

Natural Resource Science I – Semester

Levels: Grades 9–12
Units of Credit: 0.50
CIP Code: 03.0113
Core Code: 30-03-0000-003
Prerequisite: None
Skill Test: 175

COURSE DESCRIPTION

Students will develop knowledge and skills related to production management and conservation of natural resources. Major units will include ecology, range resources, waste management, and land use. Field and laboratory experiences will be emphasized.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD 1

Students will explain the role of FFA in agricultural education.

Objective 1: Discuss the history and organization of FFA as it relates to the complete program of agricultural education.

- a. Explain the interrelationship of classroom and laboratory instruction, supervised agricultural experience, and FFA.
- b. Describe how, when, and why FFA was organized.
- c. Identify key FFA historical events.
- d. Identify the mission and strategies, colors, motto, emblem and parts of the emblem, and organizational structure of FFA.
- e. Recite and explain the meaning of the FFA Creed.
- f. Discuss the meaning and purpose of a program of activities and its committee structure.
- g. List FFA chapter officers, and discuss the role of each.

Objective 2: Identify opportunities in FFA.

- a. Describe FFA opportunities that develop leadership skills, personal growth, and career success.
- b. Summarize major state and national activities available to FFA members.

Objective 3: Describe FFA degrees, awards, and career development events (CDEs).

- a. List and explain the FFA degree areas.
- b. Identify FFA proficiency awards.
- c. List and discuss various team and individual CDEs.

STANDARD 2

Students will explain the role of supervised agricultural experience (SAE) programs in agricultural education.

Objective 1: Examine the responsibilities and benefits associated with an SAE.

- a. Explain the meaning and benefits of supervised agricultural experience.
- b. Explain the characteristics of an effective SAE program and the responsibilities of those involved.

Objective 2: Determine the types of SAE programs.

- a. Compare entrepreneurship SAEs and placement SAEs.
- b. Describe research/experimentation SAEs.

- c. Describe exploratory SAEs.

Objective 3: Plan an SAE program.

- a. Identify the steps in planning an SAE program.
- b. Describe the function of a business/training plan and/or agreement in an SAE program.
- c. Develop a short-range plan and a long-range plan for an SAE program.
- d. Relate classroom and laboratory instruction to an SAE program.

Objective 4: Maintain and use SAE records.

- a. Explain the importance of keeping records on an SAE program.
- b. Explain how SAE records are organized.
- c. Follow approved procedures to make entries in SAE records.

STANDARD 3

Students will examine natural resource science and management.

Objective 1: Discuss the basics of natural resource science and management.

- a. Identify types of natural resources.
- b. Distinguish between renewable and nonrenewable resources.
- c. Explain the difference between inexhaustible and exhaustible resources.
- d. Explain the concept of interdependent relationships.

Objective 2: Examine the relationship between natural resources and society, including conflict management.

- a. Define natural resource management.
- b. Identify and compare major natural resource management agencies and companies.
- c. Describe human demands on natural resources.
- d. Explain natural resource conservation.
- e. Provide examples of multiple uses of natural resources (e.g., recreation, mining, agriculture, forestry, etc.).
- f. Explore and describe societal issues related to natural resource management.

Objective 3: Identify career opportunities in natural resource science.

- a. Identify and describe the major areas of natural resource science.
- b. Identify career opportunities in natural resource science, and determine the education and training they entail.

STANDARD 4

Students will examine waste management.

Objective 1: Investigate waste generation, waste reduction, and disposal.

- a. Describe different types of solid waste.
- b. Evaluate environmental hazards created by different types of solid waste, solid waste accumulation, and solid waste disposal.
- c. Explain practical management options for treating solid waste.
- d. Explain the importance of reducing, reusing, and recycling.
- e. Describe recycling methods, and identify materials that can be recycled.
- f. Define wastewater.
- g. Diagram the steps in wastewater treatment.
- h. Assess agriculture's impact on the environment through waste generation (e.g., animal waste, pesticide residue, fertilizer runoff, sedimentation/erosion, and odors/dust).
- i. Discuss the meaning and use of nutrient management plans.