Applied Physiology of Horticulture Crops
(3.0 credits)

Normally Offered:  Fall every year. By Dr. Durner.

Pre-requisites and other registration restrictions:
01:119:101 General Biology or 01:119:115 General Biology

Format:  This course is a hybrid course with 85% ONLINE and 15% IN Class.

Description:
An examination of plants and the physiology that allows them to survive the complexities of our environment.

Learning Goals:
• To understand the basic processes underlying plant water-relations, plant metabolism, and plant growth and development.

• To understand the effects of temperature, light and water on plant growth, development and productivity.

• To understand the movement of water, nitrogen and carbon dioxide through the plant.

Measures of Assessment:
• Weekly quizzes testing knowledge gained from online learning modules and reading assignments

• One 5 to 7 page research paper covering a physiological abnormality of a horticultural crop chosen by the student.

Course Website:
eCollege/eCompanion

Topics:
• Horticulture - Whole Plant Integration of Many Disciplines
• The Plant Hormones
• Growth, Development and Plant Movement
• Physiology of Growth in Specific Organs: Roots, Stems and Leaves
• Physiology of Growth in Specific Organs: Flowers, Fruit and Seeds
• Some Abiotic Plant Stressors - Oxygen, Minerals and Salt
• Water and Plants
• Light Energy and Plant Function
• Temperature Effects on Growth and Development of Plants
• The Soil and Its Environment
• The Greenhouse Environment
• Seeding and Seedling Establishment
• Pruning, Training, Growth and Plant Size
• Grafting and Rootstocks
• From Harvest to Market
• Post-harvest Physiology
• Human Nutrition, Phytonutrients, Nutraceuticals and Horticulture

**Required and Recommended Course materials:**
Principles of Horticultural Physiology

By: Edward, F. Durner

Paperback: 440 pages

Publisher: CABI (August 2013)

Language: English

ISBN-10: 1780640250


**Policies for Exams, Assignments, Attendance, and Grading**

Quizzes 75%

Research Paper 25%