List the areas checked by the physical examination.</p>

Course Code	Course Name	Priority Standards
5603	Animal Science	D.1.1 Give an overview of the swine industry in the United States. D.2.1 Give an overview of the beef industry in the United States. D.3.2 Give an overview of the dairy industry in the United States. D.4.1 Give an overview of the sheep industry in the United States. D.5.1 Give an overview of the horse industry in the United States. E.2.1 Explain the significance of performance data to livestock breeders. E.3.1 Evaluate beef, pork, lamb carcasses, and identify primal cuts. E.4.1 Evaluate market animals E.4.2 Evaluate breeding animals E.5.1 Classify a cow using the Dairy Cow Unified Score Card
5620	Agricultural Science and Technology for the Workplace (2 unit course)	A.1.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA. C.4.1 Identify the steps in planning an SAE Program. D.1.1 Explain how the resources soil provides help in supporting life. E.2.2 Identify common agriscience equipment. G.2.2 Identify the major parts of plants and explain their functions. H.2.3 Describe the importance of anatomy and physiology in animal production. J.1.1 Identify the different areas of agricultural mechanics. K.1.1 Explain the importance of natural resource conservation. L.1.1 Define food science.

Course Code	Course Name	Priority Standards
5608	Animal Science for the Workplace I (2 unit course)	<p>B.4.1 Identify the steps in planning an SAE Program.</p> <p>C.1.2 Explain the mission and strategies, colors, motto, parts of the emblem, and the organizational structure of the FFA.</p> <p>D.4.4 Balance livestock rations using commonly accepted practices including using computers.</p> <p>E.2.1 Describe the function of beef animals and the production system in which they are produced.</p> <p>E.2.6 Judge classes of market animals and breeding animals.</p> <p>E.3.2 Plan a feeding program for the cow-calf herd.</p> <p>E.6.1 Describe the steps in planning for facilities and equipment for beef operations.</p> <p>E.8.1 Describe livestock production problems relating to the environment.</p> <p>F.3.1 Describe the characteristics of the dairy industry in the United States.</p> <p>F.6.5 Evaluate and place animals in order of relative merit.</p> <p>G.1.1 List the main characteristics of the swine enterprise.</p> <p>H.2.2 Explain the procedure for evaluating sheep conformation and goat conformation.</p> <p>I.1.1 Describe the various breeds of horses.</p> <p>J.1.1 Describe the scope and economic importance of the poultry industry.</p>
5609	Animal Science for the Workplace II (2 unit course)	<p>C.1.1 Describe the opportunities in the pet care industry</p> <p>D.2.3 Explain the importance of proper pet health care</p> <p>E.1.6 Balance a feed ration</p> <p>F.2.5 Describe the various the grooming techniques used for dogs</p> <p>K.1.8 Handle grooming tools</p> <p>M.3.3 Identify the bones of the skeleton and relate them to a live animal</p> <p>M.4.4 Demonstrate common sites for measuring pulse and collecting blood samples</p> <p>M.5.2 Identify the basic components of the respiratory tract</p> <p>M.7.2 Identify the basic structures of the digestive system</p> <p>N.1.2 List and discuss the six major components of animal diets</p> <p>O.2.2 Differentiate between signs and symptoms</p> <p>P.1.1 List the areas checked by the physical examination</p>