

# Agriculture, Food, and Natural Resources: Horticulture Science 3 (2015-2016)

Apply safety procedures in the workplace – the student will be able to: 12.0

- 1 Describe emergency procedures in the horticulture workplace. 12.1
- 2 Create preventive measures to avoid hazardous situations. 12.2
- 3 Identify appropriate PPE (Personal Protective Equipment) for all activities. 12.3
- 4 Use MSDS for all materials used. 12.4
- 5 Identify specific hazards with industry specific equipment, and conduct equipment care and maintenance. 12.5
- 6 Apply problem solving skills to correct a hazardous situation. 12.6

Classify plants based on scientific principles – the student will be able to: 13.0

- 1 Describe principles of plant biology and growth. 13.1
- 2 Explain the role of plants in the ecosystem. 13.2
- 3 Describe the major classifications of plants based on life cycle. 13.3
- 4 Demonstrate the use of botanical and common names of plants including genus and specific epithet and cultivar. 13.4
- 5 Demonstrate proper use of botanical names. 13.5

Demonstrate proper use of growing media and fertilizers – the student will be able to: 14.0

- 1 Apply information on a label of fertilizer, including updated BMP rules, used in Florida. 14.1
- 2 Apply fertilizer and soil amendments. 14.2
- 3 Identify materials that are needed to alter pH and calculate the amount to apply to change the pH. 14.3
- 4 Demonstrate the procedure for calibrating a fertilizer spreader or injector using appropriate mathematical concepts. 14.4

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**5 Identify essential elements and nutrients in plant growth including macronutrients and micronutrients. 14.5**

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**6 Using references make fertilizer recommendations for ornamental plants, turf grass, and palms. 14.6**

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**Demonstrate Integrated Pest Management approaches – the student will be able to: 15.0**

**1 Classify insects according to feeding habits. 15.1**

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**2 Describe IMP (Integrated Pest Management) methods of controlling plant pests. 15.2**

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**3 Diagnose and outline a plan for controlling pests on a horticultural crop. 15.3**

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**4 Describe methods of controlling nematode pests on ornamental plants, and use BMPs to prevent infestation.. 15.4**

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**5 Develop a pest control program for a horticultural crop using Integrated Pest Management. 15.5**

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**6 Identify specific cultural, mechanical, chemical, and biological methods of weed management. 15.6**

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**7 Identify evasive and poisonous plants in Florida. 15.7**

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**8 Identify types of weeds common to Florida. 15.8**

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**Identify the principles and requirements of plant growth – the student will be able to: 16.0**

**1 Demonstrate methods of pruning plants. 16.1**

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**2 Identify appropriate time to prune plants. 16.2**

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**3 Identify and select pruning tools. 16.3**

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**4 Demonstrate proper use of pruning tools and care. 16.4**

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**5 Demonstrate sanitation of tools to prevent the spread of disease. 16.5**

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**6 Identify Plant Growth Regulators and their use on horticulture and landscape plants. 16.6**

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**7 Outline and use a record book for the use of a plant growth regulator on a horticultural or nursery crop. 16.7**

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**8 Identify appropriate pruning techniques to achieve plant size, form, and shape. 16.8**

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**Apply best management practices in landscape design – the student will be able to: 17.0**

**1 Identify and apply Best Management Practices for the design and installation of landscapes. 17.1**

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**2 Identify and apply Best Management Practices on the management and handling of pesticides.** 17.2

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**Demonstrate customer service skills that are essential in dealing with clients.- the student will be able to:** 18.0

**1 Demonstrate ability to communicate clearly with the client.** 18.1

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**2 Conduct a walk through and interview with client to assure clear vision.** 18.2

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**3 Identify future expectations of the client relationship.** 18.3

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**Apply principles of landscape design and maintenance – the student will be able to:** 19.0

**1 Demonstrate the use of line, form, texture and color in designing landscapes.** 19.1

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**2 Demonstrate the principles of design (unity, repetition, balance, emphasis and scale) as they apply to landscapes.** 19.2

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**3 Apply points of emphasis and major design areas in the commercial landscape.** 19.3

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**4 Identify plant selection for a commercial and residential landscape using Florida Friendly Landscape Principles.** 19.4

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**5 Create a landscape plan for a residential or commercial property.** 19.5

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**6 Calculate materials needed according to the identified landscape plan.** 19.6

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**7 Identify factors in selecting turf for landscape installation.** 19.7

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**Harvest, transport, and install plant materials – the student will be able to:** 20.0

**1 Determine requirements for preserving plant viability.** 20.1

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**2 Demonstrate proper landscape plant establishment techniques.** 20.2

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**3 Select and prepare plants for transporting and transplanting.** 20.3

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**4 Select horticultural products according to Florida grades and standards.** 20.4

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**Identify procedures to operate, repair, and maintain tools and equipment – the student will be able to:** 21.0

**1 Perform equipment pre-operational check.** 21.1

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**2 Identify, maintain, and operate hand tools and power tools.** 21.2

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**Identify emerging technologies in the horticulture industry – the student will be able to:** 22.0

**1 Investigate DNA and genetic applications in horticulture including the theory of probability.** 22.1

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**2 Evaluate advances in biotechnology that impact horticulture. (e.g. transgenic crops, biological controls, micro propagation etc.).** 22.2

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**3 Investigate ways that GIS, Remote sensing, and precision agriculture, and UAV (Unmanned Aerial Vehicles) are used in the Horticulture industry.** 22.3

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**Demonstrate leadership, employability, communications and human relations skills – the student will be able to:** 23.0

- 1 Identify appropriate work habits and personal characteristics.** 23.1

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- 2 Identify proper employee hygiene habits.** 23.2

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- 3 Identify or demonstrate appropriate responses to criticism from employer,** 23.3

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- 4 Describe the importance of employee industry certifications.** 23.4

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- 5 Discuss education opportunities available in the area of Horticulture.** 23.5

**Describe personal traits, attitudes, customer approaches, and activities that help successful selling. – the student will be able to:** 24.0

- 1 Demonstrate proper customer communication techniques.** 24.1

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- 2 Determine your products pricing structure.** 24.2

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- 3 Discuss components of customer satisfaction.** 24.3