

**Florida Department of Education
CURRICULUM FRAMEWORK**

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

Secondary

Program Numbers 8100320
CIP Number 0101.9931PA
Grade Level 9-12, 30, 31
Length 1 credit
Certification VOC AGRI @4
AGRI @4
AGRICULTUR 1 @2

- I. **MAJOR CONCEPTS/CONTENT:** The purpose of this course is to provide students with skills and competencies basic to the science of agriculture.

The content includes, but is not limited to, instruction in plant science, animal science, soil science, agricultural mechanics, natural resources and conservation, communication and employability skills.

- II. **LABORATORY ACTIVITIES:** Agricultural shop and land laboratory activities are an integral part of this course including the safe use of mechanics' hand tools, field hand tools, oxy-acetylene torches, arc welders, small gasoline engines and tractors.

- 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.

Practical individualized experiences are recommended for each student enrolled in this course. These planned and supervised activities may be provided through directed laboratory experiences, student projects or placement for experience.

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

- 01.0 Describe the unique relationship between Agriscience and the environment.
- 02.0 Initiate a supervised agricultural experience (SAE) program based on identified career opportunities.
- 03.0 Demonstrate basic leadership skills in parliamentary procedure, public speaking, and group dynamics.
- 04.0 Demonstrate basic skills in natural resources.
- 05.0 Demonstrate basic skills in pest management.
- 06.0 Demonstrate the fundamental skills in plant science.
- 07.0 Demonstrate the aesthetic and environmental use of plants.
- 08.0 Demonstrate the basic skills in animal science.
- 09.0 Demonstrate the fundamental skills in food science and technology.
- 10.0 Demonstrate the basic skills in agricultural business management.
- 11.0 Demonstrate the basic mechanical skills.

**Florida Department of Education
STUDENT PERFORMANCE STANDARDS**

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- 01.0 DESCRIBE THE UNIQUE RELATIONSHIP BETWEEN AGRISCIENCE AND THE ENVIRONMENT--
-The student will be able to:
- 01.01 Identify the major sciences that explain the development, existence, and improvement of living things.
 - 01.02 Describe the elements of a healthful environment.
 - 01.03 Describe the efforts made to improve the environment.
- 02.0 INITIATE A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) PROGRAM BASED ON IDENTIFIED CAREER OPPORTUNITIES--The student will be able to:
- 02.01 Identify career opportunities in agriscience.
 - 02.02 Identify how careers are classified and determine preparation requirements.
 - 02.03 Plan a supervised agricultural experience program.
 - 02.04 Demonstrate employability skills.
- 03.0 DEMONSTRATE BASIC LEADERSHIP SKILLS IN PARLIAMENTARY PROCEDURE, PUBLIC SPEAKING, AND GROUP DYNAMICS--The student will be able to:
- 03.01 Explain the importance of effective leadership in agriscience.
 - 03.02 Prepare and present an oral report.
 - 03.03 Prepare and submit a written report on an agriscience topic.
 - 03.04 Describe the opportunities available through the FFA organization.
- 04.0 DEMONSTRATE BASIC SKILLS IN NATURAL RESOURCES--The student will be able to:
- 04.01 Determine the major sources of air pollution and identify procedures for maintaining and improving air quality.
 - 04.02 Determine the relationships between water and soil in our environment and determine practices for conserving these resources.
 - 04.03 Determine the origin and classification of soils, and identify effective procedures for soils and hydroponics management.
 - 04.04 Compare the relationship of forests to our environment and select practices for utilizing forest resources.
 - 04.05 Describe the relationship between wildlife and the environment and identify approved practices in managing wildlife enterprises.
 - 04.06 Identify the biological requirements necessary for the production of aquatic plants and animals.
- 05.0 DEMONSTRATE BASIC SKILLS IN PEST MANAGEMENT--The student will be able to:
- 05.01 Identify the major pest groups and the importance of effective pest management programs.
 - 05.02 Classify the nature of chemicals used to control pests.
 - 05.03 Define terms regarding chemical safety.
 - 05.04 Demonstrate safety in the use of chemicals.

- 06.0 DEMONSTRATE THE FUNDAMENTAL SKILLS IN PLANT SCIENCE--The student will be able to:
- 06.01 Identify the major parts of plants and state the important functions of each.
 - 06.02 State how plants make food.
 - 06.03 Describe the relationships among air, soil, water, and essential plant nutrients.
 - 06.04 Identify the methods used by plants to reproduce themselves and demonstrate propagation technology.
 - 06.05 Plan, plant and manage a garden.
 - 06.06 Identify the basic principles of fruit and nut production.
 - 06.07 Identify the basic principles of vegetable production.
 - 06.08 Identify the major crops grown for grain, oil, and special purposes.
 - 06.09 Identify the major crops grown for forage and pasture.
- 07.0 DEMONSTRATE THE AESTHETIC AND ENVIRONMENTAL USES OF PLANTS--The student will be able to:
- 07.01 Identify and maintain indoor plants.
 - 07.02 State the basic cultural practices for turfgrass production and maintenance.
 - 07.03 Identify and maintain trees and shrubs.
- 08.0 DEMONSTRATE THE BASIC SKILLS IN ANIMAL SCIENCE--The student will be able to:
- 08.01 Determine the basic nutritional requirements of animals.
 - 08.02 Identify the factors promoting and maintaining animal health.
 - 08.03 Define terms associated with animal genetics and reproduction, and describe the principles of genetics.
 - 08.04 Identify the types, uses, care, and management of small animals.
 - 08.05 Identify major types and classes of livestock and horses.
- 09.0 DEMONSTRATE THE FUNDAMENTAL SKILLS IN FOOD SCIENCE AND TECHNOLOGY--The student will be able to:
- 09.01 Compare procedures for marketing plants and animal products.
 - 09.02 Describe the elements, trends, and career opportunities in the food industry.
 - 09.03 Describe the nutrient requirements for human health.
 - 09.04 Identify the processes used in food science.
- 10.0 DEMONSTRATE THE BASIC SKILLS IN AGRICULTURAL BUSINESS MANAGEMENT--The student will be able to:
- 10.01 Define management terms and determine how decisions are made.
 - 10.02 Define and describe entrepreneurship.
 - 10.03 Solve basic arithmetic problems associated with agribusiness management.
- 11.0 DEMONSTRATE THE BASIC MECHANICAL SKILLS--The student will be able to:
- 11.01 Identify basic hardware and fasteners.
 - 11.02 State the safety precautions and demonstrate appropriate behavior while working in the shop area.
 - 11.03 Identify the basic principles and use of electricity.
 - 11.04 Identify and correctly use hand and power tools common to the agricultural shop.

- 11.05 Identify the controls and safely operate a farm tractor.
- 11.06 Describe the basic operation of internal combustion engines.
- 11.07 Service and operate small gasoline engines.
- 11.08 Plan and construct a small woodworking project.
- 11.09 Solve basic arithmetic problems associated with agriculture mechanics.