Modern Crop Production  
(3.0 credits)

Normally Offered:  Spring every year.  Instructor:  Dr. Helsel

Pre-requisites and other registration restrictions:

01:119:101 General Biology OR 01:119:103 Principles of Biology. This course is not open to first-year students.

Format:  Two 80-minute lectures

Description:
This course covers agronomic (field) crops relevant to New Jersey and the US. Crop growth, production principles and practices and crop use are examined. Alternative crops and their use are also evaluated. A variety of calibrations and calculations used in crop production are taught.

Learning Goals:
• Students will learn the growth and production practices of important agronomic crops
• New and alternative crops will be examined by students
• Students will solve agriculture math problems related to crop production

Measures of Assessment:
• Three exams will measure comprehension of lecture material, with pretest sample questions used to determine any weaknesses before the exams
• A class paper on an alternative crop will allow students to demonstrate their ability to analyze crops in a similar manner as course content. (A draft review of the paper is offered before submission).
• Calibrations and calculations related to various production practices will be mastered. (A draft review of the solutions to the problem sets is offered before submission).
• Question and answer discussion is offered in each lecture to assess students ongoing comprehension of lecture material

Course Website:
eCollege/eCompanion
Topics:
- Crop Importance
- Soil Survey/Soil Conservation
- Land Preparation/Tillage
- Soil Fertility
- Crop Classification, Morphology and Development
- Crop Variety & Seed Selection
- Planting Methods (date, rate, depth, spacing)
- Crop Protection-Weeds, Disease and Insects
- Irrigation-Moisture Management
- Harvesting
- Forage Quality/Harvest
- Crop Preservation, Storage & Utilization
- Organic Agriculture
- Energy in Agriculture/Biomass energy
- Service Organizations-RCE, USDA, NJDA, etc.
- Alternatives Uses/New Crop/Products; Minor Field Crops

Required and Recommended Course materials:
No textbook required but references on reserve.

Policies for Exams, Assignments, Attendance, and Grading
There will be 2 exams and a final (worth 100 points each), a paper and agricultural math problem set (worth a total of 100 points each).

Attendance expected.

Other Information: