

**Florida Department of Education
CURRICULUM FRAMEWORK**

Program Title: Exploration of Agriscience
Occupational Area: Agriscience and Natural Resources

Secondary

Program Numbers 8100210
CIP Number 0101.9920EX
Grade Level 6-9, 30, 31
Length 0.5 credits
Certification AGRI @4
AGRICULTUR 1 @2
EXP AG @4
VOC AGRI @4

- I. **MAJOR CONCEPTS/CONTENT:** The purpose of this course is to give students an opportunity to apply knowledge and skills associated with a broad range of career opportunities relating to agriscience, natural resources, and environmental sciences.

The content includes, but is not limited to, instruction that explores the tasks, training, education and physical requirements of a broad range of agriscience and natural resources careers. Reinforcement of academic skills occurs through the classroom instruction and applied laboratory procedures.

- II. **LABORATORY ACTIVITIES:** Hands-on laboratory experiences are an integral part of this course, including the safe use of laboratory and hand tools specific to agriscience and natural resources occupations.

- III. **SPECIAL NOTE:** The FFA is the appropriate Career Student Organization for providing leadership training and for reinforcing specific vocational skills. Career Technical 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.

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

- 01.0 Apply knowledge and skills in the area of agricultural research and related professions.
- 02.0 Apply knowledge and skills in biotechnology.
- 03.0 Apply knowledge and skills in plant sciences.
- 04.0 Apply knowledge and skills in animal sciences.
- 05.0 Demonstrate knowledge and skills in food science.
- 06.0 Apply knowledge and skills in processing and marketing.
- 07.0 Apply knowledge and skills in environmental resources.
- 08.0 Demonstrate the value of responsibility, good work habits, and planning for career opportunities in agriculture.
- 09.0 Apply leadership and communication skills.
- 10.0 Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology.

**Florida Department of Education
STUDENT PERFORMANCE STANDARDS**

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01.0 APPLY KNOWLEDGE AND SKILLS IN THE AREA OF AGRICULTURAL RESEARCH AND RELATED PROFESSIONS--The student will be able to:

- 01.01 Identify agricultural research and methods of experimentation. LAA 2.3.5, 3.2.6; LAB 2.3.4
- 01.02 Conduct a scientific experiment to solve an agricultural problem or answer an agricultural question. LAA 2.3; LAB 2.3; MAA 3.3.1, 4.3.1; MAB 1.3, 4.3; MAE 1.3.1, 2.3.1, 2.3.2, 3.3.1; SCH 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7; 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.3.6, 3.3.7; VAA 1.2.1, 1.3.2, 1.3.3

02.0 APPLY KNOWLEDGE AND SKILLS IN BIOTECHNOLOGY

- 02.01 Define biotechnology. SCF 1.3.2, 2.3.2, 2.3.1; SCH 1.3.1
- 02.02 Discuss current and future uses of genetic engineering. SCF 1.3.2, 2.3.2, 2.3.1; SCH 1.3.1, 1.3.6
- 02.03 Identify issues associated with biotechnology. SCF 1.3.2, 2.3.2, 2.3.1; SCH 1.3.1, 3.3.1, 3.3.3

03.0 APPLY KNOWLEDGE AND SKILLS IN PLANT SCIENCES--The student will be able to:

- 03.01 Produce an agricultural crop. SCD 1.3.4; SCF 1.3.1, 1.3.7, 2.3.1, 2.3.2; HEA 1.3.5, 1.3.7; HEB 1.3.1, 1.3.2
- 03.02 Discuss the technology involved in the development of improved crops. LAA 3.2.6; LAB 2.3.4; SCD 1.3.4; SCF 1.3.1, 1.3.7, 2.3.1, 2.3.2
- 03.03 Identify agribusinesses that provide supplies and services to plant science industries in the local area. LAC 3.3.1, 3.3.3; SCH 3.3.4, 3.3.5, 3.3.6, 3.3.7; SSA 2.3.6
- 03.04 Identify the recommended uses and safety precautions from a pesticide label. MAA 3.3.2; MAB 1.3.2; LAA 2.3.1
- 03.05 Complete or construct an agriscience laboratory project that demonstrates use of agricultural knowledge and/or skills. LAC 3.3.3; MAB 1.3.1, 1.3.2, 1.3.3, 1.3.4; VAA 1.3.1, 1.3.3, 1.3.4
- 03.06 Compare landscaping methods. LAA 2.3.8
- 03.07 Develop a landscape design. MAA 3.3.2, 3.3.3; MAB 1.3.1, 1.3.4, 2.3.1, 2.3.2; VAA 1.3.1, 1.3.2: 1.3.3, 1.3.4
- 03.08 Develop a care and maintenance program for horticultural, forestry, and/or agronomic crops. LAB 2.3.1; MAB 1.3.1, 1.3.4; SCG 1.3.2, 1.3.3, 1.3.4, 1.3.5, 2.3.1, 2.3.2, 2.3.3, 2.3.4; SCF 2.3.1, 2.3.2, 2.3.3; SSB.1.3.1
- 03.09 Identify pests, pathogens, parasites, and predators of horticultural, forestry, and/or agronomic crops. SCG 1.3.1., 1.3.2, 1.3.3, 2.3.2
- 03.10 Describe the major components of soil. SCA 1.3.1; SCD 1.3.1, 1.3.2., 1.3.4
- 03.11 Explain methods of soil conservation. LAA 2.3.7, 2.3.8; SCD 1.3.1, 1.3.2., 1.3.4
- 03.12 Identify the major forest regions of the United States and Florida. LAA 2.3.6; SSA.6.3.2; SSB.1.3.1
- 03.13 Describe the importance of forests and forest products. LAA 2.3.6

- 03.14 Describe how trees grow and reproduce. LAA 2.3.6; SCF 2.3.1, 2.3.2, 2.3.3
- 03.15 Use tools and techniques common to the forest industry. MAA 3.3.2, 3.3.3; MAB 1.3.1, 1.3.2, 1.3.3, 2.3.2; HEB 1.3.1, 1.3.2, 1.3.5, 1.3.6
- 04.0 APPLY KNOWLEDGE AND SKILLS IN ANIMAL SCIENCES--The student will be able to:
- 04.01 Describe the differences between animal welfare and animal rights. LAC 1.3.3; LAD 2.3.3; SCH 3.3.2
- 04.02 Raise and care for an agricultural animal. MAB 3.3.1, 4.3.1, 4.3.2; SCD 1.3.4; SCF 1.3.1, 1.3.7, 2.3.1, 2.3.2; HEA 1.3.5, 1.3.7; HEB 1.3.1, 1.3.2
- 04.03 Discuss the technology involved in the development of improved animal products. LAA 3.2.6; LAB 2.3.4; SCD 1.3.4; SCF 1.3.1, 1.3.7, 2.3.1, 2.3.2
- 04.04 Identify agribusinesses that provide supplies and services to animal science industries in the local area. LAC 3.3.1, 3.3.3; SCH 3.3.4, 3.3.5, 3.3.6, 3.3.7; SSA 2.3.6
- 05.0 DEMONSTRATE KNOWLEDGE AND SKILLS IN FOOD SCIENCE--The student will be able to:
- 05.01 Demonstrate the proper handling and storage of food products. LAA 1.3.3; SCA 1.3.1, 2.3.3
- 05.02 Demonstrate at least one method of food preservation. LAA 1.3.3; SCA 1.3.1, 1.3.5, 2.3.3
- 05.03 Conduct a food taste test. HEA 1.3.4; SCA 1.3.1
- 05.04 Produce and market a food product. HEC 2.3.4, 2.3.5; MFA 3.3.1; SSD 2.3.2; VAB 1.3.2, 1.3.3, 1.3.4
- 05.05 Read, interpret, and develop a food label. HEA 2.3.1; LAA 1.3.2, 2.3.4; VAB 1.3.2
- 06.0 APPLY KNOWLEDGE AND SKILLS IN AGRICULTURAL PROCESSING AND MARKETING--The student will be able to:
- 06.01 Identify processing and packaging techniques used in agriculture. LAA 1.3.3; SCA 1.3.1, 1.3.5, 2.3.3; VAB 1.3.2, 1.3.3, 1.3.4
- 06.02 Discuss the difference in marketing strategies between perishable and nonperishable commodities. LAB 2.3.1; SSD 2.3.1
- 06.03 Prepare, process, and develop a merchandising plan for an agricultural product. HEB 1.3.1; LAA 2.3.5, 2.3.8; LAB 1.3.1, 1.3.2, 1.3.3, 2.3.3; MAA 2.3.2, 3.3.1, 3.3.3; MAB 1.3.1, 2.3.1, 3.3.1, 3.3.2; MAE 3.3.1; SSD 1.3.3, 2.3.1; VAA 1.3.1, 1.3.3; VAB 1.3.2, 1.3.3, 1.3.4
- 06.04 Identify and compare USDA standards and grades for agricultural products. LAA 2.3.6
- 06.05 Describe how processing, packaging, and marketing affects the price of an item. HEB 1.3.1; LAA 2.3.5; MAA 2.3.2, 3.3.2; MAB 2.3.1, 3.3.1, 3.3.2; SSD 2.3.2; VAA 1.3.3; VAB 1.3.2
- 06.06 Recognize misleading advertising. LAA 2.3.8; LAC 2.3.1; LAD 2.3.3, 2.3.4; VAA 1.3.3; VAB 1.3.1, 1.3.2
- 06.07 Describe how competition benefits the consumer. SSD 1.3.1, 1.3.2, 1.3.3, 2.3.1, 2.3.2, 2.3.3
- 06.08 Record the market price of an agricultural commodity over a period of time. LAA 2.3.5, 2.3.6, 2.3.8; MAA 1.3.3, 1.4.3; MAB 3.3.1; SCH 3.3.7

- 07.0 APPLY KNOWLEDGE AND SKILLS IN ENVIRONMENTAL RESOURCES--The student will be able to:
- 07.01 Identify methods or practices of conserving natural resources. LAA 1.3.3; LAB 2.3.1; SCD 1.3.1, 1.3.2; SCG 1.3.2, 1.3.3, 2.3.1, 2.3.2, 2.3.3, 2.3.4
 - 07.02 Demonstrate a method or practice of conservation. LAC 3.3.2, 3.3.3; SCD 2.3.2; SCG 2.3.1, 2.3.2, 2.3.3, 2.3.4
 - 07.03 Identify major ecosystems in Florida. SCG 2.3.2, 2.3.3, 2.3.4; SSB 1.3.1
 - 07.04 Discuss the importance of the ecosystems to agriculture, society and each other. LAC 3.3.2; SCG 2.3.1, 2.3.2, 2.3.4; SCH 2.3.2; SSB 2.3.9
- 08.0 DEMONSTRATE THE VALUE OF RESPONSIBILITY, GOOD WORK HABITS, AND PLANNING FOR CAREER OPPORTUNITIES IN AGRICULTURE--The student will be able to:
- 08.01 Identify attitudes and habits necessary to achieve career success. LAD 1.3.3
 - 08.02 Describe personality aspects to consider when choosing a career. HEC 1.3.7
 - 08.03 Identify the basic steps in career planning. LAA 2.3.6
 - 08.04 Develop basic career plan. LAA 2.3.7
 - 08.05 Identify and research careers within a specific area of agriscience. LAA 2.3.5, 2.3.6, 2.3.7; LAB 1.3.3, 2.3.1, 2.3.3, 2.3.4
- 09.0 APPLY LEADERSHIP AND COMMUNICATION SKILLS--The student will be able to:
- 09.01 Discuss the establishment and history of the FFA organization. LAC 3.3.3; SSA 1.3.1
 - 09.02 Identify the characteristics and responsibilities of organizational leaders. LAA 1.3.4
 - 09.03 Demonstrate parliamentary procedure skills during a meeting. LAC 3.3.2, 3.3.3; LAD 1.3.3; SSC 1.3.6
 - 09.04 Participate on a committee which has an assigned task and report to the class. LAC 3.3.3; LAD 1.3.3
 - 09.05 Demonstrate effective communication skills through delivery of a speech or conducting a demonstration. LAB 2.3.1, 2.3.2, 2.3.3, 2.3.4; LAC 1.3.1, 1.3.2, 1.3.3, 1.3.4, 2.3.1, 2.3.2, 3.3.1, 3.3.2, 3.3.3; VAA 1.3.1, 1.3.2, 1.3.3, 1.3.4; VAB 1.3.2, 1.3.4
 - 09.06 Use a computer to assist in the completion of an agricultural project. LAA 2.3.6; LAB 2.3.4; SCH 3.3.7
- 10.0 INTEGRATE THE USE OF SCIENCE, MATHEMATICS, READING, GEOGRAPHY, HISTORY, WRITING, AND COMMUNICATION IN AGRISCIENCE AND TECHNOLOGY--The student will be able to:
- 10.01 Apply basic mathematics operations to solve agricultural problems. MAA 1.3.4, 3.3.2, 3.3.3; MAB 3.3.1
 - 10.02 Correctly use measuring devices and utilize measurements to solve agricultural problems. MAB 1.3.1, 1.3.3, 1.3.4, 4.3.1, 4.3.2; SCA 1.3.1, 1.3.2
 - 10.03 Apply the scientific method to solve an agricultural problem. MAE 2.3.1, 3.3.1; SCH 1.3.4, 1.3.5, 1.3.6, 1.3.7
 - 10.04 Prepare written and/or oral materials using correct English grammar. LAB 1.3.1, 1.3.2, 1.3.3; LAC 3.3.1, 3.3.2, 3.3.3
 - 10.05 Identify the main idea in oral presentations and/or written materials. LAA 2.3.1; LAB 1.3.1, 1.3.2; LAC 1.3.1, 1.3.4; LAC 3.3.1, 3.3.2, 3.3.3

- 10.06 Locates, organizes, and interprets information from a variety of agricultural sources. LAA 1.3.4, 2.3.5, 2.3.6, 2.3.7
- 10.07 Describe the historical evolution of agriculture. MAE 1.3.1; SSA 1.3.1, 2.3.3, 2.3.6, 3.3.2, 3.3.3, 3.3.4, 4.3.1, 4.3.2, 4.3.3, 5.3.1, 5.3.2, 5.3.3, 6.3.1, 6.3.2, 6.3.3, 6.3.5