

I. Catalog Description and Credit Hours of Course:

Production practices for growing major crops, including planting, pest management, water management, harvesting, marketing, and processing. Prerequisites: AO 260, AO 323, AO 420 (3)

II. Prerequisites:

AO260, AO323, AO420

III. Purposes or Objectives of the Course:

Upon completion of the course, students should be able to apply:

- A. to apply knowledge gained in other agriculture classes to actual production situations
- B. to prepare students for making management decisions for crop production
- C. integrated production and management techniques to improve crop-production

IV. Expectations of Students:

- A. Lecture, lab and discussion will be based on reading assignments. Therefore students are expected to read assignments before class.
- B. Attendance is important to success in the class.
- C. Academic dishonesty will not be tolerated in any form and will be handled according to University Policy
- D. Policy on group projects is that one must complete the work as a team with each member completing a portion of the end product. However, if a person is not comfortable in receiving the group grade, a person may complete the entire project individually (but this must be in addition to the group work).

V. Course Content or Outline:

- A. Crop Growth
 - 1. Population Dynamics and Canopy Architecture
 - 2. Canopy Architecture
 - 3. Canopy Photosynthesis
 - 4. Canopy Respiration
 - 5. Dry Matter Partition
- B. Crop Environment
 - 1. Plant Competition and Ecology
 - 2. Soil Factors, Nutrition and Fertility
 - 3. Site-specific Farming
 - 4. Crop Simulation
 - 5. Water Relations
- C. Crop Production – Integrate topics for specific crops
 - 1. Corn
 - 2. Soybean
 - 3. Small Grains – Wheat, rye, barley, Triticale

4. Rice
5. Cotton
6. Forages
- D. Transgenic crops: applications of biotechnology
- E. Topics to be discussed for each crop
 1. Land preparation
 2. Planting
 3. Production practices and management
 4. Irrigation
 5. Harvest
 6. Marketing
 7. Uses
 8. Alternative Systems

VI. Textbook(s) and/or Other Required Materials or Equipment:

- A. None
- B. Support Materials provided as needed

VII. Basis for Student Evaluation:

- A. Presentation (15 percent)
- B. Research paper (15 percent)
- C. Four exams (50 percent)
- D. Participation points (20 percent)
- E. Grading system:
 - A = 90-100%
 - B = 80-89%
 - C = 70-79%
 - D = 60-69%
 - F = Below 60%