

BSC 2009L - Laboratory in Biological Sciences
LABORATORY SYLLABUS
Fall 2009

LOCATION: 315 Rolfs Hall
BSC Office: 220 Bartram Hall; 392-1175
COORDINATOR: Dr. Kent A. Vliet (kvliet@ufl.edu), 208 Carr Hall, 392-8130.
REQUIRED TEXT: Lab manual available at Target Copy.
HOME PAGE: www.bsc.ufl.edu/2009L.html
E-LEARNING: <https://lss.at.ufl.edu/>

PRE(CO)REQUISITE

BSC 2007 - Cells, Organisms, and Genetics, or BSC 2008 - Evolution, Ecology and Behavior. Officially, BSC 2007 or 2008 is a pre- or co-requisite for BSC 2009L. However, any biology course, including high school biology, and access to a biology text will probably be adequate.

COURSE DESCRIPTION

This is not a laboratory course in the traditional sense of the word. Few actual investigations will be conducted. However, we will provide evidence and understanding of biological principles through a variety of visual and multimedia approaches, allowing an interactive approach to the understanding of aspects of biology.

The amazing intricacies and complexities of life tend to obscure basic underlying relationships among all living things. This course attempts to elucidate principles of biological organization and function that tie together seemingly unrelated forms. The tendency of species to change over time (*i.e.*, evolution) will provide the basis of our approach to interpreting biological phenomena. Biological principles will be examined at all levels, from cellular, to organs and whole organisms, and to ecosystems. Attention will be paid to the relationships between structure (anatomy) and function (physiology) at all levels of organization. The course includes a study of human body structures and functions. Several lab exercises emphasize biological processes using humans as models. Ecological problems related to human impact on the environment will also be discussed.

GRADING

Your BSC 2009L grade will be based on raw scores from quizzes, worksheets, data sheets and lab exercises. Specific assignments will be detailed by your instructor. Quizzes generally cover material from the previous lab exercise as well as assigned readings for the present lab. Final letter grade will be assigned based on percentage of the total points earned, using the following cutoffs: A \geq 90.0%, B+ \geq 85.0%, B \geq 80.0%, C+ \geq 75.0%, C \geq 70.0%, D+ \geq 65.0%, D \geq 60.0%, E < 60%. These cut-offs may be lowered at the discretion of instructors, but they will not be increased. Scores will not be rounded (*i.e.*, 89.9% is not 90%).

Current UF grading policies for assigning grade points can be found at:
<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

BIOLOGICAL SCIENCES PROGRAM
POLICY ON ACADEMIC INTEGRITY

All students are expected to do their own work. The Biological Sciences Program upholds the Academic Honesty Guidelines of the University of Florida. The taking of information by means of copying homework assignments, working together with another individual(s) on such assignments, or looking or attempting to look at another student's paper during an examination is considered dishonest. The tendering of information, such as giving your work to another student to be used or copied is also considered dishonest. Any evidence of such academic dishonesty will result in the loss of all points on that graded assignment. Additionally, the names of those students so penalized will be reported to the University's Office of Student Judicial Affairs.

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LABORATORY SCHEDULE

Week	Week of	Laboratory Topic	Reading Assignment
1	24 Aug	**** NO LABS ****	Items indicated in bold print are to be read before coming to lab.
2	31 Aug	Cells	<ol style="list-style-type: none"> 1. Introduction to Course 2. Lecture: Scientific Method and Cells – Chapter 1 & 3 3. Lab: Cheek & Hydrilla Cells 4. <u>Homework</u>: <ol style="list-style-type: none"> a. Complete Cells Datasheet
3	7 Sept	**** NO LABS ****	
4	14 Sept	DNA	<ol style="list-style-type: none"> 1. Lecture – Chapters 4 & 5 2. Lab: DNA Extraction 3. <u>Homework</u>: <ol style="list-style-type: none"> a. Complete DNA Extraction Datasheet b. Read Article #1 c. Article #1 Worksheet
5	21 Sept	Inheritance	<ol style="list-style-type: none"> 1. Lecture – Chapters 6 & 7 2. Discussion: Article #1 3. Lab: Human Traits (Datasheet due by the end of class) 4. <u>Homework</u>: <ol style="list-style-type: none"> a. Study for Quiz #1
6	28 Sept	Microevolution <i>Quiz #1</i>	<ol style="list-style-type: none"> 1. Quiz #1 2. Lecture – Chapter 9 3. Lab: Beetle Breeding Simulation 4. <u>Homework</u>: <ol style="list-style-type: none"> a. Complete Beetle Datasheet b. Article #2 c. Article Worksheet #2
7	5 Oct	Macroevolution	<ol style="list-style-type: none"> 1. Lecture 2. Discussion: Article #2 3. Lab: Skull Lab and Museum Scavenger Hunt 4. <u>Homework</u>: <ol style="list-style-type: none"> a. Complete Skull Datasheet (10 pts) b. Museum Scavenger Hunt Datasheet (5pts)
8	12 Oct	**** NO LABS ****	
9	19 Oct	Ecology & Florida's Ecosystems	<ol style="list-style-type: none"> 1. Lecture – Ecology, FL ecosystems & Invasive species – Chapters 10-12 2. Lab: Invasive vs. Native Species Identification 3. <u>Homework</u>: <ol style="list-style-type: none"> a. Complete Ecology Datasheet b. Read Article #3 c. Worksheet #3 d. Completed Kyoto Protocol Debate

10	26 Oct	Human Impact	<ol style="list-style-type: none"> Lecture – Chapter 13 Discussion: Article #3 Lab: Kyoto Protocol Debate <u>Homework</u>: <ol style="list-style-type: none"> Human Impact Datasheet Study for Quiz #2
11	2 Nov	Human Anatomy & Sexual Repro <i>Quiz #2</i>	<ol style="list-style-type: none"> Quiz #2 Lecture – Chapters 14 & 15 Lab: Human anatomy & Sexual Repro Station Activities <u>Homework</u>: <ol style="list-style-type: none"> Complete Anatomy Datasheet Read Article #4 Worksheet #4
12	9 Nov	**** NO LABS ****	
13	16 Nov	Sensory Physiology	<ol style="list-style-type: none"> Discussion Lecture – Chapter 16 Lab: Sensory Physiology <u>Homework</u>: <ol style="list-style-type: none"> Complete Physiology Datasheet Study for Quiz #3 Present a science article to the class & Complete worksheet about the article (Points are the same as a datasheet)
14	23 Nov	**** NO LABS ****	
15	30 Nov	Mandatory Final Lab <i>Quiz #3</i>	<ol style="list-style-type: none"> Quiz #3 Presentations of science articles w/ worksheet due in the beginning of the class
16	7 Dec	**** NO LABS ****	

HEALTH WARNINGS: SWINE FLU
Fall 2009 SEMESTER

As you are no doubt aware, the modified H1N1 virus, commonly called the swine flu, is already widespread and reaching pandemic status. Experts predict it will have a significant impact by the end of September, well before the typical flu season. We must all be prepared for this during this fall semester. Basic symptoms of the disease can be found at: http://pediatrics.about.com/od/swineflu/a/409_symptoms.htm. Basically the symptoms are similar to other flu but with additional gastrointestinal difficulties.

The University has set up a swine flu page to keep you informed at: <http://www.ehs.ufl.edu/h1n1/students.asp>.

Essential to controlling the spread of this virus is that people that believe they may be infected do not try to go to class and remain home until their fever has broken. *If your instructor determines that you are possibly infected, you will be asked to leave the lab.* So that those who become sick do not get penalized, the BSC lab program suspend its Lab Admit policies (published in your lab manual), will not require documentation of illness, nor penalize students that miss their labs this semester. Your TA will provide means of making up work that you miss due to illness.

LABORATORY ASSIGNMENT AND POINT BREAKDOWN SHEET

WEEK	ASSIGNMENTS	POINTS
1	**** NO LABS ****	
2	Cells Datasheet	___ 15
3	**** NO LABS ****	
4	DNA Extraction Datasheet	___ 15
	Article #1 Worksheet	___ 5
5	Human Traits Datasheet	___ 15
6	Quiz 1	___ 10
	Beetle Breeding Datasheet	___ 15
	Article #2 Worksheet	___ 5
7	Skull Adaptation Datasheet	___ 10
	Museum Scavenger Hunt Datasheet	___ 5
8	**** NO LABS ****	
9	Ecology Datasheet (handout)	___ 15
	Article #3 Worksheet	___ 5
10	Human Impact Datasheet	___ 15
11	Quiz 2	___ 10
	Anatomy Datasheet	___ 15
	Article #4	___ 5
12	**** NO LABS ****	
13	Physiology Datasheet	___ 15
	Science Article and Presentation	___ 15
14	**** NO LABS ****	
15	Quiz 3	___ 10
TOTAL POINTS:		___ / 200