

**Biological Sciences 150
Foundations of Biology I
Fall 2003 (03-1)**

- Instructor:** Dr. Laurel Roberts
L13 Clapp Hall
624 - 4291
- E-mail:** laurelb+@pitt.edu
- Website:** <http://courseweb.pitt.edu>
(look for Course# **03113434**)
- Lectures:** Monday, Wednesday, and Friday
12:00 - 12:50 PM L9 Clapp Hall
- Recitations:** Wednesday 3:00 - 3:50 169 Crawford
Thursday 8:30 - 9:20 224 Langley
Thursday 1:00 - 1:50 169 Crawford
Friday 10:00 - 10:50 224 Langley
- Lab:** Carole LaFave: L14 Clapp Hall
Schedule posted on door
- Office Hours:** Tuesday 1:30 - 3:30, Friday 1:30 - 3:30 and by
appointment, at the BIO HELP DESK
MAIN HALL of the CATHEDRAL OF LEARNING
- Text:** Biology, Campbell, Reece, 6th Edition, Benjamin
Cummings Publishers
- SI Leader:** TBA
Learning Skills Center: 648-7920

Course Description: This is an introductory course divided into two semesters. The first part covers the cellular basis of life including a discussion of simple chemistry; cells as units of structure and function; and energy transformations. The second part includes an examination of those functions common to all organisms such as; nutrition, gas and fluid transport, hormonal and neuronal control. Throughout, the emphasis is on the mechanisms used to accomplish these basic functions.

Course Design: Bio 150 is an introduction to biology for students planning to major in biology, psychology, health-related professions or natural sciences. The topics covered in 150 provide background for further study in biochemistry, botany, microbiology, animal physiology, vertebrate morphology and other areas.

Lecture: Three 50-minute sessions per week. There will be no formal assignments. However, I expect that you will look over the material before coming to class and that you will expend whatever energy is necessary to understand the material presented prior to the next lecture.

Recitations: Once weekly for 50 minutes. Recitations will review lecture material, as well as introduce information not covered in lecture. Attendance is not mandatory, however 10 -15% of the questions on exams will come from material covered only in recitation. You are welcome to attend **any** of the scheduled recitations during the week.

Recitation handouts will be posted on the courseweb site at least 7 days prior to recitation.

Exams: Three (3) hourly exams and a comprehensive final, each worth 25% of the total points. Each exam is comprised of 50 multiple-choice questions.

You are required to bring your student ID card and a No. 2 pencil to all examinations.

MISSED EXAMS: There will be NO MAKE-UP EXAMS. If you miss a mid-term examination due to an EXCUSED emergency absence, your final grade will be based on the total points earned on the other two midterms and the final exam. Allowable absences include: serious illness, injury to you or an immediate family member or a death in the family. In such cases you must submit a "Request for an Excused Absence" which includes the following:

1. A letter written by you explaining the circumstances.
2. Corroborating evidence such as:
 - A receipt from Student Health or your doctor that states that you were unable to attend class on the date in question.
 - In case of injury to a family member, a note from the attending physician that includes your relationship to the patient will be required.
 - In case of death of a family member, a copy of the obituary (preferably mentioning you) and a note from a family member confirming your relationship to the deceased.

All supportive evidence **MUST** include a phone number for verification and must also reach me **NO LATER THAN SEVEN DAYS** after the exam.

There are no excused absences for final exams.

Grading: Final grades in Bio 150 and 160 are curved. The procedure is as follows: After the final exam, the individual scores for all four tests will be pooled and an average score computed (this is the final class average). Points will then be added or subtracted to the class average to set it at 75%. Then the average of each student will be adjusted by the same method and her/his final grade will be determined according to the grading scale below.

It is impossible to predict exactly what letter grade a student will earn until the curve has been calculated. Therefore, the best way to chart one's progress in the course is to determine how close one's score is to the class mean for each exam. *Students scoring consistently above the mean are certain to obtain at least a C.*

Total Points	Final (adjusted w/curve) percentage:	Grade
119 and below	59.9% and below	F
120-124	60.0 - 62.4%	D-
125-134	62.5 - 67.4%	D
135-139	67.5 - 69.9%	D+
140-144	70.0 - 72.4%	C-
145-154	72.5 - 77.4%	C***
155-159	77.5 - 79.9%	C+
160-164	80.0 - 82.4%	B-
165-174	82.5 - 87.4%	B
175-179	87.5 - 89.9%	B+
180-184	90.0 - 92.4%	A-
185-194	92.5 - 97.4%	A
195 and above	97.5% and above	A+

*** Lowest acceptable grade for course to count as part of your Bio major.

History of Biology, part I:

Alfred O. Coffin: Zoologist, Biologist (1861 -19??)

Alfred Oscar Coffin was born in 1861. He received a Bachelor of Arts from Fisk University in 1885. Alfred O. Coffin earned a Ph.D. in Zoology from Illinois Wesleyan University in 1889, becoming the first African American to obtain a Biological Science Doctor of Philosophy (Ph.D.) Dr. Coffin served as a Professor of Romance Languages at Langston University.

Dissertation Title: The Mound Builders.

Published as: The Origin of the Mound Builders. (Cincinnati, OH: Elm Street Print. Co.),1889.

Awards: Graduated Wesleyan University -- "Excellence in Graduate Studies."

<http://www.princeton.edu/~mcbrown/display/faces.html#Past>

Helen Beatrix Potter: Mycologist, writer (1866 - 1943)

She is known today for her wonderful children's stories. Just about everyone is familiar with the tale of Peter Rabbit. During her later years she was widely respected throughout England as an expert on fungi, although the Royal Society did refuse to publish at least one of her technical papers.

Around the time of her death in 1943 many of her notes, including her paper on spores, were burned during the bombing of London in WWII. She kept a private journal which wasn't published until 1966. "The Secret Life of Beatrix Potter" (in *Natural History*, Vol 81, p38, Oct 1972) is a good source of information on her secret diaries and her attempts to have her scientists take her ideas on fungi seriously.

<http://www.astr.ua.edu/4000WS/POTTER.html>

Welcome to Biology at Pitt!

To succeed in this course, you must practice the following:

1. Come to class, come to class, come to class!
2. Stay on top of the material by studying and reviewing prior to the next class.
3. Seek help from all the resources available to you.
4. Have fun; if you enjoy the material, then studying isn't that hard.

Overview of Topics:

Chemistry:

We will start by reviewing atomic structure and bonding. Then we will discuss water specifically and its role in life as we know it. The third section of this topic will cover the formation and characteristics of the 4 types of macromolecules that are important to life.

Cells:

Cellular structures will be discussed followed by a close look at cellular membranes, their connections and communication.

Energy:

We will discuss energy transformation first in general (thermodynamics) and then in specific. Both cellular respiration and photosynthesis will be part of this topic.

Plants:

The second half of the course will apply our knowledge of cellular systems to organisms. We will begin with a brief history of plants followed by material on plant structure, circulation, nutrition and control.

Animals:

The final portion of the course begins with an overview of animal tissues. Systems covered in this topic include digestive, circulatory, respiratory, immune, osmoregulatory, endocrine, nervous and musculoskeletal.

Recitation Schedule:

The handout for each recitation will be posted on the website at courseweb.pitt.edu **no later than one week prior to the appropriate recitation.** If for some reason you are unable to access materials, please contact me (laurelb+@pitt.edu, 624-4291) as soon as possible. Recitations meet at the following times and locations, please feel free to attend any session in a given week:

Wednesday 3:00 - 3:50 169 Crawford
 Thursday 8:30 - 9:20 224 Langley
 Thursday 1:00 - 1:50 169 Crawford
 Friday 10:00 - 10:50 224 Langley

Date:	Topic:
August 28, 29,30	Take-Home Assignment: Chemistry
9/4,5,6	Macromolecules
9/11,12,13	Cells
9/18,19,20	Exam Review
9/25,26,27	Cellular Respiration
10/2,3,4	Photosynthesis
10/9,10,11	Plant Systems
10/16,17,18	Exam Review
10/23,24,25	OFF
10/30,31,11/1	Animal Systems 1 Ch. 40,41
11/6,7,8	Animal Systems 1 Ch. 42,43, 44,
11/13,14,15	Animal Systems 2 Ch., 45, 48,
11/20,21,22	Exam Review

11/27,28,29 OFF

12/4,5,6 Animal Systems 3 Ch. 49,
Final Review