

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

**Lecture instructor: Dr. Andrew Dyer**  
**Phone:** 641-3443  
**Office hours:** MW 10:00 -12:00 or by appt.

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**Lab instructor: Erin Casey**  
**Phone:** 641-3349  
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**Office** Sciences 112B  
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**Lecture:** MWF 9:00 – 9:50 am in Sciences Building Room 327

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

Sec 003	T	8:00am - 10:40 am	Dyer
Sec 004	T	1:00am - 3:40 pm	Casey

**Textbook:** Biology (5<sup>th</sup>, 6<sup>th</sup>, or 7<sup>th</sup> ed.) by Raven, Johnson, Losos & Singer. The 7<sup>th</sup> edition is available as an ebook for about half-price at <http://textbooks.zinio.com>. You may use any other good biology textbook as well.

**Lab supplies:** You need a 3-ring binder and a set of colored pencils 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 Blackboard quizzes (10% of the grade), 4 lecture tests equally spaced throughout the semester (see the schedule for dates) and a final comprehensive lecture exam.

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</b>
1	19 Aug	Introduction, Science	1
2	22-26	Cell division, mitosis/meiosis	11,12
		Genes, natural selection, evolution	1, 21,22,23
3	29Aug-	Classification of life, Viruses	26
	2 Sept.	Prokaryotes: Bacteria and Archaea	27
4	5	<b>Labor Day – no class</b>	
	7	Eukaryotes: Protista	28
	9	<b>Exam I</b>	
5	12-16	Eukaryotes: Fungi	30
		Plant phylogeny	29,
6	19-23	Vascular plant structure	35
		Plant tissues	
7	26-28	Transport within plants	37
	30	<b>Exam II</b>	
8	3-7 Oct.	Plant reproduction	41
		Development, tropisms	36,40
9	10-12	Growth and	40
	14	<b>Fall Break – no class</b>	
10	17	regulation	40
	19	Animal phylogeny	31,32
	21	<b>Exam III</b>	
11	24-28	Animal phylogeny	33,34
		Reproduction	50
12	31 Oct -	and development	51
	4 Nov	Digestive system	43
13	7-11	Circulatory system	44
		Respiratory system	44
14	14	Excretory system	49
	16	Homeostasis	49
	18	<b>Exam IV</b>	
15	21	Populations	53
	23-25	<b>Thanksgiving Holiday (eat and review)</b>	
16	28 Nov -	Communities	54
	2 Dec	Ecosystems, the biosphere	55,56
	Dec 9	<b>Final exam: 9:00–12:00am</b>	comprehensive

## TENTATIVE LABORATORY SCHEDULE

<b>Lab</b>	<b>Date</b>	<b>Topic</b>	<b>Activities</b>
I	23 August	Scientific method	Animal behavior with fish
II	30 August	Mitosis and meiosis	Microscopes
III	6 Sept.	Prokaryotes / Protista	Begin plant experiments
IV	13 Sept.	Fungi	
V	20 Sept.	Plant diversity	
VI	27 Sept.	Monocots and dicots, plant tissues	
VIII	4 Oct.	Flowers/fruit/seeds	Dichotomous key
	11 Oct.	<b>Exam I</b>	Finish plant projects, turn in lab books
IX	18 Oct.	Animal development	Begin Lemna project
X	25 Oct.	Animal diversity: Porifera-Mollusca	
XI	1 Nov.	Animal diversity: Arthropod-Chordata	
XII-XII	8 Nov.	Vertebrate tissues, form and function	Dichotomous key
XIII	15 Nov.	Ecology, food webs	Owl pellets
	22 Nov.	<b>No lab</b>	
	29 Nov	<b>Exam II</b>	Finish Lemna projects, turn in lab books