

Syllabus

Biology 120 Concepts in Biology Fall Semester 1998

Professor: Bruce Ostrow, Ph.D.

Office: Pierce 104

Phone: (770) 784-8346

Email: bostrow@emory.edu

Office Hours: Monday through Friday 11:00 a.m.-12:00 p.m. *and* by appointment

Lecture Hours: Tuesday, Thursday 9:35 a.m.-10:50 a.m. **Room:** Pierce 101

Lab Hours: Wednesday 2:00 p.m.-5:00 p.m. **Room:** Pierce 123

Required Text: (available at bookstore)

Biology: Concepts and Applications, 3rd ed. Starr, Cecie. Wadsworth Publishing Company. 1996.

Required Labtext: (available from Biology Department)

Laboratory Manual for Concepts in Biology, 3rd ed. Morgan, Judith Giles. Emory University Press, 1998.

Course Plan:

1. The objective of this class is to learn the core concepts of several fields of Biology and to discuss issues relevant to these fields including social and environmental issues. There is no prerequisite for this course.
2. Attendance at all lectures and labs is required. Your success in learning the material is dependent on attending class, taking good notes, and participating in discussion. Open discussions that are informative and thought provoking will happen only if you come to class prepared. All lectures are structured to encourage time for questions and discussion. The Biology Department Absence Policy is reproduced at the end of the syllabus.
3. You are encouraged to form study groups and to work with your peers. However all work turned in is expected to be of your own thoughts and construction. You must work to understand the ideas, not just memorize the material. You are encouraged to come to office hours for additional discussion.
4. In the lab, we will be working with potentially infectious microbes and dangerous materials. **Food and drinks are absolutely prohibited!** It is imperative that you read the lab before attempting the experiment. Although we will be performing routine experiments, they might not work. Do not be disappointed, but consider failure as a lesson in setbacks typically encountered during research. We will discuss methods of troubleshooting.

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5. Cheating is not acceptable. You must abide by the Honor Code. Your signature on items turned in for credit (examinations, homework, labwork) attests to your upholding the Honor Code.
6. Visitors are welcome to attend class with prior approval by the professor. Visitors will NOT be allowed on any field trips.
7. Evaluations of the course will be made during the week before the final exam. These are collected by students, given to the department, and are not seen by the instructor.
8. Grading
- | | | |
|----------------------------------|-----------|------------------|
| 3 lecture exams | 43% | 300 points |
| 3 lab exams | 21% | 150 points |
| 1 final exam | 25% | 175 points |
| 3 Current Topics Reports | 6% | 45 points |
| <u>Class and lab assignments</u> | <u>4%</u> | <u>30 points</u> |
| Total | 100% | 700 points |

Your grade in the course will be based on a point system with an approximate total of 700 points. The scale is:

90-100% = A

80-89% = B

70-79% = C

60-69% = D

<60% = F

Plus and minus grades are given.

Tests

There will be three midterm exams and a final exam. Lecture tests will include multiple choice questions, short written answers and written essays. Lab tests have both a written part and a practical component. Tests will be taken at the scheduled time. **There will be absolutely no makeup tests!** The Final exam will be comprehensive.

Current Topics Reports

The objective of these exercises is to acquaint you with Biology topics in the news. You should peruse newspapers, newsmagazines, bookstores, TV, radio, and on-line computer offerings such as World Wide Web pages. You will find an article or offering, write a report on what you found, and say what you thought of it. You should also look up the topic in the library to supplement your report. These typed, double-spaced reports are due on the days listed in the schedule. Include a copy of the article with your report.

Class Participation

The final grade you receive can be influenced by your attendance and class participation.

Lecture Schedule

Biology 120 Concepts in Biology
Fall Semester 1998
Bruce Ostrow, Ph.D.

<u>Week</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Book Chapters</u>
1	Thurs.	Aug. 27	Introductions, The Scientific Method	1
2	Tues.	Sept. 1	The Scope of Biology	1
	Thurs.	Sept. 3	Ecosystems: Energy Flow	37
3	Tues.	Sept. 8	Energy for Life: Photosynthesis and Respiration	5, 6
	Thurs.	Sept. 10	Ecosystems: Nutrient Cycling	37; **
4	Tues.	Sept. 15	The Chemistry of Life	2, 4
	Thurs.	Sept. 17	EXAM I	
5	Tues.	Sept. 22	The Cell: The Unit of Life	3
	Thurs.	Sept. 24	Cellular Membranes and Transport	3
6	Tues.	Sept. 29	DNA, Chromosomes, and Replication	11
	Thurs.	Oct. 1	Continuity of Life: Cell division	7
7	Tues.	Oct. 6	Mendelian Genetics	9
	Thurs.	Oct. 8	Non-Mendelian Genetics	10; **
8	Tues.	Oct. 13	No Class (Midsemester Break)	
	Thurs.	Oct. 15	Human Genetics	10
9	Tues.	Oct. 20	EXAM II	
	Thurs.	Oct. 22	From Genes to Proteins	12
10	Tues.	Oct. 27	Control of gene expression	12
	Thurs.	Oct. 29	The Diversity of Life: 5 Kingdoms	18
11	Tues.	Nov. 3	History of Evolutionary Thought	14
	Thurs.	Nov. 5	Evidence for Evolution	16; **
12	Tues.	Nov. 10	Zoology: Overview	25
	Thurs.	Nov. 12	EXAM III	

13	Tues. Nov. 17	Animal Physiology	26-34
	Thurs. Nov. 19	Animal Behaviour and Habitats	38, 40
14	Tues. Nov. 24	Botany: Overview	22, 23
	Thurs. Nov. 26	No Class (Thanksgiving Break)	
15	Tues. Dec. 1	Evolution of Plants	19
	Thurs. Dec. 3	Plant Reproduction and Development	24
16	Tues. Dec. 8	The Future of Life on Earth/ Review for Final	
	Thurs. Dec. 10	No Class (Exam Day)	
Final	Mon. Dec. 14 7:00-10:00 p.m.	Final Exam	

**** Current Topics Report Due**

Lab Schedule

Biology 120 Concepts in Biology
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12 labs over 15 weeks.

<u>Week</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Pages</u>
1	Wed.	Aug. 26	No lab	
2	Wed.	Sept. 2	LAB #1: Scientific Investigations	
3	Wed.	Sept. 9	LAB #13: Aquatic Ecology	
4	Wed.	Sept. 16	LAB #3: Photosynthesis/Respiration	
5	Wed.	Sept. 23	LAB #2: The Microscope; The Cell	
6	Wed.	Sept. 30	LAB #4: Cellular Membranes and Transport	
7	Wed.	Oct. 7	LAB #6: Cellular Reproduction	
Lab Practical Exam #1				
8	Wed.	Oct. 14	No lab	
9	Wed.	Oct. 21	LAB #6: Human Genetics/DNA Fingerprinting	
10	Wed.	Oct. 28	LAB #10: Digestive System	
11	Wed.	Nov. 4	LAB #11: Circulation and Respiration	
12	Wed.	Nov. 11	LAB #12: Reproduction and Development	
13	Wed.	Nov. 18	LAB #8: Plant Diversity and Anatomy	
14	Wed.	Nov. 25	Thanksgiving Break	
15	Wed.	Dec. 2	Open lab; Review for Practical	
	Thurs.	Dec. 3 (8:00 a.m.)	Lab Practical Exam #3	
16	Wed.	Dec. 9	No Lab (Reading Day)	