

BIOL 2107K -001 – BIOLOGICAL PRINCIPLES I (Lecture/Lab) – Fall 2012

Instructor: Dr. Matthew Weand

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Office Hours:

MWF 10-11 AM
TR 2:30-3:30 *or by appointment*

Course Learning Outcomes:

- 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.

Required Text – *Biology: the dynamic science (2nd edition)*, by Russell, Hertz, and McMillan **OR ANY RECENT COLLEGE BIOLOGY TEXTBOOK (2005 or newer)**

Lab Manual (also required) – *Laboratory Manual for Principles of Biology I (3rd edition)* by William C. Burnett, Michael B. Beach, and Mark T. Sugalski

Lecture – Section 001 MWF 11:00 PM - 11:55AM – Room Q106

Lab – You must be enrolled in a lab section (**refer to your schedule**). Please only report to your assigned laboratory section.

Lab 052 T 8-10:50AM (Ranson) Room E-172A
Lab 053 W 3:00 – 5:50 PM (Beach) Room E-172A

Grades – Grades are divided up as follows:

4 Semester Exams (14% each)	56%
Final Exam (<i>not cumulative</i>)	14%
Lab Attendance	5%
Lab Practicals	20%
Quizzes	5%
Total	100%

Grading policy - The following are the standards (%) for assigning grades:

Letter Grade	Percent Score
A	90 – 100.0%
B	80 – 89.9%
C	70 – 79.9%
D	60 – 69.9%
F	Below 60.0%

Exams - Questions on exams can cover any of the lectures, labs, and any class handouts. Exams may also include questions that cover material from reading assignments. Exam dates are listed in the lecture schedule. The time and place of the final exam will be announced. If you have to miss an exam, you must submit a signed note from a Doctor, Department Head, Coach or Supervisor. Please see me immediately to schedule a time to make up an exam. If you do not make up an exam within a week after it was originally scheduled, you will receive **a grade of zero** for the exam. If you have an unexcused absence from an exam, you will receive **a grade of zero** for the exam.

Quizzes – Quizzes (\approx 8-10) will be given during the semester either during class or online (**5% of your final grade**). Dates of quizzes will be announced in class during the semester. Quizzes cannot be made up, and you will receive **a grade of zero** for each quiz that is missed.

Laboratory – Instructions for completing labs can be found in the laboratory manual. Your textbook will be a valuable resource for answering questions given on laboratory assignments. Any exercises or lab questions not found in the laboratory manual will be handed to you at the beginning of lab. Lab write-ups will generally be due at the end of lab period. **Labs cannot be made up**, and you will receive **a grade of zero** for each lab that is missed. **IF YOU SHOW UP MORE THAN 10 MINTUES LATE YOU WILL GET A ZERO FOR THAT WEEKS LAB. Please see your laboratory instructor for other laboratory policies or any issues regarding lab.**

Attendance policy - There is no official attendance policy **in lecture**. However, attendance to class is essential for success in this course. **You are responsible for any and all announcements made in lecture and lab (including changes to the syllabus).** (Please keep in mind that you *must attend all labs*.)

Withdrawal Policy – The last day to withdraw from this class with a **W** is **October 4 2012**. Thereafter, I **will not** issue any withdrawals from the course, and you will receive an official grade.

Academic dishonesty – Students found cheating on exams, homework assignments, quizzes, or laboratory assignments will receive an **F** for the entire course. No exceptions are made in this case, so please work independently. Be sure to read the relevant section and know and understand the potential penalties in the University Academic Regulations in the current undergraduate catalog or on the campus web site. SPSU has an Honor Code

and a new procedure relating to when academic misconduct is alleged. All students should be aware of them. Information about the Honor Code and the misconduct procedure may be found at <http://spsu.edu/honorcode/>.

**Students who feel they may need an accommodation based on the impact of a disability should make an appointment with the ATTIC (678.915.7361) to coordinate reasonable accommodations. The students are also welcome to contact the instructor privately to discuss one's specific needs.*

***USE OF CELL PHONES (INCLUDING TEXTING) IS NOT PERMITTED IN THIS CLASS!**

TENTATIVE LECTURE AND EXAM SCHEDULE

Week	Dates		Readings
1	8/15 8/17	Introduction	Chapter 1
2	8/20 8/22 8/24	Life, Chemistry, and Water Biological Molecules	Chapter 2 Chapter 3
3	8/27 8/29 8/31	Energy, Enzymes, and Biological Reactions	Chapter 4
4	9/3 9/5 9/7	Labor Day – no class (9/3) The Cell: An Overview	Chapter 5
5	9/10 9/12 9/14	<u>Exam 1 – (Monday, Sep 10)</u> Membranes and Transport	Chapter 6
6	9/17 9/19 9/21	Cellular Respiration Photosynthesis	Chapter 8 Chapter 9
7	9/24 9/26 9/28	Cell Division and Mitosis	Chapter 10
8	10/1 10/3 10/5	<u>Exam 2 – (Monday, Oct 1)</u> Meiosis	Chapter 11
9	10/8 10/10 10/12	Mendel, Genes, and Inheritance	Chapter 12
10	10/15 10/17 10/19	Genes, Chromosomes, and Human Genetics	Chapter 13
11	10/22	<u>Exam 3 – (Monday, 10/22)</u>	

	10/24 10/26	DNA Structure, Replication and Organization	Chapter 14
12	10/29 10/31 11/2	From DNA to Protein	Chapter 15
13	11/5 11/7 11/9	DNA Technologies and Genomics	Chapter 18
14	11/12 11/14 11/16	<u>Exam 4 – (Monday, 11/12)</u> The Development of Evolutionary Thought	Chapter 19
15	11/19 11/21 11/23	Population Genetics Thanksgiving Holiday – no class (11/21) Thanksgiving Holiday – no class (11/23)	Chapter 20
16	11/26 11/28 11/30	Speciation	Chapter 21
	12/3	<i>Last Day of Classes</i>	
		<i>Date and Time of Final Will Be Announced in Class</i>	

*** Date and time of the final exam will be announced in class!**

2107K-001 TENTATIVE LABORATORY SCHEDULE

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Week Number	Week of:	Topic
1	8/15	NO LAB
2	8/20	Lab 1: Introduction to Microscopes
3	8/27	Lab 2: Enzymes
4	9/3	Lab 4: Cell Structure
5	9/10	Lab 3: Diffusion and Osmosis
6	9/17	Lab 7: Glucose Metabolism/Photosynthesis
7	9/24	<i>Lab Practical 1</i>
8	10/1	Lab 5: Fruit Fly Genetics Part 1
9	10/8	Lab 8: Plant Animal Mitosis
10	10/15	Fruit Fly Genetics Part 2
11	10/22	Lab 10: Electrophoresis
12	10/29	Lab 11: DNA Restriction Analysis
13	11/5	Lab 9: Evaluating Genetic Crosses
14	11/12	Lab 12: Population Genetics
15	11/19	NO LAB
16	11/26	<i>Lab Practical 2</i>

* **This lab schedule is subject to change at the Lab Instructor's discretion.**