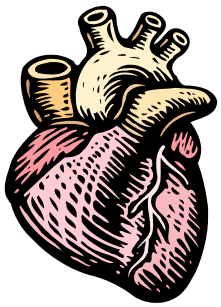
Concepts in Biology
Biology 120 – Spring 2012



Instructor: Dr. Steve Baker
Office: Pierce Hall #117
Phone: 770-784-8446

Office Hours: Tuesday and Thursday 3:00-4:30. Wednesday and Friday 10-11 am. Students are encouraged to see the instructor during class to make appointments at other times. Unless I am collecting or setting up for a lab, I am generally available 8:30-5:00.

Lecture Hours:	TT, 10:00 – 11:15	**Room:** Pierce 102
Lab Hours:	Monday, 2:00-5:00	**Room:** Pierce 125

Required Texts: Essentials of Biology. Mader, Sylvia. McGraw-Hill, 3rd Edition
Laboratory Manual for Concepts in Biology,. Morgan, Judith Giles. Will be available in class; don't look for it in the bookstore!

Course Objectives

- **Students should gain understanding of the scientific process, scientific inquiry and critical thinking skills.**
- **Students should gain a basic knowledge of biological concepts such as cellularity, cellular reproduction, energy, genetics, and evolution.**
- **Students should learn about the basic structure and function of major body systems**
- **An underlying theme of this course relates to the interruption of body homeostasis by disease; this will be addressed through the addition of relevant clinical topics.**

Biology 120
SYLLABUS
Spring, 2012

Date	***Topic***	***Reading (chapter)***
I. Science and Cells		
1/19	The Nature of Science; How do you see the world?	1
	1/23 *Lab Topic 1: The Microscope, the Cell*	
1/24	Science Case Study	1
1/26	Basic Biology; Are you alive? Begin Prokaryote Investigation	1
	1/30 Lab Topic 2 Scientific Process *Bacteriology*	
1/31	Prokaryotes Cell Structure and Function	4
2/2	Lipids, membranes, and cell transport Breakdown in Cell Function ***Topic for Independent Project Due!***	p.41-44, 86-90
	2/6 Lab Topic 3: Cell Transport	
2/7	**LECTURE EXAM 1 (through cell transport)**	
II. Cellular Energy		
2/9	Energy molecules and Respiration Short Term fix; Carbohydrates	p. 80-86, 39-41 7
	2/13 LAB PRACTICAL 1 (covering labs 1, 2, 3)	
2/14	Photosynthesis Are you tired out?	6
III. Cellular Growth		
2/16	Cellular Reproduction Cancer Basics	8
	2/20 Lab topic 4: Cellular Reproduction	

2/21	DNA and Replication	p. 175-179
2/23	The Central Dogma and Proteins	p. 180-187
	2/27 Lab Topic 5: Molecular Biology	
2/28	Meiosis; Introduction to Mendelian Genetics	9
3/1	Patterns of Inheritance	10
	3/5 Lab Topic 6: Mendelian Genetics	
3/6	**LECTURE EXAM 2, energy through meiosis**	
3/8	Beyond Mendel	10

Spring Break; March 12-16

	3/19 Lab Topic 7: Digestion	
3/20	Obtaining nutrients: Digestion **Rough Draft of Independent Project Due**	p. 462-470

IV. Homeostasis

3/22	Moving Nutrients: Circulation Coronary Artery Disease	23
	3/26 LAB EXAM 2 (Molecular Biology through Digestion)	
3/27	Fighting the good fight: Immunity	26
3/29	Maintaining homeostasis; Respiratory and Urinary **Peer Review of Independent Project Due**	p. 450-461
	4/2 Lab Topic 8 Circulatory System and Renal	
4/3	**LECTURE EXAM 3 (Genetics through Circulatory System)**	
4/5	National Geographic Body movie	
	4/9 Lab Topic 9: Reproduction and Development	
4/10	Who's in Control? Nervous System	27

V. Organismal Interactions

4/12	Share the resources; Parasitism	
	4/16 Lab Topic 10: Aquatic Biology	
4/17	Evolution Movie	
4/19	Darwin and Evidences for Evolution	14
	4/23 Lab Practical 3 (Circulation, Reproduction, Ecology)	
4/24	Introduction to Communities and Ecosystems	31
4/26	What does the future hold? Population Concerns ***Final Draft of Independent Project Due***	30
5/1	Course wrap-up	

FINAL EXAM: Monday, May 7, 9:00-12:00

The instructor reserves the right to modify this syllabus or the lab syllabus as he deems it necessary.

Additional Course Information / Class Policies:

Writing: Students will write about current topics in biology and as a component of classroom and laboratory learning. Assignments will be made in class and lab.

Independent project*:* Students (in coordination with the instructor) will choose a biology topic of interest to research. Students will then research and present their findings in an informational pamphlet meant for the general public. Handouts will be provided to outline specific requirements.

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.

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.

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 <u>before</u>** the scheduled exam time. Situations will be evaluated on a case by case basis.

Cell Phones: They must be turned off if brought into class or lab. Cell phones must be left at the front of class in your book-bag during exams. Computers may

Evaluation: Students will be evaluated on their performance in the classroom and the laboratory. Points are distributed as follows:

300 points	3 lecture exams (three at 100 points)
150 points	laboratory exams (three at 50 points)
175 points	final exam
50 points	independent project
30 points	additional class writings
705 points	total

Plus and minus grades are given in this course.

"Student work submitted as part of this course may be reviewed by Oxford College and Emory College faculty and staff for the purposes of improving instruction and enhancing Emory education."

Academic dishonesty: 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!