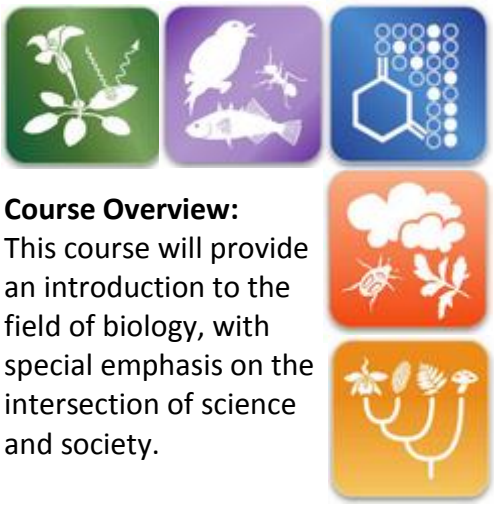
Concepts in Biology - Biology 120
Fall 2014



Course Overview:
This course will provide an introduction to the field of biology, with special emphasis on the intersection of science and society.

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Course Timing and Locations
Lecture: T Th 11:50 – 1:30 Pierce 102
Lab: M 2:30-5:30 Pierce 119
Office Hours: F 2:00-3:30, or by appointment!

Course Objectives
- Students will gain a basic knowledge of essential biological concepts including cellularity, genetics, evolution, organismal structure, and ecology.
- Students will be able to apply this knowledge to make decisions about relevant, real-world issues in biology. These skills will be honed through writings and course discussions.

Course Topics
A schedule of topics is provided on the next page. While exam dates will not change, the instructor reserves the right to alter the order of the topics in response to student interest and course pacing. An updated schedule will be available on Blackboard.

Course Assignments
Lecture Exams (300 points): There will be three lecture exams covering material from lectures and in-class activities. Take good notes in lecture, and use the book for practice problems and to help you work through concepts that are still fuzzy.

Laboratory Quizzes (150 points): Three laboratory quizzes will cover concepts, results and analyses from lab.

Position paper (40 points): Students will select a current topic in biology for which there is some debate amongst the general public. The paper will introduce the topic, present each opposing viewpoint, and conclude with the student presenting his/her evidence-based opinion.

Group project (40 points): Students will collaborate in small groups (2-3) to produce a review infographic of a topic from this course. The group will present their infographic to the class on the last day of the course (December 9). The overall project grade will be determined by both the graphic and the presentation.

Final exam (170 points): The final exam will combine concepts from the final course lectures (essentially, an "Exam 4") with a cumulative section of all course content.

Tentative Lecture Schedule

Date	Day	Topic	Readings
Aug 28	Th	Overview and Biology Themes	Ch. 1
Sept 2	Tu	Cell Chemistry and Molecules	Ch. 2, 3
Sept 4	Th	Cell Structures	Ch. 4
Sept 9	Tu	Cellular Transport and Viruses	Ch. 5, 17.1
Sept 11	Th	Energy and Life: Respiration	Ch. 7
Sept 16	Tu	Energy and Life: Photosynthesis	Ch. 6
Sept 18	Th	Mitosis and Meiosis	Ch. 8-8.4, 9
Sept 23	Tu	Mendelian Inheritance	Ch. 10
Sept 25	**Th**	**EXAM 1: Sept 25 (through "Mitosis and Meiosis")**	
Sept 30	Tu	Extensions of Inheritance	Ch. 10
Oct 2	Th	DNA I: Central Dogma, Gene Expression	Ch. 11, 12.2
Oct 6	Tu	DNA II: Mutation and Cancer	Ch. 8.5, 11.2, 12.3
Oct 9	Th	DNA III: Genetic Counseling	Ch. 13-13.3
		Position Paper due by 5PM Fri Oct 10	
Oct 14	Tu	(fall break)	
Oct 16	Th	Biotechnology	Ch. 11.3, 11.4, 12.1
Oct 21	Tu	Evolution and Natural Selection	Ch. 14, 15
Oct 23	**Th**	**Exam 2: Oct 23 (Through "Biotechnology")**	
Oct 28	Tu	Speciation and Origins of Life	Ch. 16
Oct 30	Th	Microorganisms: Prokaryotes and Protists	Ch. 17.3-17.4
Nov 4	Tu	Plants and Fungi	Ch. 18
Nov 6	Th	Animal Diversity	Ch. 19
Nov 11	Tu	Ecology and Communities	Ch. 30-30.2, 30.4, 31
Nov 13	Th	Homeostasis; Human systems I	Ch. 22, 24.2-24.3
Nov 18	**Tu**	**Exam 3: Nov 18 (through "Ecology")**	
Nov 20	Th	Human systems II	Ch. 23.2-23.3, 24.1, 26
Nov 25	Tu	Human systems III	Ch. 27.1, 28.2
Nov 27	Th	(Thanksgiving)	
Dec 2	Tu	Environmental Impacts on Humans	Ch. 29.3
Dec 4	Th	Human Impacts on the Environment	Ch. 32
Dec 9	Tu	Presentations and Review	
		Group review presentations, digital copies of graphics due in class	
Dec 15	**Mo**	**FINAL EXAM 9AM-12PM**	

Required Texts:
Essentials of Biology, S.S. Mader & M. Windelspecht, 3rd edition, McGraw Hill publishing company, 2012.

Laboratory Manual for Concepts in Biology, 3rd Edition. Morgan, Judith Giles. Emory University Press. Will be available in the lab; your student account will be charged, amount TBA.

Evaluation: Students will be evaluated on their performance both in the classroom as well as in the laboratory.

Points are distributed as follows:

300 points	3 Lecture exams (100 points each)
150 points	3 Laboratory quizzes (50 points each)
170 points	Final exam (100 points "Exam 4" material, 70 points cumulative)
40 points	Independent position paper
40 points	Group review project
700 points	Total

Final grade determination: Your final grade in the course is determined by the percentage of total points (out of 700) that you earn at the end of the course.
(Plus and minus grades are given on the final grade)
A: 90 - 100%; B: 80 – 89%; C: 70 – 79%; D: 60 – 69%; F <60%

Exam policies
With the exception of the final exam (see below), exams and quizzes will take place during the regularly scheduled lecture or lab period. Exams and quizzes are independent, closed notes/closed book. Use of notes or other outside help (including, but not limited to cell phones and classmates) is considered to be a breach of the Honor Code and will be reported accordingly.

Missed exams: In general, missed exams may not be made up (see the attached sheet for the absence policy). However, if you know that you have a conflict ahead of time, please inform me **at least a week before** the scheduled exam time. Situations will be evaluated on a case by case basis.

Final exam: The final exam for this course is scheduled for Monday, December 15 at 9:00 AM. Students must have the permission of the Dean of Academic Affairs to take an exam earlier or later than scheduled. Permission is normally granted for medical reasons or for participating in educational programs.
Leaving early for rides or flights, vacations, relatives' or friends' weddings or graduation, jobs, or having more than one exam on one day, are not considered valid reasons to request an earlier or later exam.

Other Course Information:

Additional Assignments:
In addition to the exams and quizzes, students will also complete two projects – an independent position paper and a group review project. Information about each assignment will be available via Blackboard and in-class announcements.

Absences: The policy on absences is outlined in a separate handout. Unexcused absences or a failure to follow the procedures outlined in that handout can result in a reduction of your grade. Additionally, frequent tardiness is exceptionally rude and will result in a decreased grade.
Attendance in lab is mandatory – if you must miss a lab session, please inform the instructor as soon as possible.

Cell Phones: They must be turned off if brought into class or lab. Cell phones must be turned off and left at the front of class in your book-bag during exams. Computers, tablets, or smart phones may not be used in the classroom unless part of an activity or by special permission. Use of laptops for surfing the web, Facebook, Skype, or other networking/chatting during class is not appropriate or respectful classroom behavior

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

Honesty and ethical behavior are imperatives in any career. Therefore, academic dishonesty will not be tolerated. See http://oxford.emory.edu/audiences/current_students/Academic/academic-success/student-honor-code/ for descriptions of what constitutes academic dishonesty. Anyone caught violating this policy will be reported to the Honor Council, as detailed in the honor code. If you have any questions about what constitutes your own work, definitely ask!

Laboratory Schedule

Mondays 2:30 – 5:30, Pierce 119

Date	Topic
Sept 1	Labor Day – NO LAB
Sept 8	The Microscope, The Cell
Sept 15	Transport
Sept 22	Photosynthesis
Sept 29	Mendelian Genetics
Oct 6	**LAB QUIZ 1**
Oct 13	Fall Break – NO LAB
Oct 20	Molecular Biology
Oct 27	Natural Selection & Evolution
Nov 3	Bacteriology (Part One)
Nov 10	**LAB QUIZ 2** Bacteriology (Part Two)
Nov 17	Development
Nov 24	Digestion
Dec 1	Circulation and Respiration
Dec 8	**LAB QUIZ 3**

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