BIO100 Biology Concepts
Syllabus Fall 2007
Sections 2541, 2542

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Office hours: Before class or by appointment

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Course meets at Red Mountain campus
Lecture: P107 [Tuesday (2541) 8:30 a.m. - 11:20 a.m.]
Laboratory: P107 [Thursday (2542) 8:30 a.m. - 11:20 a.m.]

Required Texts: Essential Biology, 3rd Edition, Campbell, Reese, and Simon. 2005. Pearson, Benjamin Cummings Publishing, Boston, MA. CD, Study Card, and supplemental material included.

Investigating Biology, 12th Edition, M.A. Johnson and W.B. Kincaid. 2003. Lulu.com Publishing, Morrisville, NC

Grading: Your grade for the course will be determined based on **435 points**.

3 lecture exams (100 points each)
Lecture attendance (15 Pts): 1 point every day present
1 Lab practical/exam (50 points)
14 Lab Assignments (5pts each)

Grading Policy: The grade you earn for the course will be determined based upon 425 points.

391 points and above	A
348-390 points	B
305-347 points	C
261-304 points	D
260 and less	Fail

The **lab** will entail a total of **120 points** (**28%** of total course) which is based on 12 homework assignments of 5 points each from the Application sections of the lab manual and a semester end lab practical worth 50 points. Homework will be due at the beginning of each lab. No homework will be accepted after lab begins

and the attendance is taken. You must attempt to complete the **questions assigned** from the Application sections ("application questions') on-time and in good faith. I will grade one question, at random from the assigned questions and this will determine your grade for the worksheet. The application questions completed for the previous lab class will be reviewed at the beginning of each lab after I hand the application questions back. At that time you may determine whether you need to correct any of your answers for your future study guide. Lab exercise questions tend to randomly show up on lecture exams and in the lab practical so make sure you understand what is going on in lab!

Lecture grading will be based upon 2 mid-term exams (100 points each), one final exam of 100 points and 15 attendance points (total of **315 points**, **74%** of your course grade). Approximately half of the final may be cumulative, covering the material tested on the two mid-terms. Exams will be either exclusively or predominantly multiple choice.

If you miss an exam, you MAY be able to make if up IF you contact me ahead of time with an acceptable excuse. You will then be eligible for only 90% of the points on the missed exam. Plan to attend the scheduled final exam!

Academic Dishonesty will result in a zero for that assignment as well as an "F" or "Y" for the course at the instructor's discretion. All incidents will be reported to the department chair and the academic dean of students.

Attendance Policy: This course entails both a lecture and a lab. You must attend lecture and lab with the same instructor. **The laboratory is a required portion of this course**. Attendance is mandatory in lab. If you miss two labs unexcused, your grade for the **course** will drop a full letter grade. If you miss **three labs**, for any reason you will either take an incomplete (excused absences) or fail the course (unexcused absences).

Attendance at lecture is also required, however, the main point is for you to engage and learn the material. If you miss lectures consistently, you should not expect to do well on lecture exams. Your instructor will have little reason to give your grade the benefit of the doubt if you are not attending lectures consistently. **Don't be late**. If you are going to be late, do not disturb the lecture as you enter. Once you are in lecture, you need to stay until the end of class. **Don't get up and leave class in the middle of lecture. Turn off all cell phones and pagers** before entering class or lab.

Disability Statement: The College will make reasonable accommodations for persons with documented disabilities. Students should notify Student Services (480.461.7447) and their instructors of any special needs.

BIO100 is a one-semester introductory course covering basic principles and concepts of biology. Methods of scientific inquiry and behavior of matter and energy in biological systems are explored.

The goals of this course include, but are not limited to:

1. To describe and utilize the Scientific Method.
2. To describe the basic characteristics shared by all living things including basic cell theory.
3. To describe some biochemical properties of life's structure, processes and energy usage.
4. To describe the arrangement and function of tissues, organs, and organ systems in multi-cellular organisms.
5. To identify and describe the processes of organismic reproduction including the genetic mechanisms of inheritance and basis of mutation or genetic change.
6. To describe and analyze the processes of gene expression and its influence on organismal survival and reproduction.
7. To describe and analyze the processes involved in evolution and their impact on all living things.
8. To identify and describe the basic concepts of taxonomy and how they relate to the classification of all living things.
9. To identify and analyze the basic principles of ecology and man's role in the environment as a whole.

Laboratory Safety:
Recently, BIO 100 has begun to incorporate some illustrative exercises in biotechnology. For these labs, and any others which may require use of specialized equipment, you will be required to **strictly** follow the safety instructions of your lab instructor. Only water bottles with screw cap lids are permitted in the lab area except on specified days when hazardous materials are present. On those days there will be no food or drink allowed in the laboratory.

Arizona Revised Statutes §15-151 specifies that every student, teacher and visitor in community colleges must wear appropriate protective eye wear while participating in or when observing vocational, technical, industrial arts activities involving exposure to: molten metals; molten materials; cutting, shaping, and grinding of materials; heat treatment; tempering or kiln firing of any metal or other materials; welding fabrication processes; explosive materials; caustic solutions; and radioactive materials.

Withdrawal: If you wish to withdraw from the course, it is your responsibility to fill out the required paperwork**. "Beginning Spring 2008, students will be charged tuition and fees when dropped from classes after the 100% refund period (whether through the purge process for non-payment or instructor removal for failure to attend)."**

BIO100 Biology Concepts Spring 2008 Tentative Schedule

Week	Lecture	Lab
1: Jan 15 & 17	Ch 1: What is Biology? Intro to Science	Ex 1 & 2: Scientific Method
2: Jan 22 & 24	Ch 2 & 3: Chemistry of Life	Ex 6: Chemistry
3. Jan 29 & 31	Ch 4 - 6: Cells	Cells: Handout
4. Feb 5 & 7	Ch 8: Cell Energetics & Division	Ex 8 Respiration
5. Feb 12 & 14	**Exam 1**	Ex 10: Cell Division
6. Feb 19 & 21	Ch 9 - 10 Genetics/ DNA-RNA	DNA Models
7. Feb 26 & 28	Ch 12: DNA technology	Ex 5: Genetics
8. Mar 4 & 6	Ch 12: DNA technology	Polymerase Chain Reaction (PCR)
9. Mar 11 & 13	**Spring Break**	**No Class this week**
10. Mar 18 & 20	Ch 13: Darwin/Pop Genetics/Evolution	PCR Electrophoresis and Video
11. Mar 25 & 27	**Exam 2**	Ex 4: Natural Selection
12. Apr 1 & 3	Ch 14 Speciation/Diversity	Ex 12: Gene Transfer
13. Apr 8 & 10	Ch 15-16 Kingdoms 1 Microbial life/Plants/Fungi	Ex 15: Population Genetics
14. Apr 15 & 17	Ch 17 Kingdoms 2 Animal Diversity	Ex 3: Taxonomy and Classification*
15. Apr 22 & 24	Ch 18 Ecology	Ex 16: Adaptations
16. Apr 29	Ch 19 Communities & Ecosystems	**Lab Practical**
17. May 6	**Finals Week Exam 3**	**No Lab**