

Biology 2107K - Biological Principles I Spring 2008

Lecture: M/W 6:00-7:15pm, E-220

Instructor: Mike Beach

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Office: E-106

Office hours: 3:00-5:00pm M/W/F

Lab : Monday or Wednesday: 7:30pm-10:20pm, E-204

Textbook:

Biology: The Dynamic Science. 1st ed. Russell, et. al.

Required Materials:

Laboratory Manual: *Laboratory Manual for Principles of Biology*, Burnett et. al., 3rd. ed. (revised)

Course overview and objective:

- (1) to understand and describe the fundamental biology of the cell, including cellular anatomy, cellular metabolism, cellular respiration, photosynthesis, cell growth and cellular reproduction.
- (2) to understand and describe the fundamental principles of Mendelian genetics.
- (3) to understand and describe the molecular basis for heredity, DNA structure and replication, and protein synthesis.
- (4) to understand and describe the principles of evolution, from both Darwinian and modern perspectives.
- (5) to develop laboratory skills that allow a student to perform experiments and analyze data based on the concepts listed above.

Lectures:

Attendance at lectures is essential for success. The general rule for all college courses applies here as well: Plan on spending at least two hours studying for every hour spent in lecture. Lectures will not be directly from the textbook, but the text is a valuable source of information. Feel free to ask questions during class if you don't understand something or want to pursue a point further.

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the counselor working with disabilities at (678) 915-7226 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

Lecture attendance:

Attendance at lectures is essential for success, but is not monitored. It is in your best interest to attend all lectures since virtually all of the exam material comes from topics covered in lectures. **You are also responsible for all announcements made in class about exams and changes in the syllabus.**

Extra credit and make-up exams:

There is **NO WAY** to receive extra credit or increase your grade! If you are not satisfied with your progress, see me early in the semester so that we can help you improve your study habits. Make-up exams are **not** given. The exam schedule is shown on the lecture syllabus and will not change.

Syllabus updates:

The current version of the syllabus can be found on the accompanying WebCT site for this course. It is your responsibility to refer to the most current version of the syllabus for obtaining correct exam dates, lab schedules, etc. Although all of these types of changes are announced in class, it is important that you have an updated version of the syllabus available.

Studying for this course:

Studying for hours and hours in the 2-3 days before an exam won't work. Instead, study a little every night to stay current with the material. This will keep the large amount of information covered in small, manageable pieces. Going over practice exams (available on WebCT) is a good place to start.

Point breakdown of the lecture portion of the course:

Homework assignments: 5 Homework assignments @ 10 pts. each. Total of 50 pts.

Lecture exams: 4 semester exams @ 100 pts. each (total 300 pts., lowest semester exam score is not counted in final average).

Final exam: 100 pts. (Mandatory, cumulative)

Total for lecture portion: 450 pts.

Laboratory attendance:

Attendance is mandatory. Specific materials are required each week for lab, and it is therefore not possible to make up missed labs. A grade of zero will be assigned for all work pertaining to a missed lab, no lab work will be accepted at a later date or points given for a lab in which you were absent.

Laboratory assignments:

Instructions for each laboratory and directions for written work are found in the laboratory manual. Those exercises not found in the laboratory manual will be handed out in advance. Most labs have questions that you must answer and hand in by the end of the laboratory period. In the lab you are expected to read and follow the procedures, take notes, ask questions, help your classmates, and write down observations and conclusions. Your textbook will help you immensely with answering lab questions, so be sure to bring it each week to lab. All written work should be your own and in your own words.

Point breakdown of the laboratory portion of the course:

Lab assignments: 11 @ 13 pts. each
Total for lab portion: 143 pts.

Grading policy:

Lecture and Laboratory points (total = 593 pts.) are added together to give one overall grade.

<u>Percent score</u>	<u>Letter grade</u>
89.5 and above	A
79.5-89.49%	B
69.5-79.49%	C
60.0-69.49%	D
below 60%	F

Lecture syllabus - BIOL 2107K

<u>Dates:</u>	<u>Subject</u>	<u>Chapters</u>
Aug. 20	Atoms & molecules	Ch. 2
Aug. 25 & 27	Water, Carbon	Ch. 2, 3
Sept. 3	Macromolecules,	Ch. 3
Sept. 8 & 10	Metabolism, Exam #1, Wed. Sept. 10	Ch.4
Sept. 15 & 17	Cells, Cell membranes	Ch. 5, 6
Sept. 22 & 24	Respiration	Ch. 8
Sept. 29 & Oct. 1	Photosynthesis, Exam #2, Wed. Oct. 1	Ch. 9
Oct. 6 & 8	Mendelian genetics	Ch. 12
Oct. 13 & 15	Mitosis, Meiosis	Ch. 10, 11
Oct. 20 & 22	Chromosomal genetics	Ch. 13
Oct. 27 & 29	Exam #3, Mon. Oct. 27, DNA	Ch. 14
Nov. 3 & 5	Transcription, Translation,	Ch. 15
Nov. 10 & 12	Control of Gene Expression, Genome Organization	Ch. 16, 14
Nov. 17 & 19	Exam #4, Mon. Nov. 17, Population Genetics	Ch. 20
Nov. 24	Origin of life, Plant & Animal Evolution,	Ch. 24, 22, 27, 30
Dec. 1 & Dec. 3	Evolution, Natural Selection	Ch. 19, 22

Final Exam, according to the University's final exam schedule

Lab syllabus - BIOL 2107K

Aug. 25 & 27	Introduction to Microscopes
Sept. 1 & 3	No Lab - Labor Day
Sept. 8 & 10	Enzymes
Sept. 15 & 17	Cell Structure
Sept. 22 & 24	Diffusion and Osmosis
Sept. 29 & Oct. 1	Glucose Metabolism
Oct. 6 & 8	Fruit Fly Genetics
Oct. 13 & 15	Fruit Fly Genetics cont.
Oct. 20 & 22	Plant and Animal Mitosis
Oct. 27 & 29	Principles of Agarose Gel Electrophoresis
Nov. 3 & 5	DNA Restriction Analysis
Nov. 10 & 12	Evaluating Genetic Crosses
Nov. 17 & 19	No Lab
Nov 24 & 26	No Lab - Thanksgiving
Dec. 1 & 3	Population Genetics