

BIOLOGICAL SCIENCE II
ABIO 122 (4 credit hours)
Fall, 2008

LECTURE INSTRUCTOR: Dr. Hugh Hanlin
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LAB INSTRUCTOR: Dr. Andy Dyer
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LECTURE: TTh 9:25-10:40 AM ADMN 106

LABS: Sec. 003 TTh 10:50 AM -12:05 PM SBDG 103
 Sec. 004 TTh 12:15 PM - 1:30 PM SBDG 103

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

LAB MANUALS: Biology Laboratory Manual, Dyer, Bennett, Hanlin & Zelmer

LAB SUPPLIES: A quad-ruled notebook is required. Surgical gloves are recommended for use with handling preserved specimens if required. 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.

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
- 40% - 4 lecture quizzes
- 20% - 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.**
- 6) Students are expected to adhere to the University attendance policy as stated in the Student Handbook. 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: MW 9:30-11:00 AM, TTH 12:30-2:30 PM. If my office hours conflict with your schedule, we can make arrangements to meet at another time during the week. Dr. Dyer also welcomes student visits. Office hours will be posted on his office door.
- 8) 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!

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

TENTATIVE LECTURE SCHEDULE

WEEK	DATES	TOPIC	TEXT CHAPTERS
1	Aug 21	Biology as a Science	1
2	Aug 26, 28	Evolution: An Overview; Systematics	1, 20-23
3	Sep 2, 4	Eukaryote origins; Cell Cycle; Life Cycles	26, 29; 10-11
4	Sep 9 Sep 11	Fungi-like Protists & Fungi Quiz #1	29, 31
5	Sep 16, 18	Plant-like Protists & Plant Diversity	29-30
6	Sep 23, 25	Plant Diversity	30
7	Sep 30, Oct 2	Plant Structure, Growth, and Function	36-38
8	Oct 7 Oct 9	Quiz #2 Fall Break - No Class	
9	Oct 14, 16 Oct 16	Animal Development Last Day To Withdraw Without "WF"	32,53
10	Oct 21, 23	Animal Diversity	32-35
11	Oct 28 Oct 30	Quiz #3 Protection & Support & Movement	43, 47
12	Nov 4 Nov 6	Election Day - No Class Neural & Endocrine Controls	44-46
13	Nov 11, 13	Circulation & Respiration	49
14	Nov 18 Nov 20	Digestion Quiz # 4	48
15	Nov 25 Nov 27	Osmoregulation & Reproduction Thanksgiving Holidays	50, 52
16	Dec 2, 4	Population & Community Ecology; Ecosystems	55-57
17	Dec 9	FINAL EXAM 8:00 AM	

TENTATIVE LABORATORY SCHEDULE

WEEK	DATES	TOPIC	LAB EXERCISE
1	Aug 21	No lab	
2	Aug 26, 28	Scientific Method/Animal Behavior	I
3	Sep 2, 4	Introduction to the Microscope; Cell Cycle, Division & Ploidy	II
4	Sep 9, 11	Prokaryotes & Protists * Group Project I (Plant Growth) initiated	III
5	Sep 16, 18	Fungi Diversity	IV
6	Sep 23, 25	Plant Diversity	V
7	Sep 30, Oct 2	Monocots & Dicots; Plant Tissues	VI
8	Oct 7 Oct 9	Flowers, Fruits & Seeds No Labs (Fall Break, Oct 9-10)	VII
9	Oct 14 Oct 16	* Group Project I (Plant Growth) completed Laboratory Exam I; Notebooks and lab reports due	
10	Oct 21, 23	Animal Development * Group Project II (Population Dynamics) initiated	VIII
11	Oct 28, 30	Animal Diversity I	IX
12	Nov 4 Nov 6	No Labs (Election Day) Animal Diversity II	X
13	Nov 11, 13	Vertebrate Form & Function; Vertebrate Tissues	XI & XII
14	Nov 18, 20	Ecology	XIII
15	Nov 25 Nov 27	* Group Project II (Population Dynamics) completed No Labs (Thanksgiving Holidays, Nov 26-28)	
16	Dec 2 Dec 4	Notebooks and lab reports due Laboratory Exam II	