Reedley College Ag & NR Department

Timothy E. Smith, Ph.D. Plant Science 1

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**Plant Science 1: Introduction to Plant Science**

**Course Information**

**Catalog Description**

The purpose of this course is to introduce the principles and practices of plant science. Topics include cell and plant structures, reproduction, and physiology, as they relate to management of crops for food, fiber, shelter, and recreation. On completion of the course, the student will be: (1) able to understand the importance of plants to society, animals, and the environment, (2) aware of the problems, opportunities, and crop production regions of California Agriculture, (3) identify plant organs, tissues, and life cycles, (4) comprehend the practical aspects of photosynthesis and the management schemes to maximize photosynthesis, (5) familiar with the relationships of plants with other organisms such as insects, diseases, and beneficial species. Laboratory exercises will cover plant anatomy, physiology, identification, and propagation.

# Textbook

Mauseth, J.D. 2019 ***Botany: An Introduction to Plant Biology*** 7th Ed. Jones & Bartlett Learning Burlington, Massachusetts.

**Student Learning Outcomes:**

1. locate and explain the functions of plant cells, tissues and organs.
2. select the optimal reproduction method and system for agricultural and horticultural plants.
3. explain the effects of specific techniques and materials on plant growth, development, photosynthesis, and reproduction.
4. relate the applications of water and nutritional elements to key growth processes of plants and microbial populations.
5. comprehend the effects of plant science practices on ecosystems and society.

**Assignments and Grading**

Three major tests will be given that correlate to the assigned readings and course lecture notes. Quizzes will be given weekly on the discussed subject matter.

Point Distribution

Lecture: Quizzes 200

2 Midterms 300

Final Exam 200

**800**

90% = A 80% = B 70% = C 60% = D Less = F

**Last Day To:** Last Day to Drop Class with Refund: August 21, 2020

Last Day to Drop w/o Transcript Record: August 30, 2020

Last Day to Change CR/NR: September 11, 2020

Last Day to Drop w/o Letter Grade Assigned: October 19, 2020

Final Exam: December 7, 2020

**Office Hours - Ag 4**

Monday 11:00 Wednesday 11:00 Friday 9:00 Online - Email

**Assignments**: All assignments are due at the beginning of class on the date due. Late submission of assignments will be assessed a penalty of 50%. No exceptions are made.

**Academic Dishonesty**: Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in course; and or expulsion from the University. For more information refer to the "Academic Dishonesty" policy in the College Catalog.

**Need for Assistance:** “If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or section 504 of the Rehabilitation Act, please contact me as soon as possible.”

**Posting of Grades:** Final grades will not be posted. If you wish to have your final grade sent to you, please bring a self-addressed, stamped envelope to the final exam.

**Attendance:** Attendance of lectures and labs is required and roll will be taken at each meeting. A "tardy" is considered an absence unless the student contacts and explains the incident. Students must make prior arrangements with the instructor to be excused from lectures and labs, make-up of missed tests and labs are permitted only with excused absences.

**Lecture Schedule**

Week Topic Reading Assignment

---------- Introduction Chapter 1

Overview of Plant Life Chapter 2

Ethnobotany Chapter 3

Cell Structure Chapter 4

Growth and Division of Cells Chapter 5

1-10 Tissues and the Primary Growth of Stems Chapter 6

Leaves Chapter 7

Roots Chapter 8

Structure of Woody Plants Chapter 9

Flowers and Reproduction Chapter 10

---------- **Review & Midterm**

Energy Metabolism: Photosynthesis Chapter 11

Energy Metabolism: Respiration Chapter 12

11-15 Transport Processes Chapter 13

Soils and Mineral Nutrition Chapter 14

---------- **Review & Midterm**

Development and Morphogenesis Chapter 15

16-18 Genes and Genetic Basis of Metabolism Chapter 16

Genetics Chapter 17

Classification and Systematics Chapter 19

Review

---------- **Final Exam**