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

Lecture instructor: Dr. Andrew Dyer **Office** Sciences 101E
Phone: 641-3443 **email:** AndyD@usca.edu
Office hours: Contact me or stop in if the door is open.

Lecture/Lab: MWF 11:00 – 12:50 am in Sciences 103

Textbook: Biology (8th ed.) by Raven, Johnson, Losos, Mason & Singer. Earlier editions are acceptable. (Used books are available through such places as Half.com but it takes a credit card and a couple of days. They are also available at textbook stores such as Spotted Cow on Wrightsboro Rd in Augusta.)

Lab manuals: Biology Laboratory Manual - Dyer, Bennett, Hanlin & Zelmer.
A Photographic Atlas for the Biology Laboratory is highly recommended.

Lab supplies: 3-ring binder and a set of **colored pencils**.

Course description:
Biological principles and concepts from the tissue through ecosystem levels of organization.

Objectives:
- To acquaint students with biological principles associated with multi-cellularity, development, phylogeny, ecology and evolution.
- To acquaint students with the anatomical organization of organisms including tissues, organs, and systems and their functions.
- To trace the development of organisms.
- To trace the phylogeny of organisms.
- To acquaint students with the behavior, ecology, and evolution of organisms.

Competency: 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 multi-cellular levels including histological, organismal, population, community, and ecosystem levels of organization.
- Apply theoretical concepts in the laboratory by following a written procedure.

Presentation: This course will consist of lectures by the instructor, classroom discussion, and group and individual laboratory exercises.

Evaluation: Achievement of course objectives will be evaluated by several lecture exams, a comprehensive final, laboratory quizzes and exams, and lab notebook grades.

Grading:

The course grade will be an average of the lab and lecture grades and will be on a 10pt scale (>90%=A, 80-89% = B, ….)

The **lecture grade** will count for 60% of the total grade and will be based on Blackboard quizzes (10% of the grade), 4 lecture tests (see the schedule for dates) and a comprehensive final. Exams will count for 90% of the lecture grade. Please do not ask about extra credit.

The lab grade counts for 40% of the course and will be divided evenly among practical tests, lab reports, weekly quizzes and assignments, and the lab notebook.

Attendance

* 75% attendance is required. As this is a lab science course, you **cannot** pass the course if you do not pass the lab. There will be **no makeups** of missed lab quizzes and tests.

* The lab is heavily scheduled and you will be expected to stay the full time. Some of the written work will be assigned as homework. You will need your lab manual every week. Also, the textbook can be **very** helpful in lab.

Additional comments:

* This is a survey course and covers a great deal of material! I attempt to give the details I want you to know in lecture. If you do not understand something, consult other biology books in the library. Almost all standard texts contain similar information. You will understand lectures better if you read the text sections **before you come to class** and you will do better on tests if you keep up with the reading.

* Please drop by my office if you have questions or are having difficulty in class or any other reason. You may make an appointment or drop in if I am not busy with another student. If my office hours conflict with your schedule, we can make arrangements to meet at another time during the week.

* You will be expected to endorse the following **Honor Pledge** on every assignment:
"On my honor as a University of South Carolina Aiken student, I have neither given nor received any unauthorized aid on this assignment/examination. To the best of my knowledge I am not in violation of academic honesty."
Infractions of this honor pledge are not tolerated.

* If you have a physical, psychological, and/or learning disability which might affect you 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	Date		Topic	Chapter
1	Aug	22	Intro, Science	1
2	Aug	25-29	Cell division; mitosis/meiosis Genes	10, 11 20
3	Sep	3-5	Natural selection, Evolution Classification of life, viruses	20, 21 26, 27
4	Sep	8-12	Prokaryotes: Eubacteria and Archaea	28
5	Sep	15-19	**Exam I** Eukaryotes: Fungi, Protista and phylogeny	31, 29, 30
6	Sep	22-26	Plantae: structure and function	36
7	Sep 29-Oct 3		Plantae: transport and physiology	38, 41,
8	Oct	6-8	Plantae: reproduction and development	42
9	Oct	13-17	**Exam II** Animalia: Phylogeny and diversity	32
10	Oct	20-24	Animalia: Acoelomates, Coelomates	33, 34
11	Oct	27-31	Animalia: Vertebrates, development **Exam III**	35, 53
12	Nov	3-7	Physiology: Circulation and respiration	49
13	Nov	10-14	Physiology: Digestion, regulation	48, 50
14	Nov	17-21	Physiology: Regulation and reproduction	50, 52
15	Nov	24 26-28	**Exam IV** **Thanksgiving break**	
16	Dec	1-5	Ecology	55, 56
17	Dec	10	**Final Exam: Wednesday 9:00**	

TENTATIVE LABORATORY SCHEDULE

WEEK	DATES	TOPIC	LAB EXERCISE
1	Aug 22	No lab	
2	Aug 25-29	Scientific Method/Animal Behavior	I
3	Sep 3-5	Introduction to the Microscope; Cell Cycle, Division & Ploidy	II
4	Sep 8-12	Prokaryotes & Protists * Group Project I (Plant Growth) initiated	III
5	Sep 15-19	Fungi Diversity	IV
6	Sep 22-26	Plant Diversity	V
7	Sep 29-Oct 3	Monocots & Dicots; Plant Tissues	VI
8	Oct 6-8 **Oct 10**	Flowers, Fruits & Seeds **No class (Fall Break, Oct 9-10)**	VII
9	Oct 13 Oct 15 Oct 17	* Group Project I (Plant Growth) completed **Laboratory Exam I; Notebooks and lab reports due**	
10	Oct 20-24	Animal Development * Group Project II (Population Dynamics) initiated	VIII
11	Oct 27-31	Animal Diversity I	IX
12	Nov 3-7	Animal Diversity II	X
13	Nov 10-14	Vertebrate Form & Function; Vertebrate Tissues	XI & XII
14	Nov 17-21	Ecology	XIII
15	Nov 24 **Nov 26**	* Group Project II (Population Dynamics) completed **No class (Thanksgiving Holidays, Nov 26-28)**	
16	**Dec 2** **Dec 4**	**Notebooks and lab reports due** **Laboratory Exam II**	