



AGRONOMY

AGRI 1107

Course Syllabus

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Course Description:

This laboratory-based course accompanies Agronomy 1307. Laboratory activities will reinforce the fundamental principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods. Pre-/Co-requisite AGRI 1307 Agronomy

Textbook:

None Required. Materials will be provided in class.

Suggested:

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

Course Goals:

This is the first in a series of agriculture specialization courses designed to move the agriculture student in a logical learning process through the production of farm crops. The students will gain an appreciation for and an understanding of the intricacy involved in the interrelationship between the crop, the soil, the farmer, and the consumer. Students will learn methods of crop improvement, seed bed preparation, and seeding. Identification and control of disease, insects, and weeds will be covered, as will manures, compost tea, and commercial fertilizers.

General Course Requirements:

Lab work may require clothing suitable for outdoor farm settings. The majority of our labs will take place at the College Farm. Labs will be scheduled with the Farm Manager as to the timing of our activities. 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.

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:

| | |
|----------------------|-----|
| Quizzes/Assignments: | 20% |
| Class Participation: | 40% |
| Skills Test: | 20% |
| Group Project | 20% |

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 |

Quizzes/Assignments:

We will have written and oral quizzes during the semester. They will be announced and unannounced. We will also have a variety of individual and group assignments.

Class Participation:

Class participation is based on attendance, discussion, and participation. There will be no make-up days for class participation.

Skills Test:

Students will be required to perform a variety of agronomy skills: planting techniques, making compost tea, harvesting techniques, hay analysis, and soil sampling. There will be no make-up days for class participation.

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.

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.

Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific and agronomic tools to collect and analyze data and demonstrate methods.
2. Use critical thinking and scientific problem-solving to make informed decisions.
3. Communicate effectively the results of scientific investigations.
4. Summarize the role of climate and geography in present and past crop production.
5. Explain the growth and development of crops.
6. Analyze the impact of climate on crops.
7. Assess the interactions of soils, water, and fertility on crop production.
8. Contrast methods of pest management in crop production.
9. Differentiate production methods based on geography and crop selection.

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:

Labs will be scheduled with the Farm Manager as to the timing of our activities. The activities will include:

1. Plant Identification
2. Weed Management
3. Soil Sampling
4. Fertilization Requirements
5. Compost Tea
6. Seeding Rates
7. Pest Management Techniques
8. Crop Selection
9. Forage Management
10. Moisture Management
11. Stored Forage Requirements
12. Hay Analysis
13. Harvesting Techniques
14. Production Calculations
15. Stocking Methods
16. Seed Bed Preparation Techniques