

Biology 135 – Plants And Society w/Laboratory
Fall Semester 2003

Professor: Dr. M. Eloise Brown Carter

Office: Pierce Hall #105

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Lecture Hours: Monday, Wednesday, Friday - 9:35 a.m. – 10:25 a.m.

Room: Pierce 101

Lab Hours: 2:00 p.m. – 5:00 p.m., Wednesday

Room: Pierce 123

Office Hours: Tuesday - 1:00 to 2:00 p.m. and Wednesday - 12:45 p.m. to 1:30 p.m. Students are encouraged to see Dr. Carter during class to make appointments for other times.

Required Text: Levetin, E. and K. McMahon. 2003. Plants and Society. 3rd ed., McGraw-Hill, New York.

Required Lab Text: Levetin, E., K. McMahon and R. Reinsvold. 2003. Laboratory Manual for Applied Biology. McGraw-Hill, New York

Date	Topic	Reading Assignment	Laboratory
Aug. 27	Plants in Our Lives	None	No Lab
29	Plants as Chemical Factories	Ch. 1 all	
Sept. 01	LABOR DAY		
03	Cell Structures and Functions	Ch. 2 to p. 27	1-Cells of Crystal and Color; Start 8-Genetic Diversity Ex. C
05	Cell Membrane and Osmosis	Ch. 2 p.25	
08	Mitosis and Cloning; What's the Big Deal?	Ch. 2 to end	







10	Plant Tissues and the Stem	Ch. 3 to p.36	
12	Roots and Leaves	Ch. 3 to p.45	2-Cell Division and Cloning; 3-Plant Tissues
15	What part of the plant is that??	Ch. 3 to end	
17	Plant Physiology: Transport	Ch. 4. to p.53	4-Plant Architecture
19	Review and Response; Begin Energy and Enzymes	Ch. 4 to p.56	
22	EXAM I. Ch. 1-3 and 4 to p. 53 Transport		
24	Photosynthesis: The Energy Doorway of Life	Ch. 4 to p. 63	5-Plants Do I t All
26	Movie: Sexual Encounters of the Floral Kind	Ch. 5	
29	Cellular Respiration: Plants Do I t, Too!	Ch. 4 to end	
Oct. 01	Oh, those sexy flowers! Meiosis	Ch. 5	LAB EXAM: 1,2,3,4 6-Flowers; 7- Fruits Tissue culture
03	Fruits and Seeds; Bring Lab Manual to Class!!	Ch. 6 and Lab Topic 7	
08	Plant Breeding	Ch. 7	17-Bioactive Drugs in Action
10	DNA: Structure and Function	Ch. 7 to p.117	
13	FALL BREAK		
15	From DNA to protein	Ch. 7 to end	Field Trip – Botanical Excursion -Be on time
17	Review and Response; Evolution & Systematics	Ch. 8	
20	EXAM II – Ch. 4, 5, 6, 7		

22	Your Piece of the Sun ☺	Ch. 10 and Lab Topic 10	11-Leaves of Grass
24	The Origins of Agriculture	Ch. 11	
27	Grasses: Wheat and Rice	Ch. 12	
29	America's Grass: Corn	Ch. 12	LAB EXAM:6, 7, 11, 17 12- Lowdown on Legumes
31	Legumes: Plant Protein and Fiber	Ch. 13	
Nov. 03	Movie: Feeding the World	Ch. 15	
05	Starches; Preview for Cultural and Botanical Excursion	Ch. 14 and bring your lab manual to class	Field Trip: Farmer's Market - 13-Food from Underground and Far Away; Appendix B Health Food Store
07	Beverages: Coffee, Tea, and More; Bring Lab Manual to Class	Ch. 16 Appendix C Lab Manual	
10	Herbs, Spices and Perfumes	Ch. 17	
12	Review and Response: Selection and Evolution Results of Lab 8 Ex C	Ch. 8	14-Spice of Life
14	EXAM III Ch. 8,10,11, 12,13,14,15,16		
17	Fiber, Wood, Cloth and Paper: Materials	Ch. 18	
19	Herbal Medicines	Ch. 19	16-Bioprospecting for Medicinal Plants
21	Medicinal Plants	Ch. 19	
24	Medicinal Plants		

26	THANKSGIVING		
28	THANKSGIVING		
Dec. 01	Psychoactive Drugs	Ch. 20	
03	Poisons	Ch. 21	Botanical Feast and Presentations
05	Ecological Issues	Ch. 24	
08	Plants and Society	Review and Evaluation	
12	FINAL EXAMINATION 2-5pm		

Course Objectives: The first three objectives are knowledge based, the fourth is the essence of all laboratory courses, and the remainder I consider to be the “hidden objectives” for the course. They have more to do with process than content.

Students completing this course should be able to:

-  Appreciate plants and their contribution to society, including the ecological, economic and aesthetic contributions;
-  I identify and demonstrate basic concepts in biology using plants, including the relationship of structure and function and examples of unity and diversity;
-  Recognize major plant families and representative plants and their uses;
-  Understand science as a “way of knowing” by participation in scientific investigations in the laboratory;
-  Use information resources and materials from many disciplines to research a topic in the study of plants and their uses in various cultures;
-  Pursue topics independently based on their knowledge and interest;

- ✿ Demonstrate critical thinking skills through problem based learning;
- ✿ Communicate information in a professional manner that is interesting and thought provoking.

Examinations: The lecture exams will be a combination of multiple choice, short answer and short essay questions. Exams will cover all material covered in lecture in addition to assigned readings in the text, and other sources. The final examination is comprehensive. Students should feel free to ask for clarification about any question during the exams.

Scientific Writing and Laboratory Projects: For some laboratory projects students will submit lab reports or other written assignments. Instructions will be provided in the lab. Students will work in groups to prepare a presentation on plant use by a selected cultural group. These presentations will be part of a botanical feast during the final laboratory period. More information to follow.

Honor Code: All examinations and work for credit in this course come under the regulations of the Honor Code. Your signature on your work attests to your upholding the Honor Code.

Absences: The policy on absences is provided in a separate handout. Unexcused absences or a failure to follow the procedures outlined in that handout will result in a reduction in your grade. Any questions about absences should be asked immediately.

Evaluation.* Students are evaluated on their performance in the classroom and laboratory. The proposed assignment of points will be:

300 points	3 lecture exams
100 points	2 laboratory exams
175 points	final examination
50 points	lab projects and writing
50 points	Botanical Feast and presentation

675 points	total

*Total points may change based on assignments and opportunities.

Final grade determination:

90 - 100%	A
80 - 89%	B
70-79%	C
60-69%	D
<60	F

Plus and minus grades are given.