Course Syllabus

**Department:** Conservation / Horticulture  
**Date:** December 20, 2012

I. **Course Prefix and Number:** HRT 200  
   **Course Name:** Integrated Pest Management  
   **Credit and contact hours:** 3 credit hours - 3 contact hours

**Catalog Description including pre- and co-requisites:**
Designed to provide the students with a working knowledge in developing environmentally sound programs in limiting harmful plant diseases and pests. The course will emphasize the principles and practices of integrating chemical, cultural, and biological controls and the issues related to pesticides and the environment. Training the students in the types and usage of pesticides and pesticide equipment will be included. Field trips Pre and co-requisites: none

**Relationship to Academic programs and curriculum:**
This course is a required course 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. Describe and give examples of the various components of a pesticide label.
   B. Define and describe what will be found in a pesticide formulation, REI, PPE, LD$_{50}$, and the EIQ.
   C. Define and calculate the GDD for an insect pest.
   D. Compare the four levels of IPM control – cultural, mechanical, biological, chemical
   E. Construct an outline of the cultural information for a specific plant with three (3) diseases that can attack that plant with management strategies for each, and with three (3) insect pests that can attack that plant with management strategies for each.

**College Learning Outcomes Addressed by the Course:**

- [ ] writing
- [x] oral communications
- [x] reading
- [ ] mathematics
- [ ] critical thinking
- [x] computer literacy
- [ ] ethics/values
- [ ] citizenship
- [ ] global concerns
- [x] 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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<tbody>
<tr>
<td>Oral Communications</td>
<td>Students will orally present their findings based on research done for the insects and diseases of a particular plant and the control of each of these.</td>
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<td>Reading</td>
<td>Students will be required answer exam and quiz questions based on reading assignments from on-line and instructor provided materials. In addition, students will produce a written report showing the documentation (CSE format) of the research they have done about insects and diseases for a specific plant and the control of these.</td>
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<td>Computer Literacy</td>
<td>Students will use a variety of computer based programs to do their research and will generate a graded report that will include text, tables, graphs and graphics.</td>
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<td>Information Resources</td>
<td>Due to the changing nature of this field of work, no textbook will be required. Instead specific professional websites will be referred to for information. Students will answer quiz and exam questions based on the research they have done on these websites.</td>
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IV. Instructional Materials and Methods:

Types of Course materials:
- In-class lectures and workshops developed by instructor that relate to the specific topic to be covered
- In-class and out-of-class research – on line and printed materials - for identification of plant insects, diseases and the controls recommended for each
- Visual images presented in class, on line and in printed materials
- Library resources

Methods of instruction (e.g. Lecture, Labs, Seminars ...):
- Lecture with handouts, power point, videos, and visual examples
- Off campus guided tours of professional facilities
- Workshops of application equipment and calibration techniques
- Individual research of provided professional materials

V. General Outline of Topics covered

I. Introduction
   a. To IPM in general
   b. Class Project
   c. The NYS IPM Program
   d. Abiotic disorders
   e. Methods for preventing problems with a plant
II. Production Options
   a. Organic Production
   b. Conventional Production
   c. IPM Production

III. Pesticides
   a. Label Components
   b. Formulations
   c. REI – re entry interval
   d. PPE – personal protective equipment
   e. Restricted vs Unrestricted usages
   f. LD50
   g. EIQ – environmental impact quotient
   h. Rachel Carson

IV. Specific IPM programs introduction
   a. Tree Fruit IPM
   b. Vineyard IPM
   c. Vegetable IPM
   d. Greenhouse IPM
   e. Turf IPM
   f. Perennials IPM
   g. Tree and Shrub IPM
   h. Urban and Home IPM
   i. Berry IPM
   j. Livestock IPM