

# BIOLOGY 160 – INTRODUCTION TO ANIMAL BIOLOGY

## Section 06, Spring 2018 Course Syllabus

**Instructor:**

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**Course Information:**

Lecture - Room 170, Trainer Natural Resources Building (TNR)  
Tuesday & Thursday; 12:30pm – 1:45pm

Lab - Room 351, Trainer Natural Resources Building (TNR)  
Wednesday; 2:00pm – 4:50pm

Office hours: Tuesday 1:45 - 4:00pm & Wednesday 1:00 - 2:00pm, also by appointment  
Course website – see D2L

**Required Text:**

Urry, Cain, Wasserman, Minorsky, Reece. 2017. *Campbell Biology*, 11<sup>th</sup> ed. Can be rented in the university bookstore.

**Course Objective:**

This course will introduce you to how animals work, from cells to organ systems, how traits are inherited, and how animals interact with and adapt to their environments. You will also learn about animal classification, diversity of animals, and evolutionary relationship between many different types of organisms covered in lab, from sponges to mammals, as well as how those evolutionary relationships take shape (i.e., how evolution occurs). Even if you are not a biology major, you will leave this course with information that will affect your life, whether it is personally or professionally.

**Learning Outcomes:**

By the end of the biology introductory sequence (Biol 130, Biol 160, and Biol 270), you should be able to:

1. Recognize the multiple levels of complexity at which biological systems operate, from molecules to ecosystems and the biosphere, and explain the emergent properties and processes characteristic of each level.
2. Describe mechanisms for the continuity of life, including the processes of inheritance, development, and evolution.
3. Demonstrate proficiency in the methods and philosophy of science, including articulation and application of the Scientific Method, collection and analysis of biological data, and application of professional ethics.
4. Critically evaluate and synthesize biological information from multiple sources, including the primary scientific literature, and communicate biological knowledge to both professional and non-professional audiences.
5. Articulate the application of biological science to meeting the needs of society, including basic research, stewardship of biodiversity, human health, and entrepreneurial innovation.

### Grading:

Grade Items	% of Course Grade
Exam I	12.5 %
Exam II	12.5 %
Exam III	12.5 %
Comprehensive Final	20 %
Lecture Quizzes	12.5 %
Lab Practicals	30 %
<b>Total</b>	<b>100 %</b>

### **Grade Scale:**

<b>A ≥ 93%</b>	<b>B+ ≥ 87%</b>	<b>C+ ≥ 77%</b>	<b>D+ ≥ 67%</b>	<b>F ≤ 59%</b>
	<b>B ≥ 83%</b>	<b>C ≥ 73%</b>	<b>D ≥ 63%</b>	
<b>A- ≥ 90%</b>	<b>B- ≥ 80%</b>	<b>C- ≥ 70%</b>	<b>D- ≥ 60%</b>	

**Grades will be posted on D2L**

### Exams and Quizzes:

There will be three Exams given during class lecture time, and a comprehensive Final. All exams must be taken for a grade. Missed exams can only be made up upon acceptance of documentation for an excusable absence.

Weekly quizzes will be given at the end of class on Wednesday each week. These quizzes will cover only material from that week and are meant to be assess whether you have attended and incorporated the content from lecture.

Extra credit opportunities are not available to individuals, so please do not inquire about this. If extra credit is offered, it will be communicated and made available to the entire class.

### Attendance Policy:

- Attendance at all lectures and labs is required. Any missed assignments cannot be made up without approved documentation for an excusable of absence.
- Excusable absences include illness, accident, family emergency, professional development activity, religious activity (see UWSP University Handbook Chapter 22), or university sanctioned event. Acceptable documentation is the instructor's discretion, but may be written or electronic documentation for the reason of absence. In the case you have an expected or unexpected absence, please contact the instructor **AS SOON AS POSSIBLE** to notify about the nature of the absence and determine if it can be excused.
- Late arrival to class will not be excused and any assignment, quiz, or exam due during that class will not be granted a time extension.

Generally, missing any class will put you at a distinct disadvantage in this and all courses. You are paying to attend this course and learn about Biology. Attending is the first step to getting your money's worth!

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### **Academic Conduct:**

#### **Do not copy the work of other students; Do not represent the work of other students as your own; Do not share your work with other students**

You are responsible for the honest completion and representation of your work and for the respect of others' academic endeavors. Any action of cheating, plagiarism, or academic misconduct is subject to the penalties outlined in UWS University Community Rights and Responsibilities, Chapter 14. Please refer to the University Community Rights and Responsibilities rules and regulations for more information: <https://www.uwsp.edu/dos/Documents/CommunityRights.pdf#page=11>

Student assignments determined to be in violation of these policies will result in a grade of zero (0). Depending on the circumstance, students may receive further penalty in accordance with these policies.

### **Course Communication:**

Information about this course will be communicated through D2L and/or sent to University email accounts. Students are responsible for/expected to check their University email regularly. If you use an email account other than your University account to contact the instructor, be sure your full name is included in the message!

### **Electronic Devices:**

Cell phones should be turned **OFF** and **NOT BE USED** during class times. No other communication or musical devices are allowed. Students needing an electronic language dictionary during exams may use one with permission from the instructor (see below). No video or audio recording of lectures is permitted without the prior permission from the instructor (see below).

### **Students Seeking Assistance & Students Disabilities:**

As the instructor, it is my goal to meet the educational needs of ALL STUDENTS and to provide the best learning environment possible.

Any students seeking/considering use of assistive technology, materials, or accommodations are encouraged to talk with the instructor at the beginning of the course. It is my goal to find the most effective way to teach all students. Students with a disability seeking accommodations should also register with the Disability and Assistive Technology Center (<https://www.uwsp.edu/disability/Pages/default.aspx>) in the Learning Resource Center (the Library).

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## Suggested study habits:

It is often observed that people learn more when they encounter and interact with subject material in different ways. The following scale presents representative measures of how we might learn through different forms of interaction.

### You learn:

- 10% of what we **read**
- 20% of what we **hear**
- 30% of what we **see**
- 40% of what we **see & hear**
- 50% of what we **write**
- 60% of what is **discussed**
- 70% of what we **experience**, and
- 95% of what we **teach**

### *Before each class:*

- a) Read the textbook chapters and summary sections that pertain to the info in the lecture slides (Powerpoint). While reading, take notes on the side of each slide to help clarify the information discussed in class. These notes can be used as lecture slide guide sheets.

### *Before the exam:*

- a) **Rewrite your notes!** For each lecture, continue developing your lecture slide guide sheets and write out the information that was covered for each slide. Try to describe any images/figures on the slide in your own words. Try to do this for each lecture BEFORE the next lecture. Then read it over once to see the whole picture or overall theme of that lecture. When appropriate, make a table of info to help compare concepts.
- b) **Anticipate exam questions.** Come up with 1-2 questions of your own from each slide to quiz yourself later. Definitions, short answers, problems, and comparisons are all good types of questions.
- c) **Study your notes.** At the end of each week you will have made lecture slide guide sheets that include your notes for that material. Before the week's lectures, read over your lecture slide guide sheets and highlight only the information you could not remember.
- d) **Focus your studies.** Before the exam you will have made a set of lecture slide guide sheets with the information you need to reinforce already highlighted. Focus on this highlighted material one or two days before the exam. Reread, highlight info that you are having trouble learning or remembering and say it out loud, to yourself, with another person from class, a friend or study group.
- e) **Practice questions.** At the end of each chapter, try the practice questions (suggested on D2L) before looking at the answers in the back of the book. Write down the ones you do not understand and ask the instructor for guidance with those problems.
- f) **Revisit your study questions.** Try to answer the questions that you generated for each slide. Study with someone in class and try to answer each other's questions.
- g) **Teach your peers.** If you can teach it to another person, then you know it!

### *The night before the exam:*

- a) **Value your sleep.** Being wakeful and well rested can help your performance on the exam. Be sure to get a good night's sleep before the exam. Cramming at the expense of sleep is not the best method.
- b) **Try to relax.** Study hard, but also seek ways to reduce your stress. Take breaks to help refocus your mind.

### *After the exam:*

- a) A good grade can result from **reading** the text and your notes, **listening** to lectures, **seeing** the words and figures, **writing** and **rewriting** notes from class, the **experience** of answering questions from the chapters or provided, and **discussing** topics with another person (saying it out loud).
- b) Your grade should reflect the amount of cumulative effort you put into your studying. Remember, for every hour of lecture, you should a lot two hours of designated studying time. In other words, for each exam you should be spending about 10-15 hrs studying! It isn't possible to effectively achieve that right before an exam.

**BIOL160 COURSE SCHEDULE – Introduction to Animal Biology, Lentz Fall 2017**

Wk	Date	Topic	Chapter		
1	January	23	Syllabus & Themes of Biology	1	Exam I Content
		24	<b>Lab - Introduction &amp; Orientation</b>		
		25	Biomolecules	4 & 5	
2	January	30	Structures of Animal Cells	6	
		31	<b>Lab - Microscopy &amp; Cells</b>		
3	February	1	Membrane Function in the Cell <b>Quiz #1</b>	7	
		6	Cellular Metabolism with Enzymes	8	
		7	<b>Lab - Properties of membranes: Diffusion &amp; Osmosis</b>		
4	February	8	Cellular Respiration: Energy Production <b>Quiz #2</b>	9	
		13	Cell Communication	11	
		14	<b>Lab - Properties of enzymes</b>		
5	February	15	The Cell Cycle: Mitosis <b>Quiz #3</b>	12	Exam II Content
		20	<b>Exam I (Chps - 1, 4, 5, 6, 7, 8, 9, 11)</b>		
		21	<b>Lab - Metabolism</b>		
6	February	22	The Cell Cycle: Meiosis	13	
		27	Genes and Inheritance	14	
		28	<b>Lab - Mitosis &amp; Meiosis</b>		
7	March	1	The Chromosomal Basis of Inheritance <b>Quiz #4</b>	15	
		6	DNA as Genetic Material and it's Replication	16	
		7	<b>Lab - Phylogeny &amp; Classification</b>		
8	March	8	Gene Expression: DNA to Protein <b>Quiz #5</b>	17	
		13	Descent with Modification: Principle of Evolution	22	
		14	<b>Lab - Deuterostomes I (Echinoderms, Amphibians, &amp; Fish)</b>		
9	March	15	Evolution in Populations <b>Quiz #6</b>	23	
		20	<b>Exam II (Chps - 12, 13, 14, 15, 16, 17, 22)</b>		
		21	<b>Lab - Deuterostomes II (Birds, Reptiles, &amp; Mammals)</b>		
10	April	22	Evolution in Speciation	24	Exam III Content
		24-31	<b>Spring Vacation</b>		
		3	Animal Diversity	32	
11	April	4	<b>Lab - Invertebrates I (Porifera, Cnidaria, Platyhelm., Nematoda)</b>		
		5	Animal Form and Function <b>Quiz #7</b>	40	
		10	Animal Nutrition and Digestive Systems	41	
12	April	11	<b>Lab - Invertebrates II (Mollusca, Annelida)</b>		
		12	Circulatory & Immune Systems <b>Quiz #8</b>	42 & 43	
		17	Nervous & Sensory Systems	49 & 50	
13	April	18	<b>Lab - Invertebrates III (Tardigrada, Arthropoda)</b>		
		19	Animal Reproduction and Development <b>Quiz #9</b>	46 & 47	
		24	<b>Exam III (Chps – 23, 24, 32, 40, 41, 42, 43, 49, 50)</b>		
14	May	25	<b>Lab - Rat Dissection I and II</b>		Final Exam Content + Cumulative
		26	Ecology and Populations	52 & 53	
		1	Population Ecology	53	
15	May	2	<b>Lab - Rat Dissection III</b>		
		3	Community Ecology <b>Quiz #10</b>	54	
		8	Ecosystems and Conservation Biology	55 & 56	
15	May	9	<b>Lab – Field trip day</b>		
		10	Review for the final exam		
Cumulative Final Exam: Wednesday, May 16 (5/16) 10:15am – 12:15pm					