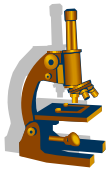
Biology 120 – Concepts in

Instructor: Rebekah Chapman
Office: 105 Pierce Hall
Office Hours: Wednesday 9:15-10:15am, Friday 1:45-2:45
If you are unable to meet during office hours, please e-mail me to schedule an appointment.
E-mail: Learnlink (preferred) or rebekah.chapman@emory.edu

Lecture Hours: MWF 12:50 – 1:40PM Room 101, Pierce Hall
Laboratory: Wednesday 2:00– 5:00PM, Room 123, Pierce Hall

Required Texts:

- *Concepts of Biology*. 2009. 1st Edition. Mader, Sylvia. McGraw Hill Companies, Inc. (purchase at bookstore)
- *Laboratory Manual for Concepts in Biology*. 2008. 3rd Edition. Morgan, Judith G. (purchase in class, cost TBA)



Course Objectives: Biology 120 is designed for students who do NOT plan to major in Biology but are interested in the subject in terms of general science exposure. You will:

- Learn basic biological concepts, processes and how we study them.
- Become familiar with the scientific process, scientific inquiry and critical thinking skills.
- Apply this knowledge to real-world scenarios by studying and discussing current events, journal articles, and case studies related to Biological Systems and Concepts.
- Learn techniques used to study and analyze cellular and organismal processes and have hands-on experience in the laboratory including the dissection of plant and animal specimens.

Please read this syllabus carefully and clarify any items about which you have questions – this is your guide for Biology 120! Information in this syllabus is subject to change during the semester, so please pay attention to any changes made during the semester – pay close attention to class announcements and be sure to keep track of the updated syllabi & assignment guide!

EXPECTATIONS, EVALUATION, GRADING

Honor Code: Students are expected to abide by the *Oxford College Honor Code.* All assignments should include a signed pledge that no unauthorized aid has been given or received. To read the complete statement of the Honor Code, please see *http://www.emory.edu/OXFORD/CampusLife/Policies/honor.html.*

Attendance: Attached you will find the *Biology Department Absence Policy*. Absences, tardiness or a failure to follow the procedures outlined in the handout may result in a reduction in your grade, so please read the guidelines carefully – they apply to you!

Cell phones: Must be OFF during lecture and are NOT PERMITTED in labs or exams.

Lecture Exams: There will be three lecture exams, each worth 100points, and one final exam (cumulative) worth 175 points. The lecture exams will be a combination of multiple choice, short answer and short essay questions. The final exam will be comprehensive.

Laboratory Practical Exams: The three lab practical exams, each worth 50 points, will be held on the dates specified in the laboratory syllabus. These will cover the material learned in relevant laboratories. Preparing for these requires **time** in the lab and focus during lab.

Written Assignments: Writing assignments for this course include lab report(s), article summaries, case studies summaries of group work and short "science in the news" summaries. These will be described in more detail when they are assigned in class. You will work in groups on some of these assignments, but must still be careful that the written assignments are your own and all literature is properly referenced. All written assignments must be **typed** and printed double spaced (front/back printing is accepted). If you have questions about collaboration with group members when writing something up – ASK, that is the best way to keep from committing an honor code violation.

Class Participation: You will be evaluated on your participation in lecture, lab and group discussions. Participation is expected; failure to do so will result in reduction of your grade (up to 10%). The 15 participation points will be assigned for **preparation** (note card questions, pre lab question, having necessary materials, etc.) and **participation** in class/lab.

Late work: Assignments turned in after the due date will have 10% taken off per day.

Point Summary:

300 points	3 lecture exams
150 points	3 laboratory exams
175 points	final exam (cumulative)
70 points	written assignments
15 points	class participation
710 points	Total

Final Grades:
90 – 100% A 80 – 89% B 70 – 79% C 60 – 69% D <60% F
(+/- grades are given for all categories: A, B, C, D)

Biology 120 – Concepts in

Date	Topic	Reading
W-Jan. 14	Introduction to Bio 120; Major concept/themes in biology	Ch. 1
F- Jan. 16	Biological Organization & Scientific Inquiry	Ch. 1
M- Jan. 21	*MLK day – NO CLASS*	
W- Jan.21[1]	Biological Molecules and Important Elements	Ch. 2 & 3
F- Jan. 23	Jim Brown – Working with Excel – bring your computer brain ☺	
M- Jan. 26	Important Macromolecules - Cell Structure and Function	Ch. 4
W- Jan. 28	Prokaryotes, Eukaryotes and Viruses	Ch. 4
F- Jan. 30	Cellular components & organization; cell membranes	Ch. 4 & 5
M - Feb. 2	Cellular Processes: Transport, Energy & Enzymes	Ch. 4 & 5
W - Feb. 4	Photosynthesis	Ch. 6
F – Feb. 6	**Exam I (through energy and enzymes)**	
M – Feb. 9	Cellular Respiration	Ch. 7
W – Feb. 11	Review and Application	Ch 6 & 7
F – Feb. 13	Cell Division and Reproduction (Mitosis and Meiosis)	Ch. 8
M – Feb. 16	Cancer	Ch. 8
W – Feb. 18	Patterns of Inheritance	Ch. 9
F – Feb. 20	DNA, RNA & gene regulation	Ch. 10
M – Feb. 23	Control of Gene Expression	Ch. 11
W – Feb. 25	Biotechnology and Genomics	Ch. 12
F – Feb. 27	Discussion: Genetic engineering, gene therapy, etc. topics	
M – Mar. 2	**Exam I (through Biotechnology and Genomics)**	
W – Mar. 4	Natural Selection and Evolution	Ch 13 & 14
F – Mar. 6[2]	Natural Selection and Evolution cont.	Ch 13 & 14
Mar. 9 – 13	*SPRING BREAK*	
M – Mar. 16	Bacteria & Viruses	Ch. 16
W – Mar. 18	Plants & Fungi – who's who? How do you tell?	Ch. 18
F – Mar. 20	Animals – oh so much variety!	Ch. 19
M – Mar. 23	Human Evolution Discussion	Ch. 20
W – Mar. 25	Plant Organization and Homeostasis	Ch. 21-23
F – Mar. 27	Plant Reproduction	Ch. 24
M – Mar. 30	Plant Functions – Discussion	
W – Apr. 1	Animal Organization and Homeostasis	Ch. 25-27
F – Apr. 3	Animal Response to stimuli	Ch. 26-27
M – Apr. 6	**Test 3 (through April 1)**	
W – Apr. 8	Animals on the Move – Locomotion and Support	Ch. 28

[1] Last Day to Change Classes (last day of drop/add)
[2] Last Day for Dropping Classes w/out Academic Penalty

F – Apr. 10	Animal Circulatory and Cardiovascular systems	Ch. 29
M – Apr. 13	Immunity	Ch. 30
W – Apr. 15	Digestive systems	Ch. 31
F – Apr. 17	Gas Exchange, Osmoregulation, & Excretion	Ch. 32-33
M – Apr. 20	Reproduction and Development	Ch. 35
W – Apr. 22	Stem Cell Discussion	
F – Apr. 24	Populations and Ecosystems	Ch. 36
M – Apr. 27	Populations and Ecosystems cont. & Behavior	Ch. 37
W – Apr. 29	Final Discussions	TBA
Tues – May 5	**Final Exam: 9:00AM – 12 Noon**	Cumulative

Biology 120 – Concepts in

Date	Topic	Notes about Lab
Jan. 21	Lab Topic: Scientific Investigation	
Jan. 28	Lab Topic: The Microscope/The Cell	
Feb. 4	Lab Topic: Cell Membranes & Transport	
Feb. 11	**LAB PRACTICAL EXAM #1** **Will follow lab practical with lab introducing respiration & photosynthesis**	
Feb. 18	Lab Topic: Photosynthesis & Respiration	
Feb. 25	Lab Topic: Mitosis and Meiosis	
Mar. 4	Lab Topic: Human Genetics, Molecular Genetics	
Mar. 11	*Spring Break!*	
Mar. 18	Lab Topic : Plant & Animal Diversity and Symbiosis	
March 25	**LAB PRACTICAL EXAM #2** **Will follow lab practical with Bacteriology Lab**	
April 1	Lab Topic: Digestive System – Digestion of Macromolecules Lab Topic: Start Circulatory & Respiratory System	
April 8	Lab Topic: Finish Circulatory & Respiratory System Lab Topic: Reproduction and Development	
Apr. 15	Lab Topic: Aquatic Ecology	
Apr. 22	**LAB PRACTICAL EXAM #3** **Will follow lab practical with wrap up and discussion**	

You should always bring your **lab manual** and **lecture text** to lab.

Appropriate dress is required. Cell phones and cameras are not permitted in lab.

Lab meets from 2:00 – 5:00PM in Pierce Room 123

I expect you to have read ALL appropriate lab exercises and associated text before coming to lab. This is critical for us to proceed through lab properly and is part of your participation grade.