Course Syllabus

Department: Conservation / Horticulture

Date: February 11, 2013

I. Course Prefix and Number: HRT 204

   Course Name: Plant Propagation and Nursery Management
   Credit and contact hours: 3 credit hours and 3 contact hours

Catalog Description including pre- and co-requisites:
This course will familiarize the student with methods of increasing plant numbers and producing a saleable product. Topics include: growth structures, media, plant culture, sexual and asexual reproduction, grafting, and nursery management. Practical greenhouse and field experience included. Pre-requisite: none.

Relationship to Academic programs and curriculum:
This course is an elective for both the Horticulture AAS degree and the Certificate. This course may also be taken as an elective for students outside of the horticulture program.

II. Course Student Learning Outcomes:
Upon the completion of this one semester course students will be able to:
   A. Analyze and identify the requirements from propagation of any specific plant.
   B. Describe propagation using the terminology and techniques required.
   C. Demonstrate plant propagation skills for a variety of assigned plants.
   D. Name specific plants for propagation using Latin binomial naming.
   E. Discuss basic botany concepts relative to plant propagation.

College Learning Outcomes Addressed by the Course:
   □ writing            □ computer literacy
   ✗ oral communications □ ethics/values
   □ reading            □ citizenship
   □ mathematics        □ global concerns
   □ critical thinking  □ information resources

III. Assessment Measures (Summarize how the college and student learning outcomes will be assessed):

<table>
<thead>
<tr>
<th>List identified College Learning Outcomes(s)</th>
<th>Specific assessment measure(s)</th>
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<tr>
<td>Oral Communications</td>
<td>Students will present their research findings to the class in two (2) of four (4) possible research projects.</td>
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<td>Critical Thinking</td>
<td>Students will develop a plan of action for propagation of an assigned series of plants in the format of true commercial production.</td>
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Students will apply professional ethics and values to the propagation methods they develop and will discuss the ramifications of the propagation choices to the class and the instructor.

IV. Instructional Materials and Methods:

Types of Course materials:

- Text books
- In-class lectures and workshops developed by instructor that relate to the specific topic to be covered
- Library resources
- On-line references provided by instructor
- FLCC and field trip greenhouse resources

Methods of instruction (e.g. Lecture, Labs, Seminars …):

- Lecture with handouts, power point, videos, and visual examples
- Demonstrations of propagation techniques
- Hands-on guided learning and practice in techniques
- Individual feed back and group discussion following various segments of technique development

V. General Outline of Topics covered

a. Introduction to plant propagation
   i. Overview of techniques to be covered
   ii. Opportunities in the industry
   iii. Naturally occurring propagation in a forest succession

b. Greenhouse
   i. Structures
      1. Types of structures
      2. Materials used to cover structures
      3. Heating / cooling controls & equipment
      4. Benches
      5. Lighting
   ii. Routine clean up needs
   iii. Occasional intensive sanitation requirements

c. Biology of propagation
   i. Herbaceous
   ii. Woody
   iii. Other
   iv. Sexual
   v. Asexual

d. Propagation
   i. Vegetative propagation
   ii. Tissue culture & micropropagation
   iii. Seeds
      1. Seed collection
2. Seed development
3. Seed production & handling
   iv. Grafting
   v. Budding
   vi. Layering
   vii. Specialized stems & roots

e. Nursery Management
   i. Container vs field growing
   ii. Media considerations
   iii. Container issues
   iv. Production scheduling
   v. Growth retardants
   vi. Pest controls