

**BIOLOGICAL SCIENCE II**  
**ABIO 102 (4 credit hours)**

**Lecture instructor: Dr. Andrew Dyer**

**Phone:** 641-3443

**Office hours:** TTh 9:00 -10:30 or by appt.

**Office** Sciences 101E

**email:** [andyd@aiken.sc.edu](mailto:andyd@aiken.sc.edu)

**Lecture:** TTh 10:50am -12:05pm in Sciences Building room 327

**Labs:** Weekly in Sciences Building room 103. Labs will meet in the first week.

			Lab instructor:
Sec 3	W	8:00am -10:40 am	Erin Casey
Sec 4	W	11:00am -1:40 pm	Erin Casey
Sec 5	Th	1:40pm -4:20 pm	Dr. Dyer

**Textbook:** Biology (2<sup>nd</sup> or 3<sup>rd</sup> ed.) by David Krogh. You may use any other good biology textbook, such as Raven and Johnson 5<sup>th</sup> or 6<sup>th</sup> ed. which has more detail than you need for this course, but it has everything.

**Lab supplies:** You need a 3-ring binder. A set of colored pencils is recommended for lab.

**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.

The **lecture grade** counts for 60% of the course and will be based on 4 lecture tests equally spaced throughout the semester (see the syllabus) and a final comprehensive lecture exam. The final will count for 40% of the lecture grade.

**The lab grade** counts for 40% of the course and will be based on 2 practical tests, about 10 weekly quizzes, a notebook (graded twice), and attendance. The two practical tests will count for half the lab grade.

**Please note:** This is a lab science course. If you fail the lab portion of the class, you fail the class regardless of your lecture grade. In addition, 75% attendance in lab is mandatory.

**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. However, the text is a survey book and not an encyclopedia. If you do not understand something, consult other biology books in the library. Almost all standard texts contain the same information. You will understand lectures better if you read the text sections **beforehand** 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.

**Laboratory**

- \* 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. There will be **no makeups** of missed lab quizzes and tests. None.
- \* 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.

**General**

- \* You will be expected to endorse the following **Honor Pledge** on every test:  
“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 taken very seriously.**
- \* 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.

<b>TENTATIVE LECTURE SCHEDULE</b>			
<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Chapters Krogh 2ed.</b>
1	11 Jan	Introduction to science	1
	13	Cell division, mitosis/meiosis	9,10
2	18	Genes, natural selection, evolution	16
	20	Classification of life, Viruses,	18, 20
3	25	Prokaryotes: Bacteria and Archaea	20
	27	Eukaryotes: Protista and Fungi	20
4	1 Feb		
	3	<b>Exam I</b>	
5	8	Plant phylogeny	20
	10	Plant phylogeny	20
6	15	Vascular plant structure, tissues, transport	22,23
	17	Vascular plant structure, tissues, transport	22,23
7	22	Reproduction and growth	23
	24	<b>Exam II</b>	
8	1 Mar	Animal phylogeny	21
	3	Animal phylogeny	21
	8	<b>SPRING</b>	
	10	<b>BREAK</b>	
9	15	Animal phylogeny	21
	17	Animal phylogeny	21
10	22	Animal development	27
	24	<b>Exam III</b>	
11	29	Digestive	26
	31	and circulatory systems	26
12	5 Apr	Circulatory and respiratory systems	26
	7	Human development	28
13	12	<b>Exam IV</b>	
	14	Ecology	29,30
14	19	and interactions	29,30
	21	Communities	29,30
	28 Apr	<b>Final exam: 11:00am–2:00pm</b>	comprehensive

## TENTATIVE LABORATORY SCHEDULE

<b>Lab</b>	<b>Date</b>	<b>Topic</b>	<b>Activities</b>
I	12-13 Jan	Scientific method	Animal behavior with fish
II	19-20 Jan	Mitosis and meiosis	Microscopes
III	26-28 Jan	Monera and Protista	Begin plant experiments
IV	2-3 Feb	Fungi	
V	9-10 Feb	Plant diversity	
VI	16-17 Feb	Monocots and dicots, plant tissues	
VIII	23-24 Feb	Flowers/fruit/seeds	Dichotomous key
	2-3 Mar	<b>Exam I</b>	Finish plant projects, turn in lab books
	9-10 Mar	<b>Spring break</b>	
IX	16-17 Mar	Animal development	Begin Lemna project
X	23-24 Mar	Animal diversity: Porifera-Mollusca	
XI	30-31 Mar	Animal diversity: Arthropod-Chordata	
XII-XIII	6-7 Apr	Vertebrate tissues, form and function	Dichotomous key
XIV	13-14 Apr	Ecology, food webs	Owl pellets
	20-21 Apr	<b>Exam II</b>	Finish Lemna projects, turn in lab books