

# BIOL 191 COLLEGE BIOLOGY I/BOTANY

## SPRING 2008

Instructor: Dr. Brian Vanden Heuvel, Assistant Professor

Office: LS 248

Office Hours: Monday, Wednesday, and Friday 1 - 2PM or by appointment.

Telephone: (719) 549-2270

E-mail: brian.vandenheuvel@colostate-pueblo.edu

Class Schedule: MWF 2:00-2:50 PM in LS 105

Co-requisites: BIOL 171 (Career Planning I) and BIOL 191L (College Biology I Laboratory) are co-requisites for this course. BIOL 191 and 191L are designed as a unit to be taken together in order to reinforce the concepts presented. Both 191 and 191L must be taken the same semester.

Prerequisites: One year of high school algebra or equivalent (MATH 098), and one-year of high school chemistry or equivalent, and one year of high school biology or equivalent. If you have concerns regarding your preparation for this course, please see the instructor at end of class.

Textbook: Raven, P. H., R. F. Evert, and S. E. Eichhorn. 2005. *Biology of Plants*, edition 7, W. H. Freeman and Company, New York. ISBN 0-7167-1007-2

The text is to be used as a constant reference and supplement to the lecture and lab exercises. Please note the reading assignments in the last column of the course schedule. You will be expected to have completed the readings before coming in to class

iclickers: You must purchase an iclicker for this class. The clicker will be used every lecture as a classroom response system and a tool for in-class quizzes. Fifteen percent (15%) of your total score in the class comes from your use of this instrument. Each student will receive three "get out of an iclicker" cards to use during the semester to account for misplaced or forgotten iclickers. We will begin use on Monday, September 3<sup>rd</sup>.

Purpose of the Course: This course introduces students to general topics in botany and cell biology. As a survey course, we will be touching upon many different topics, some of which we will not cover in depth. The instructor will let you know how to prioritize information and how to use your text book effectively. It is my hope that you will have gained a greater understanding and appreciation for the plants all around you, and for the profound importance of plants in the scheme of life at the conclusion of this course.

Course objectives:

- An appreciation of plants
- Understanding of plant structure and function
- Understanding of diversity within the plant kingdom
- Hands-on laboratory experiences
- Problem-solving, hypothesis testing, and critical thinking skills
- Experience presenting scientific research

Attendance: Students are expected to be present, *on time*, for each lecture and participate in discussions or group activities. It is my experience that students who regularly attend class perform better on exams than those who do not. To encourage students to attend lecture, small quizzes will be given periodically during lecture every week. Students are requested not to come into class late or leave early; it is disruptive and distracts the other students. **Please turn off cell phones and audible pagers during class and exams.**

Grading: Students grades will be based on online quizzes, five midterm exams, and a final exam. Grades will be determined on a standard scale where A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, and F = 59% and below.

In Class Participation/Clicker quizzes	15%
Blackboard Review Quizzes	10%
Midterm I	15%
Midterm II	15%
Midterm III	15%
Final Exam (new information)	15%
<u>Final Exam (cumulative)</u>	<u>15%</u>
Total	100 %

THERE ARE NO MAKEUP EXAMS, except under extreme circumstances. Arrangements may be made with the instructor in advance of test date.

The Final Exam will be broken into two major sections. The first will test over new information covered since Midterm III. The second section of the final will be cumulative and will be broken down into units corresponding to the Midterms. Student can replace **one** of their Midterm scores with the score on the Final for that unit.

Blackboard Review Quizzes: Every week, an online quiz will be given through Blackboard. It is open note, open book, and will be used as a review tool. Each quiz will be over the lectures and material from Monday through Friday. The quiz will be activated Friday afternoon, and you must complete the quiz by the following Wednesday at 11PM. There will be no make-ups on Blackboard quizzes.

#### Withdrawals and Incompletes

Important Dates:     **January 18** - End of Drop period (last day to drop without grade recorded)  
**March 14** - Last day to drop a course with a grade of "W". After this date, students cannot drop a class without withdrawing from the University.

Incompletes: Incompletes for this course will only be given if the student is passing on March 18 and **under extreme circumstances**. The decision will be made after consultation with the chair of the Biology Department

Accommodations: This University abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." If you have a documented disability that may impact your work in this class and for which you may require accommodations, please see the instructor as soon as possible to arrange accommodations. In order to receive accommodations, you must be registered with and provide documentation of your disability to: the Disability Resource Office, which is located in the Psychology Building, Suite 236.

## **COURSE SCHEDULE**

**FALL 2007**

<b>DATE</b>	<b>LECTURE TOPIC</b>	<b>READINGS</b>
Monday, January 14	Introduction - What is Botany?	Chapter 1 (1-13)
Wednesday, January 16	Molecular building blocks of plants	Chapter 2 (15-34)
Friday, January 18	Intro to the Plant Cell I	Chapter 3 (35-57)
Monday, January 21	Intro to Plant Cell II/ Movement of Substances/ Osmosis/Diffusion	Chapter 3 (35-57) Chapter 4 (71-86)
Wednesday, January 23	Cell Cycle, Mitosis, and Cytokinesis	Chapter 3 (58-70)
Friday, January 25	Flow of Energy/Enzymes	Chapter 5 (89-101)
Monday, January 28	Respiration	Chapter 6 (102-114)
Wednesday, January 30	Photosynthesis I - Light dependent	Chapter 7 (115-127)

Friday, February 1	Photosynthesis - II Light independent	Chapter 7 (127-139)
Monday, February 4	Review	Study!!
Wednesday, February 6	<b>MIDTERM I</b>	
Friday, February 8	Sex I -Meiosis	Chapter 8 (141-149)
Monday, February 11	Sex II - Genetics	Chapter 8 (149-162)
Wednesday, February 13	Sex III - Molecular basis of Inheritance	Chapter 9 (163-179)
Friday, February 15	Evolution	Chapter 11 (198-217)
Monday, February 18	The Big Picture of Diversity	Chapter 12 (219-237)
Wednesday, February 20	Prokaryotes	Chapter 13 (238-251)
Friday, February 22	Viruses	Chapter 13 (252-259)
Monday, February 25	Fungi	Chapter 14 (260-295)
Wednesday, February 27	Fungi/ Intro to the Algae	Chapter 15 (296-344)
Friday, February 29	Algae II	Chapter 15 (296-344)
Monday, March 3	Bryophytes	Chapter 16 (345-367)
Wednesday, March 5	Seedless Vascular Plants	Chapter 17 (368-407)
Friday, March 7	Review	Study!!
Monday, March 10	<b>MIDTERM II</b>	
Wednesday, March 12	Gymnosperms	Chapter 18 (408-433)
Friday, March 14	The Angiosperms I - The Flower and Pollination	Chapter 19 (434-442)
Monday, March 17	The Angiosperms II - Fertilization and Development	Chapter 19 (442-451) Chapter 22 (497-509)
Wednesday, March 19	The Angiosperms III - Evolution of the Angiosperms	Chapter 20 (452-474)
Friday, March 21	Development of the Plant Body	Chapter 22 (497-509)
March 24 - 28	Spring Break	
Monday, March 31	Tissue classification/The Root	Chapter 23 (510-527) Chapter 24 (528-546)
Wednesday, April 2	The Shoot - Primary Development	Chapter 25 (559-579)
Friday, April 4	The Shoot - Secondary Growth	Chapter 26 (580-601)
Monday, April 7	Review	Study!!
Wednesday, April 9	<b>MIDTERM III</b>	
Friday, April 11	Plant Growth - Hormones	Chapter 27 (603-621)
Monday, April 14	Plant Growth - Tropisms	Chapter 28 (622-643)
Wednesday, April 16	Transport - Water and Sugar	Chapter 30 (667-686)
Friday, April 18	Plant Nutrition	Chapter 29 (645-666)
Monday, April 21	GMOs, Biotechnology, and Genomics	Chapter 10 (180-197)
Wednesday, April 23	Wrap up and the Future of Botany	
Friday, April 25	Final Review	Study!!
Thursday, May 1	<b>FINAL EXAM</b> 1:00-3:20 PM in LS 105	