

# BIOLOGY 160 – INTRODUCTION TO ANIMAL BIOLOGY

## Section 03C, Fall 2018 Course Syllabus

### Instructor:

Dr. Thomas Lentz  
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Office: CBB 344

### Course Information:

Lecture - Room 170, Trainer Natural Resources Building (TNR)  
Monday, Wednesday, Friday; 11:00am – 11:50am  
Lab - Room 166, Chemistry Biology Building (CBB)  
Section 3L1C – Tuesday; 2:00pm – 4:50pm  
Section 3L2C – Thursday; 2:00pm – 4:50pm

Dr. Michael Steury  
Email: [msteury@uwsp.edu](mailto:msteury@uwsp.edu)  
Phone: (715) 346-2164  
Office: CBB 315

Lab - Room 166, Chemistry Biology Building (CBB)  
Section 3L3C – Thursday; 11:00pm – 1:50pm

Office hours: 10 - 11am Mon./Fri., 12 - 1pm Wed.. and by email appointment  
Course website – see D2L

### Required Texts: (Can be acquired at the university bookstore)

Urry, Cain, Wasserman, Minorsky, Reece. 2017. **Campbell Biology**, 11<sup>th</sup> ed.

Van Horn. **The White Rat: An Abbreviated Dissection.**

### Biology 160 – Lab Manual

### 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	Points
Exam I	12.5 %	125
Exam II	12.5 %	125
Exam III	12.5 %	125
Comprehensive Final	20 %	200
Lecture Quizzes	10 %	100 (10 @ 10 points each)
Lab Practicals	32.5 %	325
<b>Total</b>	<b>100 %</b>	<b>1000</b>

### Grade Scale:

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

**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 instructor acceptance of documentation for an excusable absence.

Weekly quizzes will be given at the end of the last class 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 instructor approved documentation for an excusable 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 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**

Wk	Date	Topic	Chapter	
1	5	Syllabus & Course Overview		Exam I Content
	7	Themes of Biology	1	
2	10	Water and Life; Biomolecules	3 & 5	
	12	Biomolecules	5	
3	14	Structures of Animal Cells <b>Quiz #1</b>	6	
	17	Structures of Animal Cells	6	
	19	Membrane Function in the Cell	7	
4	21	Cellular Metabolism with Enzymes <b>Quiz #2</b>	8	
	24	Cellular Respiration: Energy Production	9	
	26	Cellular Respiration: Energy Production	9	
	28	Cell Communication <b>Quiz #3</b>	11	
5	1	<b>Critical thinking – Recognizing Science Knowledge Changes</b>		Exam II Content
	3	<b>Exam I (Chps - 1, 3, 5, 6, 7, 8, 9, 11)</b>		
6	5	The Cell Cycle: Mitosis	12	
	8	The Cell Cycle: Meiosis	13	
	10	Genes and Inheritance	14	
7	12	Genes and Inheritance <b>Quiz #4</b>	14	
	15	The Chromosomal Basis of Inheritance	15	
	17	DNA as Genetic Material and it's Replication	16	
8	19	DNA as Genetic Material and it's Replication <b>Quiz #5</b>	16	
	22	Gene Expression: DNA to Protein	17	
	24	Gene Expression: DNA to Protein	17	
9	26	Descent with Modification: Principle of Evolution <b>Quiz #6</b>	22	
	29	<b>Critical thinking – Dissecting the Argument of Evolution</b>		
	31	<b>Exam II (Chps - 12, 13, 14, 15, 16, 17, 22)</b>		Exam III Content
10	2	Evolution in Populations	23	
	5	Speciation as a Result of Evolution	24	
	7	Animal Diversity	32	
11	9	Invertebrates <b>Quiz #7</b>	33	
	12	Vertebrates	34	
	14	Animal Form and Function	40	
12	16	Animal Nutrition and Digestive Systems <b>Quiz #8</b>	41	
	19	Circulatory & Immune Systems	42 & 43	
	21	<b>Nervous &amp; Sensory Systems</b> <b>Quiz #9</b>	49 & 50	
	23	- Thanksgiving Holiday -		
13	26	Animal Reproduction	46	Final Exam Content + Cumulative
	28	<b>Critical Thinking – Investigating Form Implies Function</b>		
	30	<b>Exam III (Chps – 23, 24, 32, 33, 34, 40, 41, 42, 43, 49, 50)</b>		
14	3	The Biosphere	52	
	5	Population Ecology	53	
15	7	Population Ecology <b>Quiz #10</b>	53	
	10	Community Ecology	54	
	12	Ecosystem and Conservation Biology	55 & 56	
	14	Ecosystem and Conservation Biology	55 & 56	

**Comprehensive Final Exam: Tuesday, December 18 (12/18), 10:15am – 12:15pm**

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Wk	Lab Topic
1	Introduction & Field Trip to Schmeeckle
2	Microscopy & Cells
3	Properties of membranes: Diffusion & Osmosis
4	Properties of enzymes
5	Metabolism
6	Mitosis & Meiosis
7	Phylogeny & Classification
8	Deuterostomes I (Echinoderms, Amphibians, & Fish)
9	Deuterostomes II (Birds, Reptiles, & Mammals)
10	Invertebrates I (Porifera, Cnidaria, Platyhelminthes, Nematoda)
11	Invertebrates II (Mollusca, Annelida)
12	No Lab This Week – Thanksgiving Holiday
13	Invertebrates III (Tardigrada, Arthropoda)
14	Rat Dissection I and II
15	Rat Dissection III

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### Care Team

The University of Wisconsin-Stevens Point is committed to the safety and success of all students. The Office of the Dean of Students supports the campus community by reaching out and providing resources in areas where a student may be struggling or experiencing barriers to their success. Faculty and staff are asked to be proactive, supportive, and involved in facilitating the success of our students through early detection, reporting, and intervention. As your instructor, I may contact the Office of the Dean of Students if I sense you are in need of additional support which individually I may not be able to provide. You may also share a concern if you or another member of our campus community needs support, is distressed, or exhibits concerning behavior that is interfering with the academic or personal success or the safety of others, by reporting here:

<https://www.uwsp.edu/dos/Pages/Anonymous-Report.aspx>.

### Title IX

UW-Stevens Point is committed to fostering a safe, productive learning environment. Title IX and institutional policy prohibit discrimination on the basis of sex, which includes harassment, domestic and dating violence, sexual assault, and stalking. In the event that you choose to disclose information about having survived sexual violence, including harassment, rape, sexual assault, dating violence, domestic violence, or stalking, and specify that this violence occurred while a student at UWSP, federal and state laws mandate that I, as your instructor, notify the Title IX Coordinator/Office of the Dean of Students.

Please see the information on the Dean of Students webpage for information on making confidential reports of misconduct or interpersonal violence, as well as campus and community resources available to students. Dean of Students: <https://www.uwsp.edu/DOS/sexualassault> Title IX page:

<https://www.uwsp.edu/hr/Pages/Affirmative%20Action/Title-IX.aspx>

### Disability and Accommodations

In accordance with [federal law and UW System policies](#), UWSP strives to make all learning experiences as accessible as possible. If you need accommodations for a disability (including mental health, chronic or temporary medical conditions), please visit with the [Disability and Assistive Technology Center](#) to determine reasonable accommodations and notify faculty. After notification, please discuss your accommodations with me so that they may be implemented in a timely fashion. **DATC contact info:** [datctr@uwsp.edu](mailto:datctr@uwsp.edu); 715/346-3365; 609 Albertson Hall, 900 Reserve Street

### FERPA

The [Family Educational Rights and Privacy Act](#) (FERPA) provides students with a right to protect, review, and correct their student records. Staff of the university with a clear *educational need to know* may also have to access to certain student records. Exceptions to the law include parental notification in cases of alcohol or drug use, and in case of a health or safety concern. FERPA also permits a school to disclose personally identifiable information from a student's education records, without consent, to another school in which the student seeks or intends to enroll.

### Academic Integrity

Academic Integrity is an expectation of each UW-Stevens Point student. Campus community members are responsible for fostering and upholding an environment in which student learning is fair, just, and honest. Through your studies as a student, it is essential to exhibit the highest level of personal honesty and respect for the intellectual property of others. Academic misconduct is unacceptable. It compromises and disrespects the

integrity of our university and those who study here. To maintain academic integrity, a student must only claim work which is the authentic work solely of their own, providing correct citations and credit to others as needed. Cheating, fabrication, plagiarism, unauthorized collaboration, and/or helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. Failure to understand what constitutes academic misconduct does not exempt responsibility from engaging in it. For more information on UWS chapter 14 visit: <https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx>

### **Reporting Incidents of Bias/Hate**

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

If you have experienced a bias incident (an act of conduct, speech, or expression to which a bias motive is evident as a contributing factor regardless of whether the act is criminal) at UWSP, you have the right to report it:

<https://www.uwsp.edu/dos/Pages/Anonymous-Report.aspx>.

You may also contact the Office of the Dean of Students directly at [dos@uwsp.edu](mailto:dos@uwsp.edu). Diversity and College Access is available for resources and support of all students: <https://www.uwsp.edu/dca/Pages/default.aspx>.

### **Clery Act**

The US Department of Education requires universities to disclose and publish campus crime statistics, security information, and fire safety information annually. Statistics for the three previous calendar years and policy statements are released on or before October 1<sup>st</sup> in our [Annual Security Report](#). Another requirement of the Clery Act is that the campus community must be given timely warnings of ongoing safety threats and immediate/emergency notifications. For more information about when and how these notices will be sent out, please see our [Jeanne Clery Act](#) page.

The **Drug Free Schools and Communities Act** (DFSCA) requires institutions of higher education to establish policies that address unlawful possession, use, or distribution of alcohol and illicit drugs. The DFSCA also requires the establishment of a drug and alcohol prevention program. The Center for Prevention lists information about alcohol and drugs, their effects, and the legal consequences if found in possession of these substances. [Center for Prevention – DFSCA](#)

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