

**South Plains College**  
**AGRI\_1307\_001\_PRESLEY\_FA23**  
**Revised 08/22/2023**

**Department:** Science

**Discipline:** Agriculture

**Course Number:** AGRI 1307

**Course Title:** Agronomy

**Available Formats:** Conventional.

**Campuses:** Levelland.

**Instructor** Ron Presley  
Agricultural Building  
Office 100B  
806-716-2328

Preferred Contact: Through e-mail.

**Office Hours:**

Monday	1:00 – 4:00	Online
Tuesday	10:00 - 11:00	
Thursday	10:00 - 11:00	
Friday	9:00 - Noon	

**Course Description:** Principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods. 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.

**Prerequisite:** None

**Credit:** 3 **Lecture:** 3 **Lab:** 0

**Textbook:** Craig, Sheaffer C, and Kristine M Moncada. *Introduction to Agronomy \_ Food, Crops and the Environment*. 2nd ed., Delmar Cengage Learning, 2012.

**Supplies:** Device allowing student the capability to use the internet.

**This course partially satisfies a Core Curriculum Requirement:**

Life and Physical Sciences Foundational Component Area (030)

**Core Curriculum Objectives addressed:**

**Communication** – to include effective written, oral and visual communication.

**Critical Thinking Skills** – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

**Empirical and Quantitative Skills** – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

**Teamwork Skills** – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

**Student Learning Outcomes:** Upon successful completion of this course, students will:

Lecture:

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.

Lab iCEV. Students will be sent instructions regarding how to join iCEV labs.

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.

#### **CLASSROOM CONDUCT:**

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#### **COURSE OUTLINE:**

**SECTION I:** Course Introduction / Professor Introduction / Student Introductions

- 1.1 Determine the background of students:
  - a. Origin (rural/farming/urban)
  - b. Family background (farming, white collar, blue collar, etc.)
  - c. Knowledge of basic science (completed basic science course?)
- 1.2 Determine “agricultural awareness” and perception of the field.
  - a. How important is the field?
  - b. How is it perceived in society (e.g., prestige, profitability etc.)
- 1.3 Determine students’ goals
  - a. Just taking the course for the sake of it?
  - b. Taking the course to prepare for a career in agriculture?

1.4 “Goals Roles and Priorities.” An in-depth lecture and discussion regarding methodology from Dr. Stephen Covey and other business writers regarding how one should review and prioritize relationships along with career, personal planning and goals.

## **SECTION 2: CHAPTER 1 History of Agriculture**

### ***Learning Objectives***

After reading this chapter, students should be able to

- Identify the early civilizations in the world and what crops were domesticated
- Explain why agriculture was important to the development of civilization
- Understand the connection of the knowledge of hunting and gathering to agriculture
- Recognize the traits for which early agronomists were selecting in the early cultivation of crops
- Identify the centers of origin for crops important in today’s agriculture
- Describe the Columbian Exchange and its impact on indigenous cultures
- Appreciate how Native American agriculture fits into our country’s history
- Characterize the challenges faced by early colonists in becoming self-sustaining in a new land
- Describe how technological development affected agricultural

## **SECTION 3: CHAPTER 4 Classifying and Naming Crops**

### ***Learning Objectives***

After reading this chapter, students should be able to

- describe the various crop classification categories and identify important crops in each category;
- identify multiple uses of some important crops like corn, soybean, and wheat;
- identify important families of crop plants;
- understand the binomial system of naming plants;
- retain the terminology introduced in this chapter for subsequent chapters.

## **SECTION 4: CHAPTER 7 Plant Anatomy and Morphology**

### ***Learning Objectives***

After reading this chapter, students should be able to

- Identify differences in organs and tissues of dicot and monocot plants;
- Identify and assign functions to plant organs and plant tissues;
- Identify parts of a leaf for a monocot and dicot plant;
- Label important parts on a diagram of a monocot or a dicot plant;
- Describe the different types of flowers and inflorescences;
- Understand the process of germination

## **SECTION 5: CHAPTER 8 Plant Physiology and Growth**

### ***Learning Objectives***

After reading this chapter, students should be able to

- identify the overall chemical reactions for photosynthesis and respiration;
- understand the processes of transpiration and evapotranspiration and why they are important in crop management;
- explain the process of biological nitrogen fixation;
- recognize plant responses related to photoperiodism;
- identify basic stages of plant growth and development;
- differentiate between the life cycles of annual, biennial, and perennial plants.

#### **SECTION 6: CHAPTER 11 Agroecosystems**

##### ***Learning Objectives***

After reading this chapter, students should be able to

- understand the ecological concepts of diversity, competition, succession, and energy pyramids;
- explain why ecological principles are important to learn for the field of agriculture;
- compare and contrast agroecosystems to ecosystems;
- illustrate the movement of energy up a food chain;
- describe a nutrient cycle such as the nitrogen cycle with an understanding of inputs, transformations, and losses;
- classify the major biomes;
- understand how agricultural systems are simplified and the risks of this simplification;
- list the components of a sustainable agriculture.

#### **SECTION 7: CHAPTER 12 Soils**

##### ***Learning Objectives***

After reading this chapter, students should be able to

- define what a soil is and discuss how soils are formed;
- list the functions of soils;
- describe the components (water, mineral, air, organic matter, and organisms) of soils;
- identify the horizons of a soil profile;
- define organic matter and describe its functions in soil;
- name the types of organisms that live in soil;
- describe the soil properties that affect plant growth;
- explain the different types of organic and synthetic fertilizers;
- understand how soil is degraded by wind and water and how it can be conserved through changes in cropping and tillage systems;
- list practices for best nutrient management.

#### **SECTION 8: CHAPTER 13 Cropping Systems**

##### ***Learning Objectives***

After reading this chapter, students should be able to

- understand why crop rotations are beneficial economically and environmentally;
- list several examples of crop rotations appropriate for their region;
- compare the advantages and disadvantages of crop monocultures and polycultures;

- understand the justifications and limitations of using fallowing, living mulches, cover cropping, and green manure;
- discuss conservation plantings such as Conservation Reserve Program (CRP) and their role in maintaining environmental quality.

#### SECTION 9: CHAPTER 16 Plant Disease and Insects

##### *Learning Objectives*

After reading this chapter, students should be able to

- list the types of organisms that can cause plant disease;
- name common diseases of major crops;
- name common insect pests of major crops;
- identify several beneficial insects;
- assign symptoms to probable causal agents;
- propose management practices for different pests;
- identify disease and insect pests that cause economic loss to crops in their state;
- describe five strategies of an integrated pest management program.

#### SECTION 10: CHAPTER 18 Organic Agriculture

##### *Learning Objectives*

After reading this chapter, students should be able to

- describe the differences between organic and conventional agriculture;
- discuss the unique challenges of organic agriculture;
- describe the certification process;
- list practices that are allowed (or not allowed) in organic production;
- understand why some farmers choose organic production over conventional.

**Student Learning Outcomes Assessment:** A pre- and post-test and/or a writing assignment rubric will be used to determine the extent of improvement that the students have gained during the semester.

**Course Evaluation:** There will be a 9 chapter exams and a Final, each worth 100 points. Total lab grade will be worth 900 points At the end of the semester, points earned by the student will be divided by points available to be earned. For example, if the student has earned 1710 of 1900 points available,  
 $1710/1900 = .90$  Thus the student would achieve a 90% which is an "A" in the class.

The Lab Exercises will be through iCEV. I will contact students through E Mail regarding how to subscribe to iCEV. The cost will be \$50.00

90% - 100% = A

80% - 90% = B

70% - 80% = C

60% - 70% = D

Below 60% = F

##### **Attendance Policy:**

*Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus.*

*When an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit the student to make up work missed. It is the student's responsibility to complete work missed*

*within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting.*

*Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student's responsibility to be aware of that policy.*

*It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.]*

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You are ALWAYS welcome to contact me or come by my office.

**Plagiarism and Cheating:** Students are expected to do their own work on all projects, quizzes, assignments, examinations, and papers. Failure to comply with this policy will result in an F for the assignment and can result in an F for the course if circumstances warrant.

Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;

8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

**SPC Bookstore Price Match Guarantee Policy:**

If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester. The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*. Online marketplaces such as *Other Sellers* on Amazon, Amazon's Warehouse Deals, *fulfilled by Amazon*, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases. Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any time during the semester.

**For information regarding official South Plains College statements about intellectual exchange, disabilities, non-discrimination, Title IX Pregnancy Accommodations, CARE Team, and Campus Concealed Carry, please visit**

<https://www.southplainscollege.edu/syllabusstatements/>