BIOLOGY OF PLANTS
BI 212 – 22265, 22266, 22398
Spring 2016

Instructor: Sarah Fuller, M.S.
Credits: 5
Lecture: MW 12:45-2:35 pm SCI 190 or TuTh 8:10-10 am OCH 221
Labs: crn 22265 M 3:10-5:40; crn 22266 W 3:10-5:40; crn 22398 Tu 10:05-12:35

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REQUIRED TEXT
Freeman, *Biological Science* 5e, Benjamin Cummings 2014
Course Pack for Bi 212 - FULLER

Electronic Copies of Text Available at www.coursesmart.com

COURSE DESCRIPTION
Surveys bacteria, kingdoms of protists, fungi and plants; examines evolutionary interrelationships and emphasizes aspects of plant morphology and physiology. Designed for majors in life sciences as well as those pursuing botany, and should be taken in sequence.

AAOT OUTCOMES

- Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions;
- Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically evaluate existing or alternative explanations, solve problems, and make evidence-based decisions in an ethical manner; and
- Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

COURSE OUTCOMES

- Describe how radiant (solar) energy is converted into chemical energy via cell structure and biochemical process of photosynthesis, the relationship to cell respiration, and the importance of these processes to the biosphere.
- Analyze morphological and physiological evidence supporting the phylogeny of life.
- Describe the characteristics of representatives of bacteria, fungi and protists and their roles in ecosystems.
- Compare and contrast plant growth, development, and reproduction in the nonvascular, seedless vascular, gymnosperms, and angiosperms.
- Interpret how plant anatomical and physiological adaptations are relevant to ecological conditions and the impact of changes to biogeochemical cycles.
- Describe interspecific relationships such as coevolution between plants and animals and their physical environment.

ADA STATEMENT

Students with a documented disability should contact the COCC Disability Services coordinator (541) 383-7743, VTT (541) 383-7705, or visit the coordinator in the Boyle Education Center
Any student who may need accommodations, who has any emergency medical information the instructor should know of, or who needs special arrangements in the event of evacuation, should notify me as early as possible, and no later than the first week of the term.

RESPONSIBILITY

It is the responsibility of each student to adhere to the school's "Rights and Responsibilities" policy
This policy can be found at http://studentlife.cocc.edu/Right+Responsibilities/default.asp

ACADEMIC HONESTY

Offenses against academic honesty are any acts which would have the effect of unfairly promoting or enhancing one's academic standing within the entire community of learners which includes, but is not limited to, the faculty and students of Central Oregon Community College. Academic dishonesty also includes knowingly permitting or assisting any person in the commission of an offense against academic honesty. All academic work (e.g. homework, assignments, written and oral reports, creative projects, performances, in-class and take-home exams, extra-credit projects, research, etc.) are subject to the following standards of academic integrity:

- Cheating: intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. Students must adhere to the guidelines provided by their instructor for completing coursework and may not present the same (or substantially the same) work for more than one course without obtaining approval from the instructor of each course.

- Fabrication: intentional and unauthorized falsification or invention of any information or citation in an academic exercise.

- Plagiarism: representing the words or ideas of another as one's own. All ideas, arguments and phrases submitted without attribution to other sources, must be the creative product of the student. Plagiarism includes copying portions of the writing of others with only minor changes in wording, with inadequate footnotes, quotes, or other reference forms of citation or only a list of references. Paraphrasing without appropriate citation is also plagiarism.

- Collusion: intentionally or knowingly helping or attempting to help another to violate the academic honesty policy. Students may only collaborate within the limits prescribed by their instructors.

GRADING STANDARDS

93-100%	=A
90-92%	=A-
87-89%	=B+
83-86%	=B
80-82%	=B-
77-79%	=C+
70-76%	=C
60-69%	=D
Below 60%	=F

A = Outstanding performance
A- = Superior performance
B+ = Excellent performance
B = Very good performance
B- = Good performance
C+ = Better than satisfactory performance
C = Satisfactory performance
D = Passing
F = Not passing

COURSE ASSESSMENT

Lab	Points
Labs	90
Term Lab Report	30
Lab Total	120

Lecture	
Online Lecture Preparation Quizzes	28
Take-Home Written Assignments	20
In-Class Activities	20
Lecture Test 1	100
Lecture Test 2	100
Lecture Test 3 & Cumulative Final	120
Lecture Total	398
Course Total	518

LAB ASSIGNMENTS & QUIZZES

Each lab is worth 10 points. The points are assigned based on a combination of in-lab activities and a post lab assignment. The post-lab assignments are done online through blackboard. The assignment details are posted to Blackboard each week.

All labs are required! In general, labs cannot be made-up. However if you know in advance that you will miss a lab and would like to attend an alternate section during the same week please talk to me and we will determine if it is possible to attend an alternate lab section. Several of our labs will be conducted at the COCC greenhouse located about 1.5 miles from the main campus. Parking at the Chandler Building is limited. There will be a COCC van available for transportation to and from the main COCC campus.

TERM LAB REPORT

You will complete a term-long experiment with a small group. Guidelines will be posted to Blackboard. You will be expected to produce a typewritten group lab report consisting of 1) an introduction including at least two peer-reviewed research papers on the topic, 2) methods used in the study including photos, 3) results including computer-generated graphs, and 4) a discussion and conclusion section. A grading rubric with specific instructions will be available on Blackboard.

ONLINE LECTURE PREPARATION

In order to encourage preparation and reading of the textbook prior to the class period in which we plan to cover the material you are required to complete an online reading quiz. These quizzes are completed on Blackboard. You must do the questions **prior to** the assigned lecture in order to receive credit. You will have 2 attempts to answer the questions and your highest score will be recorded. After the due date you can access the answers to these quizzes by clicking on the link to your score in "View Grades".

IN-CLASS ACTIVITES

Most days during lecture there will be in-class activities to turn in worth 1-2 points. There are no make-ups for these assignments.

TAKE-HOME WRITTEN ASSIGNMENTS

There will be 2 written assignments for this course each worth 10 points each. Specific instructions for each assignment are on Bb. Assignments must be turned in through Blackboard using Turn-It-In. Late Assignments will receive a 1 point reduction per day late.

Written Assignment 1: Article Reading
Written Assignment 2: Videos

EXAMS

Closed book, no note cards, multiple choice (~75%), short answer (~25%)

If for ANY reason you are unable to make it to an exam you need to contact me prior to or immediately following the exam period. You may take the exam late for a 5% point deduction in my office so long as the test is made-up prior to the next class period.

IMPROVEMENT POLICY

You will have the opportunity after the Unit 1 and Unit 2 exams to learn from and improve your grade on each exam. In general, this improvement policy will consist of either retaking the entire exam or a portion of the exam to show that you have reviewed and learned from any errors made on the exam. Your score for each unit exam will be a weighted average of your first and second attempts.

LECTURES

Lecture class periods consist of taking notes during instructor-led discussions, videos, and in-class activities. I post lecture PowerPoint lecture notes on Blackboard that will help you to go over material covered in class. I do not usually go over these slides one-by-one in class. If you miss class, you will find the slides useful for catching-up but not a complete synopsis of everything covered in class.

IMPORTANT DATES

Test #1 – Monday/Tuesday April 25/26
Test #2 – Monday/Tuesday May 16/17
Final Exam – Monday/Thursday June 6/9

Written Assignment #1 – Sunday 4/17 @ 11:59 PM
Written Assignment #2 – Sunday 5/15 @ 11:59 PM
Term Lab Report – Wednesday June 3, 2014, 11:59 PM

Last Day to Drop (class will not appear on transcript) – Friday May 15, 5 PM
Last Day to Withdraw, instructor approval, ("W" will appear on transcript) – Wednesday June 3, 6 PM

Week	Date	Reading Assignment	Reading Quiz		Lecture	Lab
1	M 3/28 T 3/29			U1 Class 1	Oregon Ecosystems & Phenology	Lab 1: High Desert Museum Field Trip
	W 3/30 Th 3/31			U1 Class 2	Energy Flow in Ecosystems	
Sunday 4/3 11:59 pm Lab 1 Sagebrush Sea Exhibit Online Assignment						
2	M 4/4 T 4/5	CH 9.5 CH 29.3 (pp. 536-541)	Quiz 1	U1 Class 3	Bacterial Metabolism	Lab 2: Start Term Hydroponic Project @ Greenhouse
	W 4/6 Th 4/7	CH 29.3 (pp 541-544) CH 39.4 CH 56.2	Quiz 2	U1 Class 4	Nutrient Cycles	
Sunday 4/10 11:59 pm Lab 2 Experimental Design Online Assignment						
3	M 4/11 T 4/12	CH 32	Quiz 3	U1 Class 5	Fungi	Lab 3: Set Up Greenhouse Experiment
	W 4/13 Th 4/14	CH 30	Quiz 4	U1 Class 6	Tree of Life/Protists	
Sunday 4/17 11:59 pm Lab 3 Online Assignment & Written Assignment 1 Due						
4	M 4/18 T 4/19	CH 52.5	Quiz 5		Aquatic Ecosystems	Lab 4: Plankton & Algae ID
	W 4/20 Th 4/21	Review/Catch-Up Day				
Sunday 4/24 11:59 pm Lab 4 Plankton ID Online Assignment						
5	M 4/25 T 4/26	Unit 1 Exam				Lab 5: Photosynthesis @ Greenhouse
	W 4/27 Th 4/28	CH 10	Quiz 6	U2 Class 1	Photosynthesis	
Sunday 5/1 11:59 pm Lab 5 Photosynthesis Online Assignment						
6	M 5/2 T 5/3	CH 37	Quiz 7	U2 Class 2	Plant Anatomy & Water Transport	Lab 6: Exploring Plant Tissues thru Forensic Botany
	W 5/4 Th 5/5	CH 38	Quiz 8	U2 Class 3	Sugar Transport	
Sunday 5/8 11:59 pm Lab 6 Plant Tissues Assignment						
7	M 5/9 T 5/10	CH 31	Quiz 9	U2 Class 4	Evolution of Land Plants	Lab 7: Flowers, Fruits, & Seeds
	W 5/11 Th 5/12	CH 41	Quiz 10	U2 Class 5	Plant Reproduction	
Sunday 5/15 11:59 pm Lab 7 Plant Reproduction Assignment & Written Assignment 2 Due						
8	M 5/16 T 5/17	Unit 2 Exam				Lab 8: Wrap-Up Term Experiment @ Greenhouse
	W 5/18 Th 5/19	CH 55.1	Quiz 11	U3 Class 1	Species Interactions	
Sunday 5/22 11:59 pm Term Lab Report						
9	M 5/23 T 5/24	CH 55.2, 55.3	Quiz 12	U3 Class 2	Community Ecology	Lab 9: Edaphic Factors and Plant Communities
	W 5/25 Th 5/26	CH 52.3, 52.4	Quiz 13	U3 Class 3	Climatology & Biogeography	
Sunday 5/29 11:59 pm Lab 9 Edaphic Factors Assignment						
10	M 5/30 T 5/31	MEMORIAL DAY HOLIDAY				Lab 10: NO LAB Submit Phenology Project Report
	W 6/1 Th 6/2	CH 56.3	Quiz 14	U3 Class 4	Carbon Cycle and Climate Change	
Sunday 6/5 11:59 pm Lab 10 Phenology Project Assignment						
FINAL EXAM: M/W Class MONDAY 6/6/16 1-3 pm T/Th Class THURSDAY 6/9/16 8-10 am						