

Syllabus *DRAFT*

BIOLOGY 3B GENERAL BIOLOGY II Spring 2011

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Ticket Number: 10010 and 10015 and Disc. 22830

Lecture: MW 1200 - 1320 SM 104

Lab: MW 0830 – 1120 or 1430 - 1720 SM 244

Discussion: MW 1330 – 1420 SM 104

LECTURE SCHEDULE

WEEK	DATE	LECTURE TOPIC	READINGS
1	JAN 10	Introduction to Biology 3B	
	12	Early Earth and the Origin of Life	Ch. 26
2	17	Holiday: Martin Luther King	
	19	Prokaryotes	Ch. 27
3	24	Protists	Ch. 28
	26	Cell Communication	Ch. 11
4	31	The Fungi	Ch. 31
	FEB 2	Plant Diversity I	Ch. 29
5	7	Plant Diversity II	Ch. 30
	9	**LECTURE EXAM I**	
6	14	Plant Structure and Growth	Ch. 35
	16	Transport in Plants	Ch. 36
7	21	Plant Nutrition	Ch. 37
	23	Plant Reproduction	Ch. 38
8	28	Internal and External Signals in Plants	Ch. 39
	MAR 2	**LECTURE EXAM II**	
9	7	Animal Evolution	Ch. 32
	9	The Invertebrates	Ch. 33
10	14-18	Spring Break Week	
11	21	The Vertebrates	Ch. 34
	23	Animal Form and Function	Ch. 40
12	28	Animal Nutrition	Ch. 41
	30	Circulation and Gas Exchange	Ch. 42
13	APR 4	Body Defenses	Ch. 43
	6	Homeostasis	Ch. 44
14	11	**LECTURE EXAM III**	
	13	Chemical Signals	Ch. 45
15	18	Animal Reproduction	Ch. 46
	20	Animal Development	Ch. 47
16	25	Neurons and Signaling	Ch. 48
	27	Nervous System	Ch. 49
17	MAY 2	Sensory and Motor Mechanisms	Ch. 50
	4	Behavioral Biology	Ch. 51
18	9	Population Biology	Ch. 53
	10	Community Ecology	Ch. 54
	12	Meeting: Biological Sciences Society - All Day	
19	16	FINAL EXAM: 1245 - 1445	

BIOLOGY 3B LABORATORY SCHEDULE

Wk	Date	Laboratory	Notes/ Due dates
1	JAN 10	Introduction, Statistics Tune-up and Research Projects	
	12	Statistics Quiz, begin Water Testing Lab	Sterile bottles out
2	17	Holiday: Martin Luther King	
	19	Prokaryotes Lab and continue Water Quality Testing	Bring water samples
3	24	Protists Lab	Plate water samples
	26	Field Trip – Sewage Treatment Plant	Inoculate tubes
4	31	Fungi Lab	
	FEB 2	Plant Survey I Lab – Nonvascular plants	Proposals due
5	7	Plant Survey II Lab – Gymnosperms and Angiosperms	Abstract 1 due
	9	Land Plant Structure Lab	
6	14	Plant Reproduction Lab	Bring assigned fruits
	16	Chlorophyll Lab	Practical Review
7	21	LAB PRACTICAL I	
	23	Invertebrate Diversity I Lab	
8	28	Invertebrate Diversity I Lab (cont)	Abstract 2 Due
	MAR 2	Invertebrate Diversity II Lab	
9	7	Chordate Diversity Lab	
	9	Histology Lab	
10	14-18	SPRING BREAK WEEK	
11	21	Review for Lab Practical	
	23	LAB PRACTICAL II	
12	28	Skeletal System Lab	
	30	Muscular System Lab	
13	APR 4	Skeletal and Muscular, cont	
	6	Review for lab practical	
14	11	LAB PRACTICAL III	
	13	Respiratory, Circulatory and Digestive Systems Lab	
15	18	Mammalian Diving Response Lab	
	20	Digestive, Urogenital and Nervous Systems Lab	
16	25	Data Analysis/Presentation Lab	Abstract 3 due
	27	Review for Lab Practical Project	Papers due
17	MAY 2	LAB PRACTICAL IV	Peer Reviews due
	4	Mammalian Osmoregulation Lab	
18	7	PowerPoint Planning Session	
	10	Practice Oral Presentations	Abstract 4 due
19	13	FINAL EXAM 1245 - 1445	

Important Information About This Course

Biology 3A is the prerequisite for Biology 3B. Math 253 or 255 (you need to know the math basics) and Chemistry 1A are the prerequisites for Biology 3A. Thus, you are expected to know have the basic math and chemistry skill taught in those courses.

- The expected knowledge base from Biology 3A includes:
 - Appropriate use of the following statistical concepts (**within the MS Excel program**)
 - Measures of central tendency (mean, median mode)
 - Standard deviation and Standard error
 - T-test (paired and un-paired)
 - Chi-squared
 - Regression and Correlation
 - p-values and one- and two-tailed tests
 - Knowledge of precision, accuracy, and use of significant figures (rounding)
 - Proper application of the scientific method
 - hypothesis generation
 - experimental design
 - experimental hypothesis testing
 - Ability to express experimental results in a written scientific paper
 - Knowledge of all parts of the paper
 - *abstract, introduction, materials and methods, results, discussion, literature cited*
 - Ability to properly cite literature within the body of the paper and in the “Literature Cited” section
 - direct citation
 - indirect citation
 - knowledge of the “name-year system”
 - Ability to read, interpret and present graphic and tabular data
 - creation of bar, pie and line graphs using Excel
 - write appropriate figure and table captions
 - properly format figure and table captions
 - properly format figures and tables in a scientific paper
 - Basic understanding of the following biological concepts (to the extent they are covered in Biology 3A)
 - Cell structure and function
 - Cellular energetics and chemistry
 - Major concepts in evolution
 - Introductory genetics
 - Taxonomy and systematics
 - General ecology concepts

Biology 3B builds upon Biology 3A and introduces the student to the origins of life, the basic structures and functions (anatomy and physiology) of plants and animals including concepts in systematics, evolutionary relationships, development, ecology, and biotic relationships.

Student Learning Outcomes (SLO's)

Upon completion of the Biology 3B course, students will score at or above the 70% on a standardized national test of general biology (majors') knowledge. We assess this with 10 to 20 questions from the Medical College Admission Test (MCAT) imbedded into the final exam.

IMPORTANT DATES FOR THIS SEMESTER

23 JAN 2011	Last Day to drop and apply for a refund
15 FEB 2011	Last Day to withdraw without a "W"
7 APR 2011	Last day to withdraw with a "W"

Test Dates (Subject to change)

Lec Exam 1	9 FEB 2011	Practical I	23 FEB 2011
Lec Exam 2	2 MAR 2011	Practical II	23 MAR 2011
Lec Exam 3	11 APR 2011	Practical III	11 APR 2011
FINAL EXAM	16 MAY 2011	Practical IV	2 MAY 2011

Required Textbooks:

1. Biology, Campbell, NA and Reece, JB (2008) Eighth edition, Pearson/Benjamin Cummings
2. Student Handbook for Writing in Biology, Knisely, K (2004) Second Edition, WH Freeman

Required Lab Material: Download at: www.saddleback.edu/faculty/thuntley

Required Supplies:

- Each student will bring a box of latex gloves during the second week. These will be collected and handed out for dissections
- Each student will turn in four 100 question SCANTRON forms at the first exam.

ATTENDANCE: Since many of the questions on the tests will come from the lecture material, it is critical that students attend all class meetings. If you must miss a class, it is your responsibility to get the notes from a fellow student. If you miss more than 6 hours of class, **you MAY be dropped from the course (no exceptions)**. Excessive absences and tardiness will result in the lowering of your grade. Please note it is ultimately the student's responsibility to drop themselves from the course if they decide not to attend the class.

POLICY ON MAKE-UP EXAMS AND WORK: In general, I will not allow students to make-up missed exams or other work. However, if, due to extenuating circumstance, you miss an exam, I will allow an oral make-up exam within one week upon presentation of appropriate documentation.

POLICY ON ACADEMIC INTEGRITY: Cheating and plagiarism are violations of the college Code of Conduct (pg 39 of the current Student Handbook). The Division of Math, Science and Engineering and the Department of Biological Sciences have a stated policy on Academic Integrity. This policy is attached to this document. Please read it. In the event of cheating I reserve the right to give an "F" for the assignment, the test and/or the

class. Further, the incident will be reported to the Vice President of Student Services as stated in the Saddleback College Student Handbook.

GRADING: The semester grade will be determined by performance on lecture exams, the final exam, four lab practicals, written abstracts, a project proposal, a peer review, and the research project (written paper and the presentation).

Anticipated Grading Schedule

3 Lecture Exams (100 pts each).....	300 pts
1 Final Exam.....	100 pts
Quizzes (10 pts each).....	TBA
Four Laboratory Practical exams (100 pts each).....	400 pts
Project Proposal.....	50 pts
Peer Review	25 pts
Research Project (paper & presentation)	150 pts
Four Laboratory Abstracts (10 pts each)	60 pts
Approximate Total Possible Points	1085 pts

NOTE: *Points and assignments are subject to change at the instructor's discretion to facilitate a more productive learning environment.*

Math, Science, and Engineering Division Policy on Academic Integrity

Statement of purpose

Academic integrity is not just a matter of “following the rules.” It is a matter of participating in an intellectual community in a way that fosters the values of that community. These values include the promotion of learning, the sharing of knowledge, and the honest acknowledgment of the various sources of information. This document is designed with the purpose of clarifying some specific student actions that promote or violate these values. It should be read as a reinforcement, clarification, and extension of the "Academic Honor Code" as stated in the Saddleback College Catalog (under the section of "Student Rights and Responsibilities") and in the Student Handbook as the "Code of Conduct".

This document is not designed to be an exhaustive list of academic “dos and don’ts.” Rather, students are expected to understand that all participants in an academic environment have an active and on-going responsibility to be self-critical and to assess whether their actions are in compliance with a true spirit of learning. Students are accountable for academic dishonesty in any form, whether their actions are explicitly listed below or not. Further, ignorance or confusion about this policy or its interpretation is not a valid excuse for violating it. It is each student’s responsibility to recognize when an action is questionable and to question it. When in doubt, a student should always ask his or her instructor.

Academic honesty

When you submit work for credit you must do so honestly. At a minimum, this means:

1. Any and all work you submit must be your own work. For lab work, this includes gathering, analyzing, and presenting data. Group projects, if assigned, should be submitted using only the names of group members who contributed to the completion of the project.
2. You may use only those resources explicitly allowed by the instructor in completing an assignment. Allowed resources will vary with classes, instructors, and assignments. It is your responsibility to know which resources are allowed on any given assignment.
3. You must acknowledge use of allowed resources in completing an assignment, unless the instructor does not require such acknowledgment. Many instructors allow, and even encourage, students to receive help from each other, other instructors, tutors, and/or

printed or online materials. At the top of any assignment on which you have received outside help, you should list the sources of that help. For example, you might write: "I worked with [names of classmates worked with]" or "I got help in the LAP from [names of tutors]."

4. Unless given explicit permission, you may not submit work for credit if that work was completed for a different class. This includes work completed for the same course in a different semester. Learning is not just about the final product, but the process, and instructors give assignments with the expectation that completing the assignment will be a learning experience.

Academic dishonesty

The following actions are considered to be cheating. Again, this is not an exhaustive list, and students are expected to take an active role in assessing their own actions to ensure that they are honest.

1. Submitting a test or any other work (including homework, lab report, research or literature report, etc.) that is copied wholly or in part from another person's test or work, or knowingly allowing another student to copy from your work.
2. Having another person complete an assignment, take a test, or otherwise meet a requirement for you or you doing so for another student.
3. Using written or electronically retrievable notes or other unauthorized sources of information during a test.
4. Receiving specific information about a test from anyone but the instructor during the test, or giving to or allowing another student to get from you such information during the test.
5. Receiving specific information about the contents of a test before taking it, or providing specific information about a test after taking it in such a way that another student receives the information before s/he takes the same or a similar test.
6. Plagiarizing assignments from any source including Internet sources.
7. Falsifying or altering laboratory data, or copying results or answers from another student. Even if you were directed to work in a pair or other grouping, and although you may be allowed to share "primary data", it will be considered as evidence of cheating if you and another student report identical results that should naturally differ from one student to another, or identical wording in conclusions, answers to questions, etc. "Primary data" means numerical values or observations obtained directly by the experimenter or read directly from a measuring instrument.
8. Submitting a lab report using data you did not help to collect or sharing data with a student who did not help collect it. This does not include data provided by the instructor. While lab work is often done in groups, each group member is expected to participate in performing the experiment and analyzing and presenting the data collected.
9. Getting allowed help in preparing, writing, reviewing, editing, or proofreading an assignment for submission without acknowledging that help, if required by the instructor. This includes help from any source including other students, teachers, lab technicians, family members, friends, acquaintances, and even from anonymous sources (especially Internet sources). It may not be considered cheating to get the help, but it is definitely considered cheating not to note the source and extent of the help in a prominent way in the submitted work, if required by the instructor.
10. Using the whole of or substantial part(s) of any written assignment submitted for credit in another (concurrent or previously taken) course, without the explicit permission of the current instructor.

The penalties for any act of academic dishonesty are left to the discretion of the instructor. Possible penalties are listed in College Catalog and the Student Handbook. It is the policy of this division that all acts of dishonesty are reported to the Division Dean and the Vice President for Student Services. The Vice President keeps records of all reported incidents, and repeated offenses are handled with increasing severity.

Biology 3B Course Contract

By my signature I affirm that:

1. I have read the policy on Academic Integrity and agree to abide by it.
2. I will do the very best that I can in this course throughout the entire semester.
3. I will be on time for class and lab.
4. I acknowledge that some class field trips and/or meetings may conflict with other events in my life (parties, other classes, dates, vacations, retreats for spiritual enlightenment, etc...); however, at no time will I use these as excuses for poor performance or absence. I agree to accept the consequences of my actions and choices.
5. I agree that the grade I receive in this class will be determined by an empirical measurement of my understanding and achievement of the learning objectives for this course and not by expectations based upon fantasies, desires, hopes or wishes.

Section Ticket No. _____

Print Name Clearly: _____

Signature: _____ Date: _____