



AGRONOMY

AGRI 1307

Course Syllabus

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**Course Description:**

An introduction to the scientific method in the structure, physiology, and development of field crops including genetics, breeding, soil management, crop production, weed management, disease management, and the patterns of production, consumption, and trades of crops utilized in society.

**Textbook:**

Principles of Field Crop Production, 4th Edition, Martin, Stamp, Waldren, & Leonard, Pearson.

Southern Forages, 4<sup>th</sup> Edition, Ball, D.M., Hoveland, C.S., and Lacefield, G.D., International Plant Nutrition Institute.

**Learning Outcomes:**

Upon successful completion of this course, students will:

1. Summarize the role of climate and geography in present and past crop production.
2. Explain the growth and development of crops.
3. Analyze the impact of climate on crops.
4. Assess the interactions of soils, water, and fertility on crop production.
5. Contrast methods of pest management in crop production.
6. Differentiate production methods based on geography and crop selection.

General Course Requirements:

Class attendance is required. If you have more than three unexcused absences, you should consult with me about your grade. Anyone who wishes to withdraw from class must take the responsibility to formally drop with the Registrar; otherwise a failing grade will be given.

**Office Hours**

MWTR 7:30-8:00; 12:30-1:30; TR 10:30-11:00; T 3:30-4:30; R 1:00-3:00

Appointments with me may be scheduled at other times. Call for an appointment at (903) 434-8177. My office is located in AGC 110 and my e-mail address is [chenry@ntcc.edu](mailto:chenry@ntcc.edu).

**ADA Statement**

**It is the policy of Northeast Texas Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the Northeast Texas Community College Catalog or Student Handbook.**

**Family Educational Rights And Privacy Act (Ferpa):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children’s educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered “eligible students.” In essence, a parent has no legal right to obtain information concerning the child’s college records without the written consent of the student. In compliance with FERPA, information classified as “directory information” may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student’s name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Grading:**

Grades will be computed as follows:

(3) Exams:	60%
Class Participation:	10%
Group Project:	15%
Writing Assignment:	15%

The grading scale below will be used to determine your final grade.

Points	grade
90-100	A
80- 89	B
70- 79	C
60- 69	D
BELOW 59%	F

**Exams:**

We will have 3 exams, each exam will make-up 1/3 of your exam grade (60%). The exams will be: true and false, matching, listing, and short answer.

**Class Participation:**

Class participation is based on attendance, classroom discussion, quizzes and participation.

**Assignments:**

**Group Project:** Students will work in groups to identify a problem or question in plant science. The group will form a hypothesis of the question and test the hypothesis by doing an experiment(s) and then report the results in class for discussion. Your grade will be assessed on the group and individual effort within the group on the presentation of their hypothesis, experiment, and results.

**Writing Assignment:** Each student is required to write position paper on how agronomy impacts our society. The student will research the topic, form an opinion based on scientific research and write a 3-5 page paper with at least 3 citations supporting your opinion with scientific facts. Your grade will be based on your ability to write a factual report in a logical and systematic manner. Your handwritten rough draft is due November 8, 2017 and your typed final paper is due November 29, 2017.

### **Academic Dishonesty:**

Cheating is against the Northeast Texas Community College policy. Cheating includes any attempt to defraud, deceive, or mislead the professor in arriving at an honest grade assessment. Plagiarism is a form of cheating that involves presenting as one's own the ideas or work of another.

Violation of the cheating policy may result in a lowered grade of "F" in the course. A grade assigned to a student because of an alleged cheating policy violation may be appealed by the student through the appeals process of the College. See the Student Handbook for details. I recommend that you become familiar with your handbook.

### **Course Objectives:**

- Understand the role of cultivated plants as food sources
- Understand the benefits of cultivated plants in addition to supplying food
- Understand the challenges to plant scientists as they try to increase our food supply
- Describe and recognize parts of the plant cell, plant tissues, and plant organs
- Understand the basic functions of cells, tissues, and organs
- Understand how plants are named and classified
- Understand how several crops originated and where they were domesticated
- Know how crops can be domesticated and improved
- Understand the importance of saving germplasm
- Understand the genetic principles of crop improvement
- Recognize the potential of biotechnology and the social controversy
- Recognize several techniques used to propagate plants
- Understand the principles of seed production, testing, and germination
- Understand the principles of asexual propagation
- Recognize the definitions and measurements of plant growth and development
- Understand factors that affect plant growth
- Recognize the categories of plant hormones and their role in growth and development
- Understand the complex process of photosynthesis
- Understand how environmental and physiological factors influence photosynthesis in plants
- Understand the process of respiration and translocation
- Describe soil and its components
- Understand the physical and chemical properties of soil and the influence those properties have on plant growth
- Understand the principles and methods of land preparation, irrigation, fertilization, and soil conservation
- Know the major climatic factors and how those factors affect plant development and health
- Understand the principles and primary method of controlling each type of plant competitor
- Understand the principles of harvesting, storing, and marketing crops
- Identify the agronomic crops grown for food, feed and oil
- Identify forage and fiber crops

## Course Outline:

Week 1	Introduction and history
Week 2	Structure of higher plants
Week 3	Naming and classifying plants
Week 4	Improvement of cultivated plants
Week 5	Propagation of plants
Week 6	Vegetative and reproductive growth and development
Week 7	Photosynthesis, respiration, and translocation
Week 8	Soil
Week 9	Climatic influences
Week 10	Plant competitors
Week 11	Harvest, preservation, storage and marketing
Week 12	Crops grown for food, feed, and oil
Week 13	Legumes
Week 14	Grazing management
Week 15	Forage and hay for cattle
Week 16	Forage and hay for equines