Georgia CTAE

General Horticulture and Plant Science (11.42000) (2013)

Demonstrate employability skills required by business and industry. AFNR-GHPS-1

- **1.2** Demonstrate creativity by asking challenging questions and applying innovative procedures and methods. AFNR-GHPS-1.2
- **1.1** Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities. AFNR-GHPS-1.1
- **1.3** Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations AFNR-GHPS-1.3
- **1.4** Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity. AFNR-GHPS-1.4
- **1.5** Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply teamwork skills. AFNR-GHPS-1.5
- **1.6** Present a professional image through appearance, behavior and language. AFNR-GHPS-1.6

Learns to work safely in the agriculture lab and work sites, demonstrates selected competencies in leadership through the FFA and agricultural industry organizations, and develops plans for a Supervised Agricultural Experience Program (SAEP). AFNR-GHPS-2

- **2.1** Explain the role of the Agricultural Education program and the FFA in personal development. AFNR-GHPS-2.1
- **2.2** Demonstrate knowledge learned through a SAEP. AFNR-GHPS-2.2
- **2.3** Develop leadership and personal development skills through participation in the FFA AFNR-GHPS-2.3
- **2.4** Explore career opportunities in horticulture-plant science through the FFA and Agricultural Education Program. AFNR-GHPS-2.4
- **2.5** Explore the professional agricultural organizations associated with the course content. AFNR-GHPS-2.5

Identify plant parts, growth, and reproduction processes. AFNR-GHPS-3	**3.1** Compare and contrast the three phases of plant life (dormancy, vegetative, reproductive) AFNR-GHPS-3.1
	3.2 Describe the difference between annuals, biennials, and perennials. AFNR-GHPS-3.2
	3.3 Categorize vegetative structures and functions of plant parts (i.e....leaves, stems, roots). AFNR-GHPS-3.3
	3.4 Sketch the sexual reproductive structures of plants and summarize their functions. (e.g., flower, fruit, seeds). AFNR-GHPS-3.4
	3.5 Sketch the sexual reproductive structures of plants and summarize their functions. (e.g., stems, roots). AFNR-GHPS-3.5
Determine factors that affect plant development and growth. AFNR-GHPS-4	**4.1** Describe the process of photosynthesis and investigate factors affecting photosynthesis in plants. AFNR-GHPS-4.1
	4.2 Describe the process of respiration and investigate factors affecting respiration in plants AFNR-GHPS-4.2
	4.3 Differentiate between the growth processes of plants (e.g., germination, photosynthesis, transpiration, respiration, osmosis). AFNR-GHPS-4.3
Discuss the importance of sexual reproduction in plants. AFNR-GHPS-5	**5.1** Examine the importance of plant propagation AFNR-GHPS-5.1
	5.2 Compare and contrast sexual and asexual propagation. AFNR-GHPS-5.2
	5.3 Describe the factors involved in planting seeds and demonstrate proper planting methods. AFNR-GHPS-5.3
AFNR-GHPS-6 Discuss the importance of asexual reproduction in plants. AFNR-GHPS-6	**6.1** Describe the various methods of vegetative propagation. AFNR-GHPS-6.1
	6.2 Apply information learned to correctly demonstrate each method of vegetative propagation. AFNR-GHPS-6.2
Determine the basic principles and uses of soil and plant growth media AFNR-GHPS-7	**7.1** Identify and sketch soil materials and structure. AFNR-GHPS-7.1
	7.2 Evaluate the components and functions of a good growing media AFNR-GHPS-7.2
Identify macro, secondary and micro plant nutrients. AFNR-GHPS-8	**8.1** List and discuss the nutrients needed for plant growth. AFNR-GHPS-8.1
	8.2 Categorize common nutrient deficiency symptoms. AFNR-GHPS-8.2
	8.3 Assess soil pH, analyze plant nutrient availability and discuss methods of pH modification AFNR-GHPS-8.3

Explore the use of plant fertilizers and proper fertilizing methods AFNR-GHPS-9	**9.1** Identify the components of a complete plant fertilizer. AFNR-GHPS-9.1
	9.2 Analyze the difference between organic and inorganic fertilizers. AFNR-GHPS-9.2
	9.3 Demonstrate proper technique for applying water soluble and granular fertilizers. AFNR-GHPS-9.3
	9.4 Calculate accurate fertilizer ratios. AFNR-GHPS-9.4
Evaluate the damage caused to plants by insects, weeds, diseases, and physiological disorders. AFNR-GHPS-10	**10.1** Identify common insects, weeds, diseases and physiological disorders. AFNR-GHPS-10.1
	10.2 Diagram the external structure of an insect AFNR-GHPS-10.2
	10.3 Illustrate the complete and incomplete life cycles of insects. AFNR-GHPS-10.3
	10.4 Describe the damage inflicted by insects and weeds. AFNR-GHPS-10.4
	10.5 Describe common plant diseases and compare and contrast solution methods AFNR-GHPS-10.5
	10.6 Identify the proper methods of controlling pests. AFNR-GHPS-10.6
Compare and contrast the use of various plant growing containers. AFNR-GHPS-11	**11.1** Describe the containers used in plant production. AFNR-GHPS-11.1
	11.2 Analyze the advantages and disadvantages of each type of plant growing container. AFNR-GHPS-11.2
Describe various plant irrigation methods. AFNR-GHPS-12	**12.1** Explain the different types of watering methods for plants. AFNR-GHPS-12.1
	12.2 Compare and contrast the advantages and disadvantages of each type of watering system. AFNR-GHPS-12.2
Explore plant science and horticulture careers and opportunities. AFNR-GHPS-13	**13.1** Exhibit critical thinking and problem solving skills in career planning in various plant science careers. AFNR-GHPS-13.1
	13.2 Analyze skills, education requirements, income, and advantages and disadvantages of careers in the plant science industry. AFNR-GHPS-13.2