

BIOLOGICAL SCIENCE II
ABIO 122 (4 credit hours)
Spring, 2009

LECTURE INSTRUCTOR: Dr. Hugh Hanlin
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LAB INSTRUCTORS:

Dr. Hugh Hanlin
Mr. Brad Reinhart, SBDG 106, 641-3425, bradr@usca.edu

LECTURE: MW 1:00-2:15 PM, SBDG 327

LABS: Sec. 001	T	1:40-4:20PM	SBDG 103	Dr. Hanlin
Sec. 002	W	2:30-5:10PM	SBDG 103	Mr. Reinhart
Sec. 003	Th	1:40-4:20PM	SBDG 103	Dr. Hanlin

TEXTBOOK: Biology (8th ed.), Raven, Johnson, Losos, Mason & Singer (or any earlier edition of Raven & Johnson)

LAB MANUALS: Biology Laboratory Manual, Department of Biology & Geology
A Photographic Atlas for the Biology Laboratory, Van de Graff & Crawley (optional)

LAB SUPPLIES: A quad-ruled notebook is required. Surgical gloves are recommended for use with handling preserved specimens. Each student must provide his/her own eye protection and gloves when working with preserved specimens. (Caution: Exposure to formaldehyde has been linked to cancer in rats.)

COURSE DESCRIPTION: Biological principles and concepts from the tissue through ecosystem levels of organization including evolutionary processes.

COURSE OBJECTIVES:

- To acquaint students with biological principles associated with multicellularity, development, phylogeny, ecology and evolution.
- To acquaint students with the anatomical organization of organisms to include tissue, organs, and systems and their functions.
- To trace the development of organisms.
- To trace the phylogeny of organisms.
- To acquaint students with the behavior and ecology of organisms.

STUDENT COMPETENCY STATEMENTS: By the end of this course the student will have demonstrated the ability to:

- Discuss biological principles and topics of historical and current interest and importance.
- Describe the biological processes that operate at the multicellular levels to include histological, organismal, population, community and ecosystem levels of organization.
- Apply theoretical concepts in the laboratory by following a written procedure.

METHODS OF PRESENTATION: This course will consist of lectures by the instructors, classroom discussion, and group and individual laboratory exercises. The instructors will utilize appropriate modes of visual aids and laboratory equipment.

METHODS OF EVALUATION: Achievement of course objectives will be evaluated by lecture exams, laboratory reports, notebooks, quizzes and exams, and a final comprehensive exam.

GRADES: The lecture will count for 60% and the lab for 40% of the final course grade. However, **you must receive a passing grade in lab to pass the class.**

Grades in the course will be determined as follows:

- 10% - weekly laboratory quizzes
- 10% - lab notebooks
- 10% - 2 laboratory reports
- 10% - 2 laboratory exams
- 45% - 3 lecture quizzes
- 15% - final comprehensive exam

See the course schedule below for dates of lecture quizzes, lab exams and final exam.

IMPORTANT GUIDELINES:

- 1) This is a survey course and covers a great deal of material! The text is good and can help explain lecture material you may not fully understand. I will not cover all of the text in class, but you will understand lectures better if you read the assigned text sections **before you come to class**, and you will do better on tests if you keep up with the reading. In addition, I will provide information in lecture that will **supplement** your text. You will be expected to know this additional material for lecture quizzes, so it is imperative that you attend lectures to do well in this class.
- 2) The lab is heavily scheduled and you will be expected to stay for the entire period.
- 3) You will be expected to have read all laboratory exercises and the accompanying text references before attending labs. You must bring both your laboratory manual and your text to the laboratory.
- 4) No make-up exams will be given for missed lecture quizzes except under extreme situations (see your Student Handbook). **There will be no opportunity to make up missed lab quizzes or exams unless it can be arranged during another lab period during the week the absence occurred.**
- 6) Students are expected to attend lectures. Pop quizzes may be given periodically to encourage attendance. In addition, 75% attendance in lab is required. **You cannot get a passing grade in lab with more than three absences and you cannot pass the course if you do not pass the lab.**
- 7) You are strongly encouraged to make appointments with your instructor if you are having problems in the course. You may make an appointment or drop in if I am not busy with another student. In general, the following hours are available for appointments: MTW 9:30-11:00 AM. If my office hours conflict with your schedule, we can make arrangements to meet at another time during the week. The laboratory instructor also welcomes student visits. Office hours will be posted on our office doors.
- 8) Upon prior approval, you will be allowed to use an electronic device to record lectures if the recording device is placed at the front lecture desk. However, the use of any other portable electronic devices, including cell phones, pagers, MP3 players, iPods, etc., during class or lab is not permitted. If you have any of these devices in your possession during class, they must be turned off and stowed away for the duration of the class period.
- 9) You will be expected to endorse the following HONOR PLEDGE on every quiz:

"On my honor as a University of South Carolina at Aiken student, I have neither given nor received any unauthorized aid of this assignment/examination. To the best of my knowledge I am not in violation of academic honesty."

Infractions of this honor pledge will not be tolerated!

- 10) If you have a physical, psychological, and/or learning disability which might affect your performance in this class, please contact the Office of Disability Services, 126A B&E, (803) 641-3609, as soon as possible. The Disabilities Services Office will determine appropriate accommodations based on medical documentation.

TENTATIVE LECTURE SCHEDULE

WEEK	DATES	TOPIC	TEXT CHAPTERS
1	Jan 12, 14	Biology as a Science; Evolution: An Overview	1, 20-23
2	Jan 19 Jan 21	Martin Luther King, Jr. Day - No Class Evolution: An Overview; Cell Cycle; Life Cycles	20-23; 10-11, 26, 29
3	Jan 26, 28	Fungi-like Protists & Fungi Diversity	29,31
4	Feb 2,4	Plant-like Protists & Plant Diversity	29-30
5	Feb 9 Feb 11	Quiz #1 Plant Structure, Growth, and Function	36-38
6	Feb 16, 18	Plant Structure, Growth, and Function	36-38
7	Feb 23, 25	Animal Development	32,53
8	Mar 2 Mar 4	Animal Development Quiz #2	32,53
	Mar 6	Last Day To Withdraw Without “WF”	
9	Mar 9, 11	Spring Break	
10	Mar 16, 18	Animal Diversity	32-35
11	Mar 23, 25	Protection, Support, and Movement	43,47
12	Mar 30, Apr 1	Neural & Endocrine Controls	44-46
13	Apr 6 Apr 8	Circulation, Respiration & Digestion Quiz # 3	48-49
14	Apr 13,15	Osmoregulation & Reproduction	50,52
15	Apr 20, 22	Population & Community Ecology	55-56
16	Apr 27 Apr 30	Ecosystems Reading Day	57
17	May 4	FINAL EXAM 2:00 PM	

LABORATORY SCHEDULE

WEEK	DATES	TOPIC	LAB EXERCISE
1	Jan 12-14	Scientific Method/Animal Behavior	I
2	Jan 19-21	Microscopy; Prokaryote & Protist Diversity	II
3	Jan 26-38	Cell Cycle, Division & Ploidy * Group Project I initiated	III
4	Feb 2-4	Fungi Diversity	IV
5	Feb 9-11	Plant Diversity	V
6	Feb 16-18	Monocots & Dicots; Plant Tissues	VI
7	Feb 23-25	Flowers, Fruits & Seeds * Group Project I completed	VII
8	Mar 2-4	Laboratory Exam I	
9	Mar 9-11	No Lab -- Spring Break	
10	Mar 16-18	Animal Development * Group Project II initiated	VIII
11	Mar 23-25	Animal Diversity I	IX
12	Mar 30-Apr 1	Animal Diversity II; Vertebrate Form & Function	X & XI
13	Apr 6-8	Vertebrate Tissues	XII
14	Apr 13-15	Ecology: Trophic Pyramids and Food Webs * Group Project II completed	XIII
15	Apr 20-22	Laboratory Exam II	