

INTRODUCTION TO ANIMAL BIOLOGY
BIOL 160, Fall 2021
Sections 03 and 03H

Instructor: Dr. Karin Bodensteiner
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Lecture: Monday/Wednesday/Friday 12:00-12:50 a.m.; CBB 101 (and/or synchronous via Zoom)

Textbook: Urry, Cain, Wasserman, Minorsky, and Reece. (2017) Campbell Biology, 11th Edition. Pearson, New York. Available for rent in bookstore.

Laboratory Exercises: Monday, Tuesday, OR Wednesday 2:00-4:50 p.m.; CBB 160.

Laboratory Manual/Exercises: Will be posted on Canvas and/or made available in the laboratory. There is no need to purchase a separate laboratory manual.

Additional Items: Safety goggles. Available for purchase in bookstore or in local stores.

Virtual Office Hours: 11:00 a.m. to 12:00 p.m. Tuesday and Thursday via Zoom, or by appointment

Meeting ID: 972 5893 3356

Passcode: 280186

Meeting Link: <https://uwsp.zoom.us/j/97258933356?pwd=b2x5RXllY1EwcXRsbk1KTxpPTEpNzZ09&from=addon>

Course Content and Additional Course Information: Material associated with each lecture and lab will be posted to Canvas as we go through the semester. Please visit the Canvas training site for help with using Canvas: <https://uwstp.instructure.com/enroll/36GKLY>.

We will also be using Zoom for virtual office hours and, potentially, other meetings, so please familiarize yourselves with Zoom as well.

Zoom Support: <https://www.uwsp.edu/infotech/Pages/Tutorials/Zoom/Zoom.aspx>

System Requirements:

It is important that you have the appropriate tools to access course content. Your phone is not an adequate interface for some course components, so you will need a computer outfitted with Chrome (version 80 or higher) or Firefox. Other internet browsers can be extremely glitchy and do not work well with Canvas.

As some components of this course may be synchronous (meetings on line that you attend at a specific time), you should have a stable internet connection that meets the following specifications:

- 800kpbs/1.0Mbps (up/down) for high quality video
- For gallery view and/or 720p HD video: 1.5Mbps/1.5Mbps (up/down)
- Receiving 1080p HD video requires 2.5mbps (up/down)

If you are unsure of your internet specifications, please check with your internet provider.

If you need to access computers on campus, please consult this listing of availability:

<https://www.uwsp.edu/infotech/Pages/ComputerLabs/All-Labs.aspx>

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. To reinforce content information, we will also be pulling in information from outside sources from articles and other media for in-class discussions. This course meets natural science general education requirements by fulfilling the learning outcomes for this category of the general education program.

General Education Program Natural Science Learning Outcomes: (upon completing this requirement, students should be able to...)

1. Explain major concepts, methods, or theories in the natural sciences to investigate the physical world.
2. Interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.
3. Describe the relevance of aspects of the natural sciences to their lives and society.

Student Learning Outcomes: (with diligent effort on their part, upon completing this course, students should be able to...)

1. Explain how scientific inquiry is different from other intellectual endeavors.
2. Recognize cell theory, inheritance, evolution, and developmental biology as the foundations of zoological science.
3. Integrate various levels of biological organization and their emergent properties.
4. Differentiate and classify animal body plans and organ systems.
5. Apply principles of zoological science to broader personal and societal issues.

Point Distribution:

Lecture Exams	4 @ 100 pts each
Laboratories	140 pts
Professionalism	50 pts
Total	590 pts

Grading 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	

Exams and Assignments:

All exams 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 assignment.

There will be four lecture exams over the course of the semester. Each exam is worth 100 points and 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. 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. Points will also be awarded in the laboratory. These points will come from lab-based quizzes and assignments throughout the semester. You should expect some form of quiz or assignment almost every week in lab.

Thought Questions:

Approximately twice per unit (8 @ 5 pts each), you will be given thought questions, with a typed response/answer due the following week. These questions are intended to spur your thinking on content we are considering in lecture or laboratory, so there may not be a single, or even a correct, answer. For these assignments, you are encouraged to consult multiple sources and discuss your thoughts/ideas with your classmates. You will be graded (individually) on the quality of your typed response and discussion participation. Thought questions are required for students in the honors section (03H) of the course and optional for everyone else. (Students in Section 03H, please see the Syllabus Addendum for additional information on Honors requirements).

Professionalism:

Attendance: You are expected to attend and/or complete all lectures and labs. If you will miss a class due to a college-sanctioned event, you must notify your instructor 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 emergencies. In such cases, evidence of some kind must be provided and you are expected to make arrangements within 48 hours of the exam to schedule a make-up. It is your responsibility to communicate concerns and get notes for any missed classes. As part of your professionalism grade, you will also be evaluated on course participation, including class and discussion participation.

Behavior: Complete mutual respect and courtesy is expected and all students should come to class ready to be engaged and actively participate in the learning experience. Open, honest discussion is encouraged and will factor in to your professionalism grade.

Lecture materials and recordings for this course are protected intellectual property. Students in the course may use course materials and recordings for their personal use as related to participation in this class. Students may also take notes on course material. Students may not copy or share lecture materials outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from selling their personal notes or being paid for taking notes without the instructor's express written permission. Unauthorized use of copyrighted materials (lecture notes, slides, and recordings) constitutes copyright infringement under university policy, and University of Wisconsin System Chapters 14 and 17, governing student academic and non-academic misconduct.

Face Coverings:

At this time, university policy states at all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes not take place.

Other Guidance:

- Please monitor your own health each day. If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646). As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.

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 (tlctutor@uwsp.edu). Information on group tutoring to follow.

Grade Discrepancies:

Grades will be posted on Canvas throughout the semester. If there are discrepancies on any assignments, quizzes, or exams, they can be addressed with the instructor, in person, up to one week after the grade is posted. After this time, the grade will stand with whatever was originally granted.

Academic Policies:

Academic misconduct (as outlined and defined by Chapter 14 in the Academic Handbook: <https://www.uwsp.edu/acadaff/Pages/handbook.aspx>) will not be tolerated. Cheating or plagiarism will result in a score of zero for a give assessment and/or additional disciplinary action.

Disability Services:

Any student who feels that they may need an accommodation based on the impact of a disability should contact the Disability and Assistive Technology Center (room 609 Albertson Hall, datctr@uwsp.edu). If you have already registered with this office and would like to discuss your class accommodations for the semester, please meet with me.

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, meet on sidewalk to east of building, near UWSP sign. 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 for details on all emergency response protocols at UW-Stevens Point.

**COURSE
SCHEDULE**

	Week	Dates	Lecture Topic (Lectures on MWF)	Chapter	Laboratory Exercises (Labs on MTW)	Other Assignments
Unit 2: From DNA to RNA to Protein	1	F 9/3	Introduction to Animal Biology	1	(No Lab this week)	
	2	M 9/6	Labor Day Holiday		Scientific Method (Online)	
		W 9/8	Chemistry of Life	2		Thought Question 1 Assigned
		F 9/10	Water and Life	3		
	3	M 9/13	Macromolecules	5	Discussion of Scientific Method Lab; Microscopy and Cells	
		W 9/15	Macromolecules	5		
		F 9/17	Cellular Organization	6		
	4	M 9/20	Cell Membranes	7	Osmosis and Diffusion	Microscopy and Cells Quiz
		W 9/22	Cellular Communication	11		
		F 9/24	Exam 1			
5	M 9/27	Cellular Respiration	8 & 9	Properties of Enzymes		
	W 9/29	Cellular Respiration	8 & 9			
	F 10/1	Mitosis and the Cell Cycle	12			Thought Question 3 Due
6	M 10/4	Meiosis	13	Mitosis & Meiosis		
	W 10/6	Patterns of Inheritance	14			
	F 10/8	Patterns of Inheritance	14			Thought Question 4 Assigned
7	M 10/11	Chromosomal basis for inheritance	16	Mendelian Inheritance	Mitosis and Meiosis Quiz	
	W 10/13	Chromosomal basis for inheritance	16			
	F 10/15	Molecular basis for inheritance	17			Thought Question 4 Due
8	M 10/18	Gene Expression	17	Central Dogma		
	W 10/20	Gene Expression	17			
	F 10/22	Exam 2				Thought Question 5 Assigned
Unit 3: Animal Diversity, Reproduction, and Development	9	M 10/25	Animal Diversity	32	Phylogeny/Evolution	Diverse Animal Choice Cleared with Instructor by today
		W 10/27	Invertebrates	33		
		F 10/29	Invertebrates	33		
	10	M 11/1	Vertebrates	34	Invertebrates I: Porifera, Cnidaria, Platyhelminthes, Annelida, Mollusca (Earthworm Dissection)	Phylogeny Quiz
W 11/3		Vertebrates	34			
F 11/5		Animal Reproduction	46	Thought Question 6 Assigned		
11	M 11/8	Animal Reproduction	46	Invertebrates II: Nematoda, Arthropoda, Tardigrada (Crayfish Dissection)	Inverts 1 Quiz	
	W 11/10	Animal Development	47			
	F 11/12	Animal Development	47			Thought Question 6 Due
	M 11/15	Exam 3		Chordata I: Echinodermata, Hemichordata, Chordates through fishes	Inverts 2 Quiz	
Unit 4: Animal Form and Function	12	W 11/17	Basic Principles	40	(Musculoskeletal)	
		F 11/19	Animal Nutrition	41		
	13	M 11/22	Circulation and Gas Exchange	42	Chordata II: Reptilia through Mammalia (Digestive, Urinary, and Reproductive)	Animal Biology in Popular Culture Presentation Due (03H)
		W 11/24	Circulation and Gas Exchange	42		
		F 11/26	Thanksgiving Holiday			
14	M 11/29	Neuronal Signaling	48	Chordata III: Reptilia through Mammalia (Circulatory and Respiratory Systems)	Rat Anatomy Quiz	
	W 12/1	Neuronal Signaling	48			
	F 12/3	Nervous Systems	49			Thought Question 8 Assigned
15	M 12/6	Hormones & Endocrine System	45	Animal Diversity Presentations		
	W 12/8	Hormones & Endocrine System	45			
	F 12/10	Osmoregulation	44			Thought Question 8 Due Animal Research Proposal Due (03H)
Finals Week	M 12/13	Exam 4: 10:15 a.m. to 12:15 p.m.				