HRT 110 Introduction to Horticulture

General Information

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Department
Environmental Conservation and Horticulture

Course Prefix
HRT

Course Number
110

Course Title
Introduction to Horticulture

Course Information

Credit Hours
3

Lecture Contact Hours
3

Lab Contact Hours
0

Other Contact Hours
0

Catalog Description
This is a hands-on course that emphasizes the numerous specialties in the horticulture field. It includes a study of plants as living organisms, the fundamentals of integrated pest management and plant growth requirements. An introduction to a variety of plant care techniques is included. This is a required beginning course in both Horticulture and Viticulture and Wine Technology degree programs.

Key Assessment
This course does not contain a Key Assessment for any programs
Prerequisites
None

Co-requisites
None

Grading Scheme
Letter

First Year Experience/Capstone Designation

This course is designated as satisfying the outcomes applicable for status as a First Year Experience

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category
None

FLCC Values

Institutional Learning Outcomes Addressed by the Course

Vitality
Inquiry
Perseverance
Interconnectedness

Course Learning Outcomes

Course Learning Outcomes

1. Identify professional career opportunities incorporating the basics of resume creation and recognize the characteristics of a strong work ethic.

2. Demonstrate practical resource exploration gleaning information from proper sources (i.e. research universities and professional organizations), apply scientific citation format, and exercise use of college support resources for written assignments.

3. Identify the fundamentals of integrated pest management.

4. Describe proper maintenance, propagation, and installation practices for a variety of plant materials.

5. Describe the fundamentals of plant growth requirements and subsequent contributing factors.
Outline of Topics Covered

1. Library tour – resource familiarization
   a. Periodicals
   b. On-line Access
   c. CSE – proper citing in scientific format

2. Introduction to the history of horticulture
   a. Brief review of historical transitions relative to horticulture
   b. Contributions made by Rochester, NY area business to the industry
   c. Brief review of major landscape designers and landscape architects

3. Introduction to internal combustion engines & components
   a. General overview of small gasoline engines
   b. Limitations of utility vehicles commonly used in horticulture

4. Introduction to plant parts and processes
   a. Internal vascular system
   b. Roots
      i. Identification of parts
      ii. Monocot vs Dicot root systems
      iii. Location of feeder roots
   c. Stems
      i. Woody components
      ii. Herbaceous components
      iii. Monocot vs Dicot stem systems
   d. Leaves
      i. Discussion of function
      ii. Identification of features
      iii. Monocot vs Dicot leaf attributes
   e. Flowers
      i. Discussion of functions
      ii. Identification of features
      iii. Introduction to various flower shapes with terms
      iv. Monocot vs Dicot flower features
f. Plant Processes
   i. Transpiration
   ii. Respiration
   iii. Photosynthesis

5. Plant taxonomy
   a. Botanical nomenclature
   b. Terms used in plant identification
   c. Introduction to dichotomous keys
   d. Introduction to USDA hardiness zone maps

6. Introduction to soils
   a. Components
   b. Soil separates
   c. Texture classes and standard texture triangle
   d. Horizons and Profile
   e. Structure and Aggregate types

7. Introduction to plant nutrients
   a. Introduction to Primary and Secondary Macronutrients
   b. Introduction to Micronutrients
   c. Introduction to signs of deficiencies of macro- and micronutrients
   d. pH and adjusting compounds
   e. Introduction to fertilizer math

8. Introduction to plant growth regulators
   a. Introduction of five (5) key regulators
   b. Introduction to the effects of the five key regulators on plant growth
   c. Introduction to commercial, scientific growth regulators
9. Introduction to plant reproduction and propagation
   a. Propagation tools
   b. Introduction to sexual reproduction
      i. Introduction to seed propagation and usage
   c. Introduction to asexual reproduction
      i. Introduction to various asexual propagation techniques

10. Introduction to plant pests
    a. Introduction to insects
    b. Introduction to pathogens
    c. Introduction to weeds
       i. Definition of weeds
       ii. Introduction to identification of several common weeds
    d. Control methods and formulations
    e. Resistance
    f. Introduction of Integrated Pest Management
       i. Basic premise
       ii. When and how to apply the premise

11. Introduction to plant installation
    a. Installation tools
    b. Herbaceous
       i. Installation of seedlings & larger potted plants
       ii. Installation of divisions
    c. Woody
       i. Techniques in woody installation
    d. Care of new installations
       i. Water requirements
       ii. Staking – if an when necessary

12. Introduction to pruning and maintenance
    a. Pruning tools
    b. Introduction to tree pruning
       i. Correct limb pruning techniques when keeping the tree
       ii. Introduction to pruning safety
c. Introduction to shrub pruning
   i. Round over pros and cons
   ii. Selective branch pruning of shrubs
   iii. Hedge pruning

d. Introduction to pruning vines

e. Tree and Shrub Maintenance
   i. Correct watering
   ii. Correct fertilizing techniques and timing
   iii. Correct mulching

13. Introduction to horticultural career opportunities
   a. Myers Briggs testing and analysis
   b. Work ethic discussions
   c. Introduction to a variety of career opportunities afforded through horticulture