



Spring Semester 2010

Physiology and Ecology of Crops (AGR 4512)*

Ecophysiology of Crop Production (AGR 5444)

MWF, 5th Period, 3 Credits

Course Description:

An introduction to the fundamental processes of crop plants, as well as the environmental and physical limitations to crop growth, development and yield. Focus is on physiology and ecology of crop plants.

Prerequisite:

Principles of Crop Science (AGR 3005) or equivalent

Course Objective:

To develop an appreciation of crop growth and development in field environments through an understanding of fundamental crop processes

Course Content:

Population, Food Production and Security
 Radiant Energy
 Photosynthesis and Respiration
 Leaf Area and Canopy Light Interception
 Carbon Exchange by Crop Canopies
 Assimilate Transport and Partitioning
 Crop Development, Ontology, and Yield Formation

Root Systems
 Mineral Nutrients
 Biological Nitrogen Fixation
 Water Relations & Water Use Efficiency
 Environmental Limits to Yield
 Global Climate Change
 Bioenergy Crops

Instructor:

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* Biological Sciences Elective for General Education Requirement.

This course has recently been significantly revised and updated. It is appropriate for upper-level undergraduates and graduate students seeking to improve their foundational knowledge of the physiology and ecology of crop production.

