

**INTRODUCTION TO ANIMAL BIOLOGY**  
**BIOL 160, Fall 2016**  
**Sections 10 and 11**

**INSTRUCTOR:** Dr. Karin Bodensteiner

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**Office Hours:** Mondays 9:00-11:00 a.m., Wednesdays 1:00-2:00 p.m., or by appointment

**CLASS MEETINGS:**

**Lecture:** SCI A208, Monday/Wednesday/Friday 12:00-12:50 a.m.

**Laboratory:** TNR 355, Monday (section 10) OR Tuesday (section 11) 1:00-3:50 p.m.

**Final Exam:** SCI A208, Tuesday, Dec. 20 2:45 a.m. to 4:45 p.m.

**Additional Course Information:** Available off of Desire 2 Learn (D2L)

**REQUIRED TEXT:** Raven, Johnson, Losos, Mason, and Singer. (2008) Biology, 8th Edition. McGraw-Hill, New York. Available for rent in bookstore.

**REQUIRED FOR LABORATORY:**

1. Biology 160 Rat Dissection Manual and Biology 160 Laboratory Manual. Available for purchase in the bookstore.
2. Dissecting kit. Available for purchase in bookstore.
3. Safety goggles. Available for purchase in bookstore or in local stores.
4. Strongly recommended for laboratory: rubber or plastic gloves. Available for purchase in local stores.

Note: Some students find A Photographic Atlas for the Zoology Laboratory to be a helpful reference.

**COURSE DESCRIPTION:**

This course will introduce students to the amazing and diverse world of animals. To do this, a wide range of topics pertaining to animal biology will be covered including (but not limited to): the chemistry of life, basic cellular biology, genetics, animal form and function, and animal diversity.

**COURSE OBJECTIVES: (by the end of the semester, the instructor will...)**

1. Compare and contrast variation in form and function among the major groups of animals and their biological systems.
2. Provide hands on experience with living and preserved organisms.
3. Survey the various levels of biological organization from cells to ecosystems.
4. Emphasize the relevance of organismal biology to human health and happiness.

**STUDENT LEARNING OUTCOMES: (by the end of the semester, the student will...)**

1. Recognize cell theory, inheritance, evolution, and developmental biology as the foundations of zoology.
2. Integrate various levels of biological organization and their emergent properties.
3. Compare and contrast physiological processes in animals from different phyla.
4. Apply principles of zoology to broader personal and societal issues.

**POINT BREAKDOWN:**

Lecture Exams	4 @ 100 pts each
Laboratory	100 pts
Professionalism	50 pts
Other Assignments/Quizzes	50 pts
<b>TOTAL</b>	<b>600 pts</b>

**GRADE SCALE (out of 100% of Total):**

A ≥ 93-100	C = 73-76
A- = 90-92	C- = 70-72
B+ = 87-89	D+ = 67-69
B = 83-86	D = 60-66
B- = 80-82	F < 60.0
C+ = 77-79	

**ACADEMIC INTEGRITY:** Academic dishonesty in any form will result in disciplinary action in accordance with UW System Administrative Code.

**DATES TO REMEMBER:**

<b>Quiz 1</b>	<b>Sept. 19</b>
<b>Exam 1</b>	<b>Sept. 30</b>
<b>Quiz 2</b>	<b>Oct. 14</b>
<b>Exam 2</b>	<b>Oct. 26</b>
<b>Quiz 3</b>	<b>Nov. 7</b>
<b>Exam 3</b>	<b>Nov. 18</b>
<b>Quiz 4</b>	<b>Dec. 5</b>
<b>Exam 4</b>	<b>Dec. 20: 2:45-4:45 p.m.;</b> SCI A208

**EXAMS, QUIZZES, AND ASSIGNMENTS:**

There will be four quizzes and four exams. Each lecture quiz is worth 10 points and each exam is worth 100 points. Quizzes and exams will consist of multiple choice, definitions, fill-ins, and short answer questions. In addition, application of information provided in lecture to an unknown problem may be required. Exams are not comprehensive. That said, course material will build over the semester and it will be important for you to remember and apply basic information learned early on to material covered later in the course. If there are students in the class who have a disability and need accommodation, please see me as soon as possible.

Points will also be awarded in the laboratory. These points will come from in-lab quizzes and assignments over the course of the semester. Expect some form of quiz or assignment almost every week in lab. There will also be some lecture-based assignments (to be announced) during the semester.

All exams, quizzes, and assignments will count towards the final grade (i.e. no grades will be dropped). If you have an unexcused absence, you will NOT be allowed to make up a missed quiz or assignment (i.e. skip at your own risk).

**PROFESSIONALISM:**

Attendance: Your commitment to your classes is among the most important things in your life right now. You are expected to attend all lectures and labs and to arrive on time and ready to learn. Two unexcused absences from lab will result in a 1/3 reduction in your final grade. If you will miss a class due to a college-sanctioned event, you must notify me in advance and complete any coursework before the next scheduled lab or class period. Exams must be taken at the assigned time and alterations to this schedule will only be made for personal injury or emergencies (e.g. death in the family, serious accident, or hospitalization). In such cases, evidence of some kind must be provided and you are expected to make arrangements with Dr. Bodensteiner within 24 hours of the exam to schedule a make-up exam within one week or forfeit the points. Format of make-up exams is at the discretion of the instructor. It is also your responsibility to get the notes for any missed classes.

Participation: I expect that students will come to class ready to be engaged and actively participate in the classroom experience. Open, honest discussion is encouraged and will factor in to your participation/professionalism grade. To facilitate active learning, cell phones and other electronic devices will not be allowed without prior authorization from Dr. Bodensteiner.

Classroom Behavior: I expect nothing short of complete mutual respect and courtesy. Cell phones and other personal electronic devices must be turned off and stowed away while class and/or lab is in session.

**COURSE ASSISTANCE:**

One-on-one tutors and walk-in tutoring are available to help students with lecture and lab material. Interested students should contact the Tutoring-Learning Center. Information on group tutoring to follow.

## EMERGENCY RESPONSE GUIDANCE:

- In the event of a medical emergency call 9-1-1 and guide emergency responders to victim.
- In the event of a tornado warning, proceed to lowest level interior room without windows. Avoid wide-span structures (gyms, pools, or large classrooms).
- In the event of a fire alarm, evacuate building in a calm manner. If in SCI A208, meet on sidewalk to east of building, near tree sculpture. If in TNR, meet on sidewalk to west of building, near the Pointer sculpture. Notify instructor or emergency command personnel of any missing individuals.
- Active Shooter/Code React – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders. See UW-Stevens Point Emergency Procedures at [www.uwsp.edu/rmgt/Pages/em/procedures](http://www.uwsp.edu/rmgt/Pages/em/procedures) for details on all emergency response protocols at UW-Stevens Point.

## GENERAL COURSE OUTLINE\*:

## CHAPTER(S)

### Unit 1: Macromolecules and the Cell

Introduction/Overview	1
Macromolecules	(2) 3
Cellular Organization	4
Cell Membranes	5
Cellular Communication	9

### Unit 2: From DNA to RNA to Protein

Cellular Respiration	(6) 7
Mitosis and Meiosis	10 & 11
Patterns of Inheritance	12
DNA Replication	14
Transcription and Translation	15

### Unit 3: Animal Diversity, Reproduction, and Development

Reproductive Strategies	52
Vertebrate Sexual Differentiation	52
Animal Development	53
Other relevant chapters:	
The Tree of Life	26
Protists through Vertebrates: an analysis	29, 32-35

### Unit 4: Major Systems Physiology

Homeostasis and Feedback Mechanisms	43
Endocrine System	46
Digestion and Nutrition	48
Circulation and Respiration	49
Nervous and Sensory	44 & 45
Osmoregulation	50
Other relevant chapters:	
The Animal Body and Its Regulation	43
Musculoskeletal System	47
Sensory	45

\*Please note: Course schedule and topics covered are subject to change.

**BIOLOGY 160  
LABORATORY SCHEDULE**

<b>WEEK</b>	<b>DATES</b>	<b>EXERCISES</b>
I	<b>Sept 6-9</b>	<b>No scheduled labs</b>
II	<b>Sept 12-16</b>	Microscopy & cells (bring goggles next two weeks)
III	<b>Sept 19-23</b>	Properties of membranes; Diffusion & Osmosis
IV	<b>Sept 26-30</b>	Properties of enzymes
V	<b>Oct 3-7</b>	Mitosis & Meiosis
VI	<b>Oct 10-14</b>	Phylogeny & Classification
VII	<b>Oct 17-21</b>	Deuterostomes I
VIII	<b>Oct 24-28</b>	Deuterostomes II
IX	<b>Oct 31-Nov 4</b>	Invertebrates I (Porifera, Cnidaria, Platyhelminthes, Nematoda)
X	<b>Nov 7-11</b>	Invertebrates II (Mollusca, Annelida) (Students bring dissection kits)
XI	<b>Nov 14-18</b>	Invertebrates III (Tardigrada, Arthropoda) (Bring dissection kits)
XII	<b>Nov 21-25</b>	Rat Dissection I: Skeleton and muscles; histology of systems
XIII	<b>Nov 28-Dec 2</b>	Rat Dissection II: Digestive, respiratory and urogenital systems; histology of systems
XIV	<b>Dec 5-9</b>	Rat Dissection III: Circulatory, nervous, and sensory organs, histology of systems
XV	<b>Dec 12-16</b>	Metabolism, Instructor's option, winter field trips