July 2007

Florida Department of Education
CURRICULUM FRAMEWORK

Program Title: Agritechnology
Occupational Area: Agriscience and Natural Resources

Secondary

Program Numbers **8106800**
CIP Number 0101.039901
Grade Level 9-12, 30, 31
Length 3 credits
Certification VOC AGRI @4
AGRI @4
AGRI PROD #7
AGRICULTUR 1 @2
Program SOC Code - 19-4011.01 - Agricultural Technicians

I. **MAJOR CONCEPTS/CONTENT: The** purpose of this program is to prepare students for employment in the agricultural industry (Farmworker 74002504) or to provide supplemental training for persons previously or currently employed in this industry.

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the agriculture industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety and environmental issues.

Completers of this program will be prepared to enter advanced training and education in specialized fields of agriscience or agribusiness. They may also be employed as trainees or beginning workers in various agriscience- or agribusiness-related positions in certain businesses and industries.

The content includes, but is not limited to, instruction in animal and plant production and processing; agriculture marketing; agricultural mechanics; employability skills; mathematics; basic science; biological sciences; communications; and human-relations skills.

Listed below are the courses that comprise this program when offered at the secondary level:

OCCUPATIONAL COMPLETION POINT - DATA CODE A
Agricultural Technicians - SOC Code - 19-4011.01
8106810 - Agriscience Foundations 1
8106820 - Agritechnology 1
8106830 - Agritechnology 2

II. **LABORATORY ACTIVITIES: Agriscience** laboratory activities (shops, wet labs, land labs, and greenhouses) are an integral part of this program, which includes the safe use and application of high technology equipment, such as computers and computer software, telecommunications equipment, and scientific testing and observation equipment, as well as mechanics' tools, field tools, carpentry tools, arc welders, oxyacetylene torches, tractors and field equipment, chemical applicators, power sprayers, irrigation equipment, and fire-control hand equipment.

III. **SPECIAL NOTE: FFA** is the appropriate Career Student Organization for providing leadership training and for reinforcing specific vocational skills. Career Student Organizations, when provided, shall be an integral part of the vocational instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065(8), FAC.

Planned and supervised occupational activities must be provided through one or more of the following: (1) directed laboratory experience, (2) student project, (3) placement for experience, and (4) cooperative education.

Because of the production and marketing cycle of the agricultural industries, this program requires individual instruction and supervision of students for the entire period beyond the 180-day school year.

Cooperative training - OJT is appropriate for this program. Whenever cooperative training - OJT is offered, the following are required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation that reflects equipment, skills, and tasks that are relevant to the occupation which the student has chosen as a career goal. The student must receive compensation for work performed.

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Adult students with disabilities must self-identify and request such services. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

IV. INTENDED OUTCOMES: After successfully completing this program, the student will be able to:

Occupational Completion Point - DATA CODE A - Farmworker (OES 74002504)

01.0 Describe the history of agriculture and its influence on the global economy.
02.0 Practice agriscience safety skills and procedures.
03.0 Apply scientific and technological principles to agriscience issues.
04.0 Apply environmental principles to the agricultural industry.
05.0 Investigate and utilize basic scientific skills and principles in plant science.
06.0 Investigate and utilize basic scientific skills and principles in animal science.
07.0 Demonstrate the use of agriscience tools, equipment, and instruments.
08.0 Demonstrate agribusiness, employability & human relation skills.
09.0 Apply leadership and citizenship skills.
10.0 Explore the scope of the agriscience industry.
11.0 Provide for proper animal health and nutrition.
12.0 Identify procedures in animal production and reproduction.
13.0 Use procedures for exhibiting and marketing animals.
14.0 Compare, select, and use plant production systems.

15.0 Fertilize plants and crops.
16.0 Irrigate plants and crops.
17.0 Control plant pests.
18.0 Operate, maintain, and service facilities, tools, and equipment.
19.0 Describe procedures for harvesting and marketing plant materials.
20.0 Apply principles of agribusiness finance.
21.0 Demonstrate leadership, employability, communication, and human-relations skills.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: Agritechnology
Secondary Number: 8106800
Postsecondary Number:

OCCUPATIONAL COMPLETION POINT - DATA CODE A
Agricultural Technicians - SOC Code - 19-4011.01

01.0 Describe the history of agriculture and its influence on the global economy--The student will be able to:

- 01.01 Investigate the history of agriculture and its relationship to science and technology.
- 01.02 Analyze the impact of agriculture on the local, state, national and global economy.
- 01.03 Identify significant career patterns/shifts in the history of the agricultural industry.
- 01.04 Examine the role of the agricultural industry in the interaction of population, food, energy, and the environment.

02.0 Practice agriscience safety skills and procedures --The student will be able to:

- 02.01 List the common causes of accidents in agriscience operations.
- 02.02 Demonstrate proper safety precautions and use of personal protective equipment.
- 02.03 Extract and utilize pertinent information from a container label and/or Material Safety Data Sheet (MSDS) following Environmental Protection Agency (EPA), Worker Protection Standard, and Occupational Safety and Health Agency (OSHA) regulations.
- 02.04 Identify proper disposal of hazardous waste materials and biohazards.
- 02.05 Describe emergency procedures.

03.0 Apply scientific and technological principles to agriscience issues--The student will be able to:

- 03.01 Employ scientific measurement skills.
- 03.02 Demonstrate safe and effective use of common laboratory equipment.
- 03.03 Identify the parts and functions of plant and animal cells.
- 03.04 Describe the phases of cell reproduction.
- 03.05 Implement the scientific method and science process skills through the design and completion of an agriscience research project.
- 03.06 Interpret, analyze, and report data.
- 03.07 Investigate DNA and genetics applications in agriscience including the theory of probability.
- 03.08 Evaluate advances in biotechnology that impact agriculture (e.g. transgenic crops, biological controls, etc.).

04.0 Apply environmental principles to the agricultural industry --The student will be able to:

- 04.01 Determine how different climactic and geological activity influences agriculture.

04.02 Describe various ecosystems as they relate to the agriculture industry.
04.03 Describe the environmental resources (soil, water, air) necessary for agriculture production.
04.04 Identify regulatory agencies that impact agricultural practices.
04.05 Apply Best Management Practices that enhance the natural environment.
04.06 Identify conservation practices related to natural resources.

05.0 Investigate and utilize basic scientific skills and principles in plant science --The student will be able to:

05.01 Identify and describe the specializations within the plant science industry.
05.02 Categorize plants based on specific characteristics according to industry and scientific standards.
05.03 Examine the processes of plant growth including photosynthesis and respiration.
05.04 Identify the nutrients required for plant growth from the periodic table and explain their functions.
05.05 Analyze information from a fertilizer label.
05.06 Propagate and grow plants through sexual and/or asexual reproduction.
05.07 Investigate the impacts of various pests and propose solutions for their control.
05.08 Investigate the nature and properties of food, fiber, and by-products from plants.
05.09 Explore career opportunities in plant science.

06.0 Investigate and utilize basic scientific skills and principles in animal science --The student will be able to:

06.01 Investigate the origin, history, and domestication of animals.
06.02 Explain the economic importance of animals and the products obtained from animals.
06.03 Categorize animals according to use, type, breed, and scientific classification.
06.04 Employ correct terminologies for animal species and conditions (e.g. age, sex, etc.) within those species.
06.05 Compare basic internal & external anatomy of animals.
06.06 Demonstrate approved practices in the management, health, safety, and technology of the animal industry.
06.07 Discuss animal welfare issues.
06.08 Investigate the nature and properties of food, fiber, and by-products from animals.
06.09 Explore career opportunities in animal science.

07.0 Demonstrate the use of agriscience tools, equipment, and instruments -- The student will be able to:

07.01 Select and demonstrate the use of agriscience tools, equipment, and instruments.
07.02 Describe various physical science principles as applied in selected mechanical applications (e.g. levers, pulleys, hydraulics, and internal combustion).
07.03 Solve time, distance, area, volume, ratio, proportion, and percentage problems in agriscience.
07.04 Service and maintain agriscience equipment, instruments, facilities, and supplies.
07.05

08.0 Demonstrate agribusiness, employability & human relation skills --The student will be able to:

- 08.01 Develop, implement, and maintain work based learning through Supervised Agricultural Experiences (SAE).
- 08.02 Utilize a record keeping system to collect, interpret, and analyze data.
- 08.03 Enhance oral communications through telephone, interview and presentation skills.
- 08.04 Enhance written communication by developing resumes and business letters.
- 08.05 Demonstrate interpersonal (nonverbal) communication skills.
- 08.06 Demonstrate good listening skills.

09.0 Apply leadership and citizenship skills --The student will be able to:

- 09.01 Identify and describe leadership characteristics.
- 09.02 Identify opportunities to apply acquired leadership skills.
- 09.03 Identify and demonstrate ways to be an active citizen.
- 09.04 Participate in community based learning activities.
- 09.05 Demonstrate the ability to work cooperatively.
- 09.06 Conduct formal and informal meetings using correct parliamentary procedure skills. Identify the opportunities for leadership development available through the National FFA Organization and/or professional organizations.

10.0 EXPLORE THE SCOPE OF THE AGRISCIENCE INDUSTRY--The student will be able to:

- 10.01 Investigate career opportunities in agriscience industries
- 10.02 Describe training requirements for entry and advancement in agriscience careers.
- 10.03 Identify professional organizations and trade journals in the agriscience industry.

11.0 PROVIDE FOR PROPER ANIMAL HEALTH AND NUTRITION--The student will be able to:

- 11.01 Recognize and describe prevention and treatment of common animal diseases, disorders, and pests.
- 11.02 Read, interpret, and follow directions on pesticide, medication, and other additive labels.
- 11.03 Clean and disinfect animal equipment and facilities. Explain proper disposal of animal waste with regards to sanitation, economics, and environmental implications.
- 11.04 Describe nutritional requirements of animals.
- 11.06 Formulate and compute least-cost feed rations.
- 11.07 Select growth stimulators and implants.
- 11.08 Determine feeding rates and methods of feeding animals.

12.0 IDENTIFY PROCEDURES IN ANIMAL PRODUCTION AND REPRODUCTION--The student will be able to:

- 12.01 Identify livestock and poultry anatomy.
- 12.02 Identify commercially important breeds of animals.
- 12.03 Describe desirable characteristics of breeding and market animals.
- 12.04 Identify wholesale cuts of beef, pork, lamb, and poultry.
- 12.05 Compare and select appropriate breeding methods for different agricultural enterprises.

12.06 Explain the reproductive cycles of commercially important animals.
12.07 Identify signs of animal pregnancy, parturition, and infertility.
12.08 Describe approved care for newborn animals.
12.09 Describe methods of animal identification.
12.10 Describe methods of restraining, loading, handling, and transporting animals safely.

13.0 USE PROCEDURES FOR EXHIBITING AND MARKETING ANIMALS--The student will be able to:

13.01 Demonstrate the procedures for preparing, maintaining, and exhibiting commercially important animals.
13.02 Collect and interpret market reports and identify market outlets for livestock.
13.03 Compare and select appropriate marketing systems.
13.04 Determine appropriate evaluation criteria for animals
13.05 Prepare appropriate shipping and health certificates required for exhibiting or marketing animals

14.0 COMPARE, SELECT, AND USE PLANT PRODUCTION SYSTEMS--The student will be able to:

14.01 Compare different plant production systems.
14.02 Propagate, transplant and grow plants.
14.03 Identify varieties of local commercial plants and field crops.
14.04 Select and prepare a site and/or a seedbed for planting.
14.05 Identify methods of pruning plants to achieve desired growth and to maintain health.
14.06 Calculate planting rate and spacing.
14.07 Operate and adjust planting equipment.

15.0 FERTILIZE PLANTS AND CROPS--The student will be able to:

15.01 Develop fertilization schedules and calculate fertilizer rates for plants; solve time, distance, area, and volume problems in agriscience.
15.02 Identify common nutrient-deficiency symptoms in plants.
15.03 Calibrate fertilization equipment and fertilize plants.
15.04 Interpret information on a fertilizer label
15.05 Compare sources and forms of nutrients.
15.06 Determine methods of applying fertilizer materials

16.0 IRRIGATE PLANTS AND CROPS--The student will be able to:

16.01 Recognize soil and plant conditions indicating irrigation needs and develop an irrigation schedule.
16.02 Compare and select irrigation equipment and methods.
16.03 Install, operate, maintain, and repair irrigation equipment.

17.0 CONTROL PLANT PESTS--The student will be able to:

17.01 Identify common plant pests and their damages.
17.02 Describe life cycles of insects, pests, and diseases.
17.03 Identify the procedures and requirements for obtaining a restricted-use-pesticide operator's license.
17.04 Select, mix, and apply a nonrestricted chemical according to the label and local, state, federal and EPA regulations.

18.0 OPERATE, MAINTAIN, AND SERVICE FACILITIES, TOOLS, AND EQUIPMENT--The student will be able to:

18.01 Demonstrate basic facility maintenance, installation, or repair.
18.02 Safely operate, maintain, service, and repair equipment.
18.03 Use and maintain hand tools and power equipment.
18.04 Maintain and service small gasoline engines.

19.0 DESCRIBE PROCEDURES FOR HARVESTING AND MARKETING PLANT MATERIALS--The student will be able to:

19.01 Determine maturity, condition, quality, and volume of crops to be harvested.
19.02 Describe procedures for harvesting crops.
19.03 Determine kinds and types of storage facilities for crops.
19.04 Grade, treat, pack, and/or store harvested crop.
19.05 Interpret and analyze market information.
19.06 Compare, select, and locate marketing channels and develop a marketing program.

20.0 APPLY PRINCIPLES OF AGRIBUSINESS FINANCE--The student will be able to:

20.01 Identify major sources of credit for agribusiness.
20.02 Complete a business loan application.
20.03 Explain the purposes and structures of contracts, leases, deeds, and insurance policies.
20.04 Maintain and interpret agribusiness financial records including depreciation, inventory, and budgets.

21.0 DEMONSTRATE LEADERSHIP, EMPLOYABILITY, COMMUNICATION, AND HUMAN-RELATIONS SKILLS--The student will be able to:

21.01 Conduct group meetings using parliamentary procedure and public speaking skills.
21.02 Identify appropriate work and personal habits.
21.03 Complete a job application.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Course Number: 8106810
Course Title: Agriscience Foundations I
Course Credit: 1

COURSE DESCRIPTION:

This course is designed to develop competencies in the areas of agricultural history and the global impact of agriculture; career opportunities; scientific and research concepts; biological and physical science principles; environmental principles; agriscience safety; principles of leadership; and agribusiness, employability, and human relations skills in agriscience. Laboratory-based activities are an integral part of this course. These include the safe use and application of appropriate technology, scientific testing and observation equipment.

01.0 Describe the history of agriculture and its influence on the global economy--The student will be able to:

- 01.01 Investigate the history of agriculture and its relationship to science and technology. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SS.A.1.4.1, 4; SS.A.2.4.1, 2; SS.A.3.4.1, 5, 8; SS.A.3.4.9; SS.A.5.4.1; SS.B.1.4.1, 4; SC.H.3.4.2, 3, 5, 6; SC.D.1.4.3, 4
- 01.02 Analyze the impact of agriculture on the local, state, national and global economy. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.A.2.4.1, 2; MA.A.3.4.1, 3; MA.E.1.4.1, 2; SS.A.3.4.3, 8, 10; SS.A.4.4.1, 6; SS.A.5.4.3, 5; SS.B.2.4.1, 4; SC.H.3.4.2, 3, 5, 6; SC.B.1.4.5; SC.D.1.4.1, 3; SC.D.2.4.1
- 01.03 Identify significant career patterns/shifts in the history of the agricultural industry. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SS.A.1.4.1; SS.A.3.4.5; SS.A.5.4.2; SS.B.2.4.4; SC.H.3.4.2, 3, 5, 6; SC.B.1.4.5; SC.D.1.4.1, 3; SC.D.1.4.4; SC.H.1.4.2
- 01.04 Examine the role of the agricultural industry in the interaction of population, food, energy, and the environment. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.D.1.4.1; MA.D.2.4.1; MA.E.1.4.1; SS.A.4.4.1, 2; S.A.5.4.1, 2; SS.B.1.4.4; SS.B.2.4.1; SS.B.2.4.2, 4, 6; SS.D.1.4.1; SC.H.3.4.2, 3, 5, 6; SC.B.1.4.5; SC.D.1.4.1, 3, 4; SC.D.2.4.1; SC.G.2.4.6

02.0 Practice agriscience safety skills and procedures --The student will be able to:

- 02.01 List the common causes of accidents in agriscience operations. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1
- 02.02 Demonstrate proper safety precautions and use of personal protective equipment.
- 02.03 Extract and utilize pertinent information from a container label and/or Material Safety Data Sheet (MSDS) following Environmental Protection Agency (EPA), Worker Protection Standard, and Occupational Safety and Health Agency (OSHA) regulations. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.A.1.4.1; MA.A.3.4.1; MA.B.1.4.1, 2; MA.B.2.4.2; MA.B.3.4.1; MA.B.4.4.1, 2; MA.E.1.4.1

02.04 Identify proper disposal of hazardous waste materials and biohazards. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

02.05 Describe emergency procedures. LA.C.3.4.1; LA.C.3.4.2; LA.C.3.4.3

03.0 Apply scientific and technological principles to agriscience issues--The student will be able to:

03.01 Employ scientific measurement skills. MA.A.1.4.1; MA.A.2.4.2; MA.B.2.4.1, 2; MA.B.4.4.1; SC.B.1.4.3; SC.H.1.4.1

03.02 Demonstrate safe and effective use of common laboratory equipment. SC.H.1.4.1

03.03 Identify the parts and functions of plant and animal cells. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.F.1.4.1, 2, 3, 7, 8; SC.F.2.4.1

03.04 Describe the phases of cell reproduction. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.F.1.4.1, 2, 3, 7, 8; SC.F.2.4.1; SC.G.1.4.1

03.05 Implement the scientific method and science process skills through the design and completion of an agriscience research project. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.E.3.4.1, 2; SC.H.1.4.1, 2, 3; SC.H.2.4.1, 2

03.06 Interpret, analyze, and report data. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.E.1.4.1, 2, 3; MA.E.2.4.1, 2; SC.B.1.4.3, SC.H.1.4.1, 2, 3, 4, 7

03.07 Investigate DNA and genetics applications in agriscience including the theory of probability. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.E.2.4.1, 2; SC.F.2.4.2, 3; SC.G.2.4.3

03.08 Evaluate advances in biotechnology that impact agriculture (e.g. transgenic crops, biological controls, etc.). LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.F.2.4.2, 3; SC.G.2.4.3

04.0 Apply environmental principles to the agricultural industry --The student will be able to:

04.01 Determine how different climactic and geological activity influences agriculture. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SS.B.1.4.1; SS.B.2.4.4; SC.B.1.4.5; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1

04.02 Describe various ecosystems as they relate to the agriculture industry. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1; SC.G.2.4.2, 4; SC.G.2.4.5, 6

04.03 Describe the environmental resources (soil, water, air) necessary for agriculture production. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SS.B.2.4.1, 6; SC.B.1.4.1, 2, 5; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1; SC.G.2.4.2, 4, 5, 6

04.04 Identify regulatory agencies that impact agricultural practices. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.5; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1; SC.G.2.4.2, 4; SC.G.2.4.5, 6

04.05 Apply Best Management Practices that enhance the natural environment. SC.B.1.4.5; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1; SC.G.2.4.2, 4, 5, 6

04.06 Identify conservation practices related to natural resources. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2, 5; SC.D.1.4.1, 2, 3; SC.D.2.4.1; SC.G.1.4.1; SC.G.2.4.2, 3, 4, 5, 6

05.0 Investigate and utilize basic scientific skills and principles in plant science --The student will be able to:

05.01 Identify and describe the specializations within the plant science industry. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

05.02 Categorize plants based on specific characteristics according to industry and scientific standards. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.G.1.4.1

05.03 Examine the processes of plant growth including photosynthesis and respiration. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.D.1.4.1; SC.F.1.4.1, 2, 3, 7, 8; SC.G.2.4.2

05.04 Identify the nutrients required for plant growth from the periodic table and explain their functions. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.D.1.4.1, 2; SC.F.1.4.1, 2, 3, 7, 8; SC.G.2.4.2

05.05 Analyze information from a fertilizer label. MA.E.1.4.1; MA.B.1.4.1, 2; MA.B.2.4.1, 2; MA.B.3.4.1; MA.B.4.4.1, 2; SC.A.2.4.5

05.06 Propagate and grow plants through sexual and/or asexual reproduction. SC.B.1.4.1, 2; SC.D.1.4.1, 2; SC.F.1.4.1, 2, 3, 7, 8; SC.F.2.4.1, 3; SC.G.2.4.3

05.07 Investigate the impacts of various pests and propose solutions for their control. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.D.1.4.1; SC.F.1.4.1, 2, 3, 7, 8; SC.G.1.4.1; SC.G.2.4.2

05.08 Investigate the nature and properties of food, fiber, and by-products from plants. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2, 3; SC.F.1.4.1, 2, 3, 7, 8; SC.G.1.4.1

05.09 Explore career opportunities in plant science. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

06.0 Investigate and utilize basic scientific skills and principles in animal science --The student will be able to:

06.01 Investigate the origin, history, and domestication of animals. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.D.1.4.3, 4; SC.G.1.4.1

06.02 Explain the economic importance of animals and the products obtained from animals. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.D.1.4.1; MA.E.1.4.1; MA.A.1.4.1, 2, 3, 4; MA.A.2.4.2; SC.D.1.4.1; SC.G.1.4.1

06.03 Categorize animals according to use, type, breed, and scientific classification. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.G.1.4.1

06.04 Employ correct terminologies for animal species and conditions (e.g. age, sex, etc.) within those species. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

06.05 Compare basic internal & external anatomy of animals. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.F.1.4.1, 2, 3, 7, 8; SC.F.2.4.1

06.06 Demonstrate approved practices in the management, health, safety, and technology of the animal industry. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.D.1.4.1; SC.F.1.4.1, 2, 3, 7, 8; SC.F.2.4.1, 3; SC.G.1.4.1; SC.G.2.4.2, 3

06.07 Discuss animal welfare issues. LA.C.3.4.1; LA.C.3.4.2; LA.C.3.4.3; SC.D.1.4.1

06.08 Investigate the nature and properties of food, fiber, and by-products from animals. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.B.1.4.1, 2; SC.B.1.4.3; SC.F.1.4.1, 2, 3, 7, 8; SC.G.1.4.1

06.09 Explore career opportunities in animal science. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

07.0 Demonstrate the use of agriscience tools, equipment, and instruments -- The student will be able to:

07.01 Select and demonstrate the use of agriscience tools, equipment, and instruments. MA.A.1.4.1, 4; MA.B.1.4.1, 2, 3; MA.B.2.4.1; MA.B.1.4.2; MA.B.4.4.1, 2; SC.B.1.4.1, 2

07.02 Describe various physical science principles as applied in selected mechanical applications (e.g. levers, pulleys, hydraulics, and internal combustion). LA.A.1.4.1; LA.A.1.4.2; LA.A.1.4.3; LA.A.1.4.4; MA.B.1.4.1, 2, 3; MA.B.2.4.1, 2; MA.B.3.4.1; MA.B.4.4.1, 2; SC.B.1.4.1, 2, 3; SC.C.2.4.6

07.03 Solve time, distance, area, volume, ratio, proportion, and percentage problems in agriscience. SC.B.1.4.1, 2, 3

07.04 Service and maintain agriscience equipment, instruments, facilities, and supplies. LA.A.1.4.1; LA.A.1.4.2; LA.A.1.4.3; LA.A.1.4.4; SC.B.1.4.1, 2

08.0 Demonstrate agribusiness, employability & human relation skills --The student will be able to:

08.01 Develop, implement, and maintain work based learning through Supervised Agricultural Experiences (SAE). LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

08.02 Utilize a record keeping system to collect, interpret, and analyze data. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; MA.B.2.4.1; MA.B.3.4.1; MA.B.4.4.2; MA.E.1.4.1; SC SC.H.1.4.7, SC.H.3.4.3

08.03 Enhance oral communications through telephone, interview and presentation skills. LA.C.1.4.3; LA.C.3.4.1; LA.C.3.4.2; LA.C.3.4.3; LA.C.3.4.4; LA.C.3.4.5; SC.H.1.4.7

08.04 Enhance written communication by developing resumes and business letters. LA.B.1.4.1; LA.B.1.4.2; LA.B.1.4.3; LA.B.2.4.1; LA.B.2.4.2; LA.B.2.4.3; SC.H.1.4.7

08.05 Demonstrate interpersonal (nonverbal) communication skills. LA.C.3.4.1; LA.C.3.4.2; LA.C.3.4.3; LA.C.3.4.4; LA.C.3.4.5

08.06 Demonstrate good listening skills. LA.C.1.4.1; LA.C.1.4.2; LA.C.1.4.3; LA.C.1.4.4

09.0 Apply leadership and citizenship skills --The student will be able to:

09.01 Identify and describe leadership characteristics. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

09.02 Identify opportunities to apply acquired leadership skills. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

09.03 Identify and demonstrate ways to be an active citizen. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1; SC.H.1.4.7

09.04 Participate in community based learning activities. SC.H.1.4.7

09.05 Demonstrate the ability to work cooperatively. SC.H.1.4.4

09.06 Conduct formal and informal meetings using correct parliamentary procedure skills. LA.C.3.4.1; LA.C.3.4.2; LA.C.3.4.3; SC.H.1.4.7

09.07 Identify the opportunities for leadership development available through the National FFA Organization and/or professional organizations. LA.A.1.4.1, 2, 3, 4; LA.A.2.4.4; LA.B.1.4.1, 2, 3; LA.B.2.4.1, 2, 3; LA.C.1.4.1; LA.C.2.4.1

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Course Number: 8106820
Course Title: Agritechnology 1
Course Credit: 1

COURSE DESCRIPTION:

This course is designed to develop competencies in the areas of agriscience industry careers; prevention and treatment of livestock diseases; livestock anatomy; wholesale cuts of meat; animal reproduction and identification; animal safety; animal-health certification; plant growth; plant fertilization; safe use of pesticides; maintenance of tools and equipment; record keeping; and employability skills.

10.0 EXPLORE THE SCOPE OF THE AGRISCIENCE INDUSTRY--The student will be able to:

10.01 Investigate career opportunities in agriscience industries. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4
10.02 Describe training requirements for entry and advancement in agriscience careers. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4

11.0 PROVIDE FOR PROPER ANIMAL HEALTH AND NUTRITION--The student will be able to:

11.01 Recognize and describe prevention and treatment of common animal diseases, disorders, and pests. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 2.4; SCG 1.4; SSA 4.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4
11.03 Clean and disinfect animal equipment and facilities. LAA 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4; 3.4; SCD 1.4, 2.4; SCE 1.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4
11.04 Explain proper disposal of animal waste with regards to sanitation, economics, and environmental implications. LAA 1.4, 2.4; LAC 1.4, 2.4; LAC 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCD 1.4; SCE 1.4; SCH 1.4; SCG 2.4; SCH 3.4; SSA 5.4; SSB 1.4, SSB 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

12.0 IDENTIFY PROCEDURES IN ANIMAL PRODUCTION AND REPRODUCTION--The student will be able to:

12.01 Identify livestock and poultry anatomy. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 1.4, 2.4
12.02 Identify commercially important breeds of animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSB 1.4, 2.4; SSD 1.4, 2.4
12.03 Describe desirable characteristics of breeding and market animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD

2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 3.4; MAC 2.4; SCF 1.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSD 1.4, 2.4

12.04 Identify wholesale cuts of beef, pork, lamb, and poultry. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 1.4, 2.4; SSA 5.4

12.05 Compare and select appropriate breeding methods for different agricultural enterprises. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSD 1.4, 2.4

12.06 Explain the reproductive cycles of commercially important animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSD 1.4, 2.4

12.07 Identify signs of animal pregnancy, parturition, and infertility. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4; SSB 1.4, 2.4

12.08 Describe approved care for newborn animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSC 1.4, 2.4; SSD 1.4, 2.4

12.09 Describe methods of animal identification. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSC 1.4, 2.4; SSD 1.4, 2.4

12.10 Describe methods of restraining, loading, handling, and transporting animals safely. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAD 1.4; MAE 2.4; SCC 1.4, 2.4; SCD 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

13.0 USE PROCEDURES FOR EXHIBITING AND MARKETING ANIMALS--The student will be able to:

13.01 Demonstrate the procedures for preparing, maintaining, and exhibiting commercially important animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4, 1.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; SCC 1.4, 2.4; SCD 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

13.04 Determine appropriate evaluation criteria for animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4, 3.4; SCD 2.4; SCF 1.4, 2.4; SCG 2.4; SCH 1.4, 2.4

13.05 Prepare appropriate shipping and health certificates required for exhibiting or marketing animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.0 COMPARE, SELECT, AND USE PLANT PRODUCTION SYSTEMS--The student will be able to:

14.01 Compare different plant production systems. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4, 3.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4; 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.02 Propagate, transplant and grow plants. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAC 1.4, 2.4, 3.4; SCD 1.4,

2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.04 Select and prepare a site and/or a seedbed for planting. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAE 1.4, 2.4, 3.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 2.4

14.05 Identify methods of pruning plants to achieve desired growth and to maintain health. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSB 2.4; SSC 1.4, 2.4

15.0 FERTILIZE PLANTS AND CROPS--The student will be able to:

15.04 Interpret information on a fertilizer label. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

15.05 Compare sources and forms of nutrients. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.3, 3.4, 4.4; SCA 1.4, 2.4; SCB 1.4, 2.4, SCD 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

15.06 Determine methods of applying fertilizer materials. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 2.4; LAD 2.4; SCA 1.4; SCC 1.4, 2.4; SCD 1.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4; SSC 2.4; SSD 1.4, 2.4

18.0 OPERATE, MAINTAIN, AND SERVICE FACILITIES, TOOLS, AND EQUIPMENT--The student will be able to:

18.03 Use and maintain hand tools and power equipment (e.g., power saws, welders). LAA 1.4, 2.2; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; SCB 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

18.04 Maintain and service small gasoline engines. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; SCB 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4

20.0 APPLY PRINCIPLES OF AGRIBUSINESS FINANCE--The student will be able to:

20.04 Maintain and interpret agribusiness financial records including depreciation, inventory, and budgets. MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAE 1.4, 2.4, 3.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

21.0 DEMONSTRATE LEADERSHIP, EMPLOYABILITY, COMMUNICATION, AND HUMAN-RELATIONS SKILLS--The student will be able to:

21.01 Conduct group meetings using parliamentary procedure and public speaking skills. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSC 1.4, 2.4

21.02 Identify appropriate work and personal habits. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Course Number: 8106830
Course Title: Agritechnology 2
Course Credit: 1

COURSE DESCRIPTION:

This course is designed to develop competencies in the areas of job and training requirements; professional organizations; crop identification; planting crops; fertilizer calculations and application; irrigation; pest control; harvesting, packing, and grading crops, safe equipment operation; finance; and employability skills.

10.0 EXPLORE THE SCOPE OF THE AGRISCIENCE INDUSTRY--The student will be able to:

10.03 Identify professional organizations and trade journals in the agriscience industry. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSB 2.4; SSC 1.4

11.0 PROVIDE FOR PROPER ANIMAL HEALTH AND NUTRITION--The student will be able to:

11.01 Recognize and describe prevention and treatment of common animal diseases, disorders, and pests. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 2.4; SCG 1.4; SSA 4.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

11.02 Read, interpret, and follow directions on pesticide, medication, and other additive labels. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4

11.05 Describe nutritional requirements of animals. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCE 1.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4

11.06 Formulate and compute least-cost feed rations. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

11.07 Select growth stimulators and implants. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

11.08 Determine feeding rates and methods of feeding animals. LAA 1.4, 2.4; LAB 1.4; LAB 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCE 1.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

13.0 USE PROCEDURES FOR EXHIBITING AND MARKETING ANIMALS--The student will be able to:

13.02 Collect and interpret market reports and identify market outlets for livestock. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4;

LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4, 3.4

13.03 Compare and select appropriate marketing systems. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, MAB 1.4, 2.4, 3.4, 4.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.0 COMPARE, SELECT, AND USE PLANT PRODUCTION SYSTEMS--The student will be able to:

14.03 Identify varieties of local commercial plants and field crops. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.06 Calculate planting rate and spacing. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAE 1.4, 2.4, 3.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

14.07 Operate and adjust planting equipment. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAE 1.4, 2.4, 3.4; SCC 1.4, 2.4; SCD 2.4; SCF 1.4; SCG 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

15.0 FERTILIZE PLANTS AND CROPS--The student will be able to:

15.01 Develop fertilization schedules and calculate fertilizer rates for plants; solve time, distance, area, and volume problems in agriscience. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAE 1.4, 2.4, 3.4; SCD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4

15.02 Identify common nutrient-deficiency symptoms in plants. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

15.03 Calibrate fertilization equipment and fertilize plants. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4, 3.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCC 1.4, 2.4; SCD 2.4; SCF 1.4, SCG 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

16.0 IRRIGATE PLANTS AND CROPS--The student will be able to:

16.01 Recognize soil and plant conditions indicating irrigation needs and develop an irrigation schedule. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCA 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

16.02 Compare and select irrigation equipment and methods. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4, MAE 1.4, 2.4, 3.4; SCA 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4, SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

16.03 Install, operate, maintain, and repair irrigation equipment. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD

1.4, 2.4; MAE 1.4, 2.4, 3.4; SCA 1.4, 2.4; SCC 1.4, 2.4; SCE 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4, SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

17.0 CONTROL PLANT PESTS--The student will be able to:

17.01 Identify common plant pests and their damages. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCD 2.4; SCE 1.4; SCF 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSD 1.4, 2.4

17.02 Describe life cycles of insects, pests, and diseases. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCD 2.4; SCE 1.4; SCF 2.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4, SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

17.03 Identify the procedures and requirements for obtaining a restricted-use-pesticide operator's license. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCD 2.4; SSA 5.4, SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

17.04 Select, mix, and apply a nonrestricted chemical according to the label and local, state, federal and EPA regulations. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCD 1.4, 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 2.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

18.0 OPERATE, MAINTAIN, AND SERVICE FACILITIES, TOOLS, AND EQUIPMENT--The student will be able to:

18.01 Demonstrate basic facility maintenance, installation, or repair. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4 3.4; SCB 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

18.02 Safely operate, maintain, service, and repair equipment. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4,3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4,4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4; 3.4; SCB 1.4, 2.4; SCC 1.4, 2.4; SCD 1.4, 2.4; SCF 1.4; SCG 1.4, 2.4; SCH 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.0 DESCRIBE PROCEDURES FOR HARVESTING AND MARKETING PLANT MATERIALS--The student will be able to:

19.01 Determine maturity, condition, quality, and volume of crops to be harvested. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCA 1.4; SCC 2.4; SCD 2.4, SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.02 Describe procedures for harvesting crops. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCA 1.4; SCB 1.4, 2.4; SCC 2.4; SCD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.03 Determine kinds and types of storage facilities for crops. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SCA 1.4; SCB 1.4, 2.4; SCC 2.4; SCD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.04 Grade, treat, pack, and/or store harvested crop. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4,

4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.3, 2.4, 3.4; SCA 1.4; SCB 1.4, 2.4; SCC 2.4; SCD 2.4; SCF 1.4, 2.4; SCG 1.4, 2.4; SCH 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.05 Interpret and analyze market information. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4, 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCH 1.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

19.06 Compare, select, and locate marketing channels and develop a marketing program. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SCH 1.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

20.0 APPLY PRINCIPLES OF AGRIBUSINESS FINANCE--The student will be able to:

20.01 Identify major sources of credit for agribusiness. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

20.02 Complete a business loan application. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; SSD 1.4, 2.4

20.03 Explain the purposes and structures of contracts, leases, deeds, and insurance policies. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4; MAA 1.4, 2.4, 3.4, 4.4, 5.4; MAB 1.4, 2.4, 3.4, 4.4; MAC 1.4; 2.4; MAD 1.4, 2.4; MAE 1.4, 2.4, 3.4; SSA 5.4; SSB 1.4, 2.4; SSC 1.4, 2.4; SSD 1.4, 2.4

21.0 DEMONSTRATE LEADERSHIP, EMPLOYABILITY, COMMUNICATIONS, AND HUMAN-RELATIONS SKILLS--The student will be able to:

21.03 Complete a job application. LAA 1.4, 2.4; LAB 1.4, 2.4; LAC 1.4, 2.4, 3.4; LAD 2.4