# 2. General Information

**Date**
11/07/2016

**Department**
Environmental Conservation & Horticulture

**Course Prefix:**
HRT

**Course Number:**
260

**Course Title:**
Applied Plant Pathology with Integrated Pest Management

# 3. Course Information

**Credit Hours**
4

**Lecture Contact Hours**
3

**Laboratory Contact Hours**
2

**Other Contact Hours**

**Catalog Description**
A practical and hands-on course investigating the nature, causes, diagnoses, and management options of plant health problems. Interactions between the environment, disease causing organisms, and the plant will be considered as related to integrated pest management (IPM) controls. Students will be trained to identify common plant diseases including environmentally caused disorders. Consideration of site management and corrective horticultural practices as related to plant health will be included. Students will further investigate each topic utilizing laboratory skills and techniques. Field trips are included in the course.

**New Analysis Question**

**Prerequisites**
BIO 251

**Co-requisites**
Grading Scheme
Letter Grade

This course can be taken more than once for credit

This course is designated as satisfying a requirement in the following SUNY Gen Ed category

First Year Experience

Capstone

4. FLCC Values

College Learning Outcomes Addressed by the Course

Inquiry
Interconnectedness
Vitality
Perseverance

5. Course Learning Outcomes

Course Learning Outcomes

1. Outline the fundamental concepts of plant pathology.
2. Illustrate the process of plant disease infection.
3. Apply principles of IPM to plant disease management.
4. Describe major types of plant pathogens.

6. Program Affiliation

This course is required as a core program course in the following program(s)

AAS Horticulture

8. Outline of Topics Covered

Outline of Topics Covered in Course

New Analysis Question

Outline of Topics Covered

I. What is plant pathology and why is it important?
Using the Irish potato famine as a case study to start the disease triangle concept and how this prompted the understanding of pathogens causing disease.
II. Symptoms and signs of disease
Observation of the whole plant and its parts to diagnose plant diseases.
III. Types of diseases
A study of the range of plant diseases, how they affect plants and why.
IV. IPM and disease management including pesticides
How plant diseases can be managed using integrated strategies: genetic, cultural, biological, chemical.

V. Fungal diseases
Biology of fungal plant pathogens, diseases they cause, and management strategies.

VI. Plant pathogenic bacteria
Biology of plant pathogenic bacteria, diseases they cause, and management strategies.

VII. Nematodes

VIII. Biology of plant pathogenic nematodes, diseases they cause, and management strategies.

IX. Viruses
Biology of plant pathogenic viruses, diseases they cause, and management strategies.

X. Abiotic disorders
Environmental factors that cause plant disorders.

XI. Plant-pathogen interactions
How pathogens and plants interact on a molecular level and how this influences control methods.

XII. People and plant diseases
Plant epidemics, how our agricultural and trade practices influence plant pathogens.