July 2001

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

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:

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 Technical Student Organization for providing leadership training and for reinforcing specific vocational skills. Career Technical 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, 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.

When a secondary student with a disability is enrolled in a vocational class with modifications to the curriculum framework, the particular outcomes and student performance standards which the student must master to earn credit must be specified on an individual basis. The job or jobs for which the student is being trained should be reflected in the student's desired post school outcome statement on the Transition Individual Educational Plan (Transition IEP).

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 socioeconomic role of the agricultural industry.
02.0 Apply scientific and technological principles to the agricultural industry.
03.0 Practice agricultural safety.
04.0 Demonstrate the use of tools, equipment and instruments in the agricultural industry.
05.0 Describe the principles of integrated pest management (IPM).
06.0 Describe the principles of plant and/or animal growth and reproduction.
07.0 Apply business skills and economic principles to the agricultural industry.

08.0 Explain the basic marketing processes in the agricultural industry.
09.0 Demonstrate human-relations, communications, and leadership 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
Farmworker, OES Code - 74002504

01.0 DESCRIBE THE SOCIOECONOMIC ROLE OF THE AGRICULTURAL INDUSTRY--The student will be able to:

- 01.01 Prepare a report on the history of the agricultural industry.
- 01.02 Discuss the impact of agricultural products and services on the local, state, national, and global economy.
- 01.03 Investigate career opportunities in the agricultural industry and identify educational experiences necessary to prepare for those careers.
- 01.04 Discuss the role of the agricultural industry in the interaction of population, food, energy, and the environment.

02.0 APPLY SCIENTIFIC AND TECHNOLOGICAL PRINCIPLES TO THE AGRICULTURAL INDUSTRY--The student will be able to:

- 02.01 Discuss the importance of scientific classification in agriculture.
- 02.02 Use the scientific method to solve problems in agriculture.
- 02.03 Explain the use of genetics in agriculture, including probability applications.
- 02.04 Analyze the impact of recent technology on the agricultural industry.
- 02.05 Identify and describe the components of an ecosystem both biotic and abiotic.
- 02.06 Construct and analyze a diagram of a biological food web and subsequent food chains.
- 02.07 Describe and diagram the water, carbon, nitrogen, oxygen, sulfur, and phosphorus cycles.
- 02.08 Evaluate soil profiles, land-capability classes, and soil conservation practices.
- 02.09 List the components of Florida's fresh water systems (lakes, ground water, aquifer, sink holes, rivers, and swamps) and explain the importance of managing these resources.
- 02.10 Explain the interaction of one natural resource with another.
- 02.11 Describe the causes and effects of air, water, and land pollution and identify ways to prevent pollution.
- 02.12 Explain the flow of energy from the sun through agricultural systems.
- 02.13 Describe the environmental requirements necessary for a productive natural or man-made aquaculture system.
- 02.14 Apply principles of waste management to environmental problems common to agricultural systems.

02.15 Understand the concept of best management practices (BMP) as applied to agriculture.
02.16 Identify advances in biotechnology impacting agriculture, such as transgenic crops and biological controls.
02.17 Identify computer technology advances such as Geographic Information Systems (GIS) and Global Positioning Systems (GPS).

03.0 PRACTICE AGRICULTURAL SAFETY--The student will be able to:

03.01 List the most common causes of agricultural accidents.
03.02 Discuss the importance of following proper safety precautions in the agricultural industry.
03.03 Demonstrate safety procedures in the classroom, laboratory, and workplace.
03.04 Describe symptoms of pesticide poisoning.
03.05 Extract pertinent information from a pesticide label and Material Safety Data Sheet (MSDS).
03.06 Select, mix, and apply a nonrestricted chemical, according to the label and according to Environmental Protection Agency (EPA), MSDS, and Worker Protection Standard regulations.
03.07 Clean and store pesticide application equipment, safety clothing, and safety equipment.
03.08 Identify the proper disposal of containers and residual pesticides.
03.09 Discuss the proper procedures of basic first aid and cardiopulmonary resuscitation (CPR).

04.0 DEMONSTRATE THE USE OF TOOLS, EQUIPMENT AND INSTRUMENTS IN THE AGRICULTURAL INDUSTRY--The student will be able to:

04.01 Choose the proper tools, equipment, and instruments for a specific job.
04.02 Describe the principles of selected mechanical applications (e.g. levers, pulleys, hydraulics, internal combustion).
04.03 Calibrate spray equipment; solve time, distance, area, volume ratio, proportion, and percentage problems in agriscience.
04.04 Demonstrate the ability to use an equipment manual.
04.05 Demonstrate the use of selected tools, equipment, and instruments.
04.06 Service, maintain, and store tools, equipment, instruments, and supplies.

05.0 DESCRIBE THE PRINCIPLES OF PEST MANAGEMENT --The student will be able to:

05.01 Identify types of pests and beneficials.
05.02 Identify and select an appropriate control for each type of pest and/or weed.
05.03 Describe the principles and benefits of integrated pest management.

06.0 DESCRIBE THE PRINCIPLES OF PLANT AND/OR ANIMAL NUTRIENT GROWTH AND REPRODUCTION--The student will be able to:

For plant:

06.01 Describe the structure functions of plant parts including roots, stems, leaves, and flowers.
06.02 Describe the processes of plant growth including photosynthesis, respiration and nutrient uptake.
06.03 Propagate plants through sexual and asexual means.
06.04 Identify the nutrients required for plant growth and development and the role of each.
06.05 Extract pertinent information from a fertilizer label.

For animal:

06.07 Identify the nutrients required for animal growth and development and the role of each.
06.08 Identify and describe the anatomical systems of animals and the functions of each, including major components.
06.09 Describe the process of animal reproduction.

07.0 APPLY BUSINESS SKILLS AND ECONOMIC PRINCIPLES TO THE AGRICULTURAL INDUSTRY--The student will be able to:

07.01 Explain the basic economic principles in the agricultural industry.
07.02 Explain the importance and impacts of local, state, and federal regulations and required documentation affecting the agricultural industry.
07.03 Describe the types of agribusiness by organizational structure (i.e. sole proprietorship, partnership, corporation, cooperatives).
07.04 Select and use computer applications.
07.05 Analyze and interpret agribusiness data.
07.06 Keep and maintain supervised agricultural experience (SAE) records.
07.07 Interpret legal descriptions of land.

08.0 EXPLAIN THE BASIC MARKETING PROCESSES IN THE AGRICULTURAL INDUSTRY--The student will be able to:

08.01 Describe key factors in marketing agricultural products.
08.02 Select agricultural products according to grades and standards.

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

09.01 Demonstrate acceptable work habits and attitudes.
09.02 Correctly follow oral and written directions and ask questions that clarify directions, as needed.
09.03 Communicate effectively in verbal, written, and nonverbal modes.
09.04 Recognize and demonstrate good listening skills.
09.05 Conduct small informal and formal group meetings.
09.06 Identify the opportunities for leadership development available through an appropriate student and/or professional organization.

09.07 Recognize and demonstrate communications skills in the workplace.
09.08 Demonstrate effective telephone skills.

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.
11.04 Explain proper disposal of animal waste with regards to sanitation, economics, and environmental implications.
11.05 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 (e.g., power saws, welders).
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 (supervised agricultural experience - SAE - records).

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 was developed as a core and is designed to develop competencies in the areas of agricultural history; global importance of agriculture; career opportunities; applied scientific and technological concepts; ecosystems; agricultural safety; principles of integrated pest management; principles of plant and animal growth; economic principles; agricultural marketing; and human relations skills.

01.0 DESCRIBE THE SOCIOECONOMIC ROLE OF THE AGRICULTURAL INDUSTRY--The student will be able to:

- 01.01 Prepare a report on the history of the agricultural industry.
- 01.02 Discuss the impact of agricultural products and services on the local, state, national, and global economy.
- 01.03 Investigate career opportunities in the agricultural industry and identify educational experiences necessary to prepare for those careers.
- 01.04 Discuss the role of the agricultural industry in the interaction of population, food, energy, and the environment.

02.0 APPLY SCIENTIFIC AND TECHNOLOGICAL PRINCIPLES TO THE AGRICULTURAL INDUSTRY--The student will be able to:

- 02.01 Discuss the importance of scientific classification in agriculture.
- 02.02 Use the scientific method to solve problems in agriculture.
- 02.03 Explain the use of genetics in agriculture, including probability applications.
- 02.04 Analyze the impact of recent technology on the agricultural industry.
- 02.05 Identify and describe the components of an ecosystem both biotic and abiotic.
- 02.06 Construct and analyze a diagram of a biological food web and subsequent food chains.
- 02.07 Describe and diagram the water, carbon, nitrogen, oxygen, sulfur, and phosphorus cycles.
- 02.08 Evaluate soil profiles, land-capability classes, and soil conservation practices.
- 02.09 List the components of Florida's fresh water systems (lakes, ground water, aquifer, sink holes, rivers, and swamps) and explain the importance of managing these resources.
- 02.10 Explain the interaction of one natural resource with another.
- 02.11 Describe the causes and effects of air, water, and land pollution and identify ways to prevent pollution.

02.12 Explain the flow of energy from the sun through agricultural systems.
02.13 Describe the environmental requirements necessary for a productive natural or man-made aquaculture system.
02.14 Apply principles of waste management to environmental problems common to agricultural systems.
02.15 Understand the concept of best management practices (BMP) as applied to agriculture.
02.16 Identify advances in biotechnology impacting agriculture, such as transgenic crops and biological controls.
02.17 Identify computer technology advances such as Geographic Information Systems (GIS) and Global Positioning Systems (GPS).

03.0 PRACTICE AGRICULTURAL SAFETY--The student will be able to:

03.01 List the most common causes of agricultural accidents.
03.02 Discuss the importance of following proper safety precautions in the agricultural industry.
03.03 Demonstrate safety procedures in the classroom, laboratory, and workplace.
03.04 Describe symptoms of pesticide poisoning.
03.05 Extract pertinent information from a pesticide label and Material Safety Data Sheet (MSDS).
03.06 Select, mix, and apply a nonrestricted chemical, according to the label and according to Environmental Protection Agency (EPA), MSDS, and Worker Protection Standard regulations.
03.07 Clean and store pesticide application equipment, safety clothing, and safety equipment.
03.08 Identify the proper disposal of containers and residual pesticides.
03.09 Discuss the proper procedures of basic first aid and cardiopulmonary resuscitation (CPR).

04.0 DEMONSTRATE THE USE OF TOOLS, EQUIPMENT AND INSTRUMENTS IN THE AGRICULTURAL INDUSTRY--The student will be able to:

04.01 Choose the proper tools, equipment, and instruments for a specific job.
04.02 Describe the principles of selected mechanical applications (e.g. levers, pulleys, hydraulics, internal combustion).
04.03 Calibrate spray equipment; solve time, distance, area, volume ratio, proportion, and percentage problems in agriscience.
04.04 Demonstrate the ability to use an equipment manual.
04.05 Demonstrate the use of selected tools, equipment, and instruments.
04.06 Service, maintain, and store tools, equipment, instruments, and supplies.

05.0 DESCRIBE THE PRINCIPLES OF PEST MANAGEMENT --The student will be able to:

05.01 Identify types of pests and beneficials.
05.02 Identify and select an appropriate control for each type of pest and/or weed.

05.03 Describe the principles and benefits of integrated pest management.

06.0 DESCRIBE THE PRINCIPLES OF PLANT AND/OR ANIMAL NUTRIENT GROWTH AND REPRODUCTION--The student will be able to:

For plant:

06.01 Describe the structure functions of plant parts including roots, stems, leaves, and flowers.
06.02 Describe the processes of plant growth including photosynthesis, respiration and nutrient uptake.
06.03 Propagate plants through sexual and asexual means.
06.04 Identify the nutrients required for plant growth and development and the role of each.
06.05 Extract pertinent information from a fertilizer label.

For animal:

06.07 Identify the nutrients required for animal growth and development and the role of each.
06.08 Identify and describe the anatomical systems of animals and the functions of each, including major components.
06.09 Describe the process of animal reproduction.

07.0 APPLY BUSINESS SKILLS AND ECONOMIC PRINCIPLES TO THE AGRICULTURAL INDUSTRY--The student will be able to:

07.01 Explain the basic economic principles in the agricultural industry.
07.02 Explain the importance and impacts of local, state, and federal regulations and required documentation affecting the agricultural industry.
07.03 Describe the types of agribusiness by organizational structure (i.e. sole proprietorship, partnership, corporation, cooperatives).
07.04 Select and use computer applications.
07.05 Analyze and interpret agribusiness data.
07.06 Keep and maintain supervised agricultural experience (SAE) records.
07.07 Interpret legal descriptions of land.

08.0 EXPLAIN THE BASIC MARKETING PROCESSES IN THE AGRICULTURAL INDUSTRY--The student will be able to:

08.01 Describe key factors in marketing agricultural products.
08.02 Select agricultural products according to grades and standards.

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

09.01 Demonstrate acceptable work habits and attitudes.
09.02 Correctly follow oral and written directions and ask questions that clarify directions, as needed.

09.03 Communicate effectively in verbal, written, and nonverbal modes.
09.04 Recognize and demonstrate good listening skills.
09.05 Conduct small informal and formal group meetings.
09.06 Identify the opportunities for leadership development available through an appropriate student and/or professional organization.
09.07 Recognize and demonstrate communications skills in the workplace.
09.08 Demonstrate effective telephone skills.

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.
- 10.02 Describe training requirements for entry and advancement in agriscience careers

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.
- 11.03 Clean and disinfect animal equipment and facilities.
- 11.04 Explain proper disposal of animal waste with regard to sanitation, economics, and environmental implications.

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.
13.04 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.
14.04 Select and prepare a site and/or seed bed for planting.
14.05 Identify methods of pruning plants to achieve desired growth and to maintain health.

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

15.04 Interpret information on a fertilizer label.
15.05 Compare sources and forms of nutrients.
15.06 Determine methods of applying fertilizer materials.

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).
18.04 Maintain and service small gasoline engines.

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 (supervised agricultural experience - SAE - records).

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.

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:

- 10.01 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.
- 11.05 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.

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.
- 13.03 Compare and select appropriate marketing systems.

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.
- 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.

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.

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

19.01 Determine maturity, condition, 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.

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

21.03 Complete a job application.