

BIOL 111-02 Principles of Biology II

Spring 2021

Lecture: Online Synchronous M W F 11:00 – 11:50 AM

Labs Online

Instructor:	Dr. Daniel L. Graf	Course web site:	Canvas site at
Office:	TNR 435		https://www.uwsp.edu/canvas/
Phone:	715.346.2159 (Biology Office)	Zoom/	
email:	dgraf@uwsp.edu	Office Hours:	M W F 11–11:50 AM, and by appointment
	(include “BIOL 111” in subject)		

General Course Description. “Fundamental principles of biology, including the evolutionary history and patterns of diversity of life, plant and animal systems, and ecology. Development of scientific skills to form hypotheses, analyze and interpret data, evaluate biological literature, and relate biology to society.” This course is the second of a two-course introductory sequence (with BIOL 110).

Objectives. The objectives of BIOL 111 are 1) to examine general biological principles, and 2) to provide the foundation necessary for success in future coursework in the biological sciences.

Learning Outcomes. Upon completion of BIOL 111, students will be able to:

1. Summarize basic patterns of biological diversity.
2. Describe emergent properties and processes at the organizational levels of organs, organ systems, organisms, populations, communities, ecosystems, and the biosphere.
3. Apply the scientific method and techniques to answering biological questions, using formal practices of observation, experimentation, hypothesis testing, quantitative analysis and mathematical reasoning.
4. Evaluate, synthesize, and communicate biological information from the scientific literature.
5. Recognize the relevance of organismal diversity, systems biology, and ecology to social decision-making, their lives, and society.

Required Materials. *Campbell Biology*, 11th edition (2017), by Urry, Cain, Wasserman, Minorsky & Reece. Pearson, New York (ISBN 978-0134093413). This book is available for rent at the bookstore.

Access to a computer connected to the Internet. You will need to be able to access Canvas through the Chrome browser. We will be using an online exam proctoring service called Honorlock in this course. You will be required to use Honorlock for exams in this course. Please see the *Honorlock – Student Information module* for additional resources on Canvas. You should take the Honorlock Practice Quiz to familiarize yourself with this process before the first graded exam.

On-campus, computers are available to use in Albertson LRC and various computer labs (although many are closed). The following URL has a directory of campus computer labs:

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

The lab manual will be distributed electronically.

Recommended Materials. A dedicated BIOL 111 notebook.

Course Organization. The organizing plan for this semester will be to:

1. try, as much as is reasonable, possible, and helpful to support the structure of the typical face-to-face version of the course, while
2. maintaining as much flexibility as necessary.

This course is scheduled to have three synchronous Zoom hours per week to block-out those periods on your schedule. We will actually be observing four levels of synchrony in this course.

1. *Required Synchronous.* There will be eight dates throughout the semester for small-group discussions, the midterm exams, and the final exam that will happen at scheduled times. See the attached schedule.
2. *Enthusiastically Encouraged Synchronous.* Each Monday throughout the semester will be designated as a synchronous meeting to answer questions, review material, and get organized for the week — including providing background for how to complete the online lab exercises. You are expected to virtually attend these sessions, but they carry no point value.

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3. *Optional Synchronous.* Wednesday and Friday hours (when there isn't a scheduled discussion or exam) will be office hours. If you have questions, comments, issues, etc. with which you need help, you can get it without making an appointment. Otherwise, you can (and should!) make an appointment for a Zoom session outside those hours.
4. *Asynchronous.* All lectures, lab assignments, quizzes, etc. not described above will be completed asynchronously.

Lectures, Labs, Quizzes, and Exams. There will be a total of 395 points to earn this semester through quizzes, labs assignments, discussions, 3 midterm exams, and a comprehensive final exam.

BIOL 111	points
Midterm Exam 1	50
Midterm Exam 2	50
Midterm Exam 3	50
Lecture Quizzes	30
Weekly Quizzes	40
Group Discussions	15
Lab Assignments	60
Final Exam	100
TOTAL	395

Lecture Quizzes. — The course schedule is attached. Overall, the plan will be for the equivalent of 3 lectures (with reading assignments) per week. Associated with each lecture will be a 1-point quiz (30 total points; 8% of your total grade). To receive credit, each lecture quiz should be completed in Canvas before the next one is assigned (e.g., a Monday quiz should be completed before Wednesday). All lecture quizzes will have a 5-minute time limit. (There will actually be 36 quizzes, so you could miss 6 and still get all the quiz points.)

Weekly Quizzes. — Each Friday (except when there is an exam), there will be a 5-point weekly quiz covering the lectures since the last weekly quiz or exam. Weekly quizzes will be due by midnight on the following Friday. Your two lowest weekly quiz scores of the semester will be dropped (40 points; 10%). All weekly quizzes will have a 15-minute time limit.

Group Discussions. — We will occasionally suspend our regular online lecture schedule to discuss articles or book chapters that supplement textbook material. Readings and associated assignments will be posted on the Canvas website. Your participation will be assessed based on four, 5-point group exercises (lowest discussion score dropped, 15 total points, 4%). To get credit for the discussion you must participate in the synchronous Zoom discussion. All discussions will be on Fridays (19 February, 19 March, 23 April, 7 May) during the scheduled period.

Lab Assignments. — Lab assignments will be completed online and focus on analysis of data from previous semesters because we can't offer a 3-hour lab session to gather our own data. Each lab assignment is worth 5 points, and the two lowest lab scores of the semester will be dropped (60 points; 15%). Labs will be assigned on Mondays and be due the following Monday.

Midterm Exams. — Every 4-5 weeks (i.e., 10 lectures), we will have a 50-point exam that covers the material since the previous exam. All midterm exams will take place on Fridays (26 February, 2 April, and 30 April; 150 points; 38%) from 11-11:50 AM. Midterm exams will have a 1-hour time limit.

Final Exam. — There will be a 100-point (25%) comprehensive final exam during the regularly scheduled final exam week. The final exam will have a 2-hour time limit, offered during the scheduled exam period.

Grades will be based upon the following percentages of the course total:

		100-93%	A	92-89%	A-
88-87%	B+	86-83%	B	82-79%	B-
78-77%	C+	76-73%	C	72-69%	C-
68-67%	D+	66-59%	D	<59%	F

REQUESTS FOR EXTRA POINTS WILL NOT BE HONORED.

Exam and Quiz Rules. The following rules apply to lecture quizzes, weekly quizzes, and exams:

1. All lecture and weekly quizzes will be “open-note,” meaning you may use your lecture, lab, and reading notes to help you answer the questions. You may not use your textbook, the Internet, or other sources while you are taking a quiz. All that being said, we will be completely on the honor system. No one will be watching you work.
2. All exams will be “closed note.” You may not use your notes or any other materials (textbook, internet, etc.) during any of the three midterm exams or the final exam. We will be using an online exam proctoring service called Honorlock in this course. You will be required to use Honorlock for exams in this course. There is a lot more information about Honorlock on the course Canvas site.
3. You may use a calculator (not a calculator app on your phone) and scratch paper during quizzes and exams. During exams, a calculator will be provided in using Honorlock.
4. All quizzes and exams will have a time limit.
5. Using unauthorized materials during quizzes or exams will be regarded as academic misconduct and will result in a 0 on the quiz or exam. According to our UW System rules, to take away even a single point for such a violation requires the involvement of the Dean of Students.
6. Collaborating on a quiz or exam with other students in the class is also academic misconduct. Students may be taking quizzes and exams at different times. You should not discuss them or share information with anyone until the due date/time has passed.

Prof. Graf has a lot of experience distinguishing inadvertent or naive mistakes from intentional misconduct. As long as you don't make it an issue, it won't be an issue. More information about the regulations associated with academic misconduct can be found at the following URL:

<https://www.uwsp.edu/dos/Pages/stu-academic.aspx>

Lab and Discussion Assignment Rules. The following rules apply to lab assignments and discussion group assignments:

1. If we were in-person, we would do our lab exercises in small groups, and we would work through our results together. You should feel free to collaborate on lab assignments, but each person will turn in their own lab assignment.
2. Discussion exercises will be done in small groups during synchronous discussion sessions. One assignment can be turned in per group.

Online Attendance and Making-Up Missing Work. Our online format offers a lot of flexibility, but this course is designed for enrolled students making progress toward their degrees. The tri-weekly schedule of lectures, quizzes, and exams is intended to keep you on-track.

However, there are good reasons for not being able to participate within the scheduled timeframe: too sick, operate a computer, power outage, religious observances, university-related absences, instructor messed up the assignment settings, and others. If you require an accommodation for such a situation, you should contact Prof. Graf ahead of time to discuss alternative arrangements.

Zoom Conduct. Student and instructor behavior should promote an environment favorable to both teaching and learning. Students that choose to disrespect their classmates and their instructor by disrupting Zoom sessions will be asked to leave.

In order to foster a sense of community and engagement (both of which are demonstrated to improve learning outcomes and course quality), everyone is encouraged to participate in class with their web camera on as much as possible and comfortable. No one will be required to use their camera during Zoom sessions, and not using your camera will have no effect on your grade or standing in the class.

Disabilities. Students with disabilities are welcomed and encouraged in this class. Students with disabilities should contact the Disability and Assistive Technology Center during the first two weeks of the semester if they wish to request specific accommodations.

<https://www.uwsp.edu/datc/Pages/default.aspx>

BIOL/WATR 361/561 Aquatic Invertebrate Zoology

Online Attendance and Making-Up Missing Work. Our online format offers a lot of flexibility, but this course is designed for enrolled students making progress toward their degrees. The bi-weekly schedule of lectures, quizzes, and exams is intended to keep you on-track.

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wk	date	day #	Lecture	Chapter (pp.)	Lab	
1	25-Jan	M	0	Welcome to BIOL 111!	NO LAB	
	** BIOLOGICAL DIVERSITY **					
	27-Jan	W	1	Phylogeny and the Tree of Life		26.1-26.6 (551-568)
	29-Jan	F	2	Bacteria & Archaea	27.1-27.6 (571-589)	
2	1-Feb	M	3	Protists	28.1-28.6 (591-613)	Lab 1: Tree Thinking
	3-Feb	W	4	Plants I: Plants without Seeds	29.1-29.3 (616-632)	
	5-Feb	F	5	Plants II: Plants that Have Seeds	30.1-30.4 (634-650)	
3	8-Feb	M	6	Fungi	31.1-31.5 (652-669)	Lab 2: Bacterial Diversity
	10-Feb	W	7	Overview of Animal Diversity	32.1-32.4 (671-682)	
	12-Feb	F	8	Invertebrates	33.1-33.5 (684-713)	
4	15-Feb	M	9	Vertebrates I: Fishes & Amphibians	34.1-34.4 (716-731)	Lab 3: Unicellular Eukaryotes
	17-Feb	W	10	Vertebrates II: Amniotes	34.5-34.7 (732-752)	
	19-Feb	F	D1	Discussion 1	TBD	
** PLANT FORM & FUNCTION **						
5	22-Feb	M	11	Structure, Growth & Development	35.1-35.5 (756-779)	Lab 4: Plant Anatomy
	24-Feb	W	12	Resource Acquisition & Transport	36.1-36.6 (782-800)	
	26-Feb	F	E1	Exam 1 (Lectures 1-10, D1)		
6	1-Mar	M	13	Soil & Nutrition	37.1-37.3 (803-818)	Lab 5: Land Plant Diversity
	3-Mar	W	14	Reproduction in Flowering Plants	38.1-38.3 (820-838)	
	5-Mar	F	15	Responses to Stimuli	39.1-39.5 (840-867)	
** ANIMAL FORM & FUNCTION **						
7	8-Mar	M	16	Principles of Form & Function	40.1-40.4 (871-893)	Lab 6: Angiosperm Reproduction
	10-Mar	W	17	Nutrition	41.1-41.5 (896-916)	
	12-Mar	F	18	Circulatory Systems	42.1-42.3 (919-931)	
8	15-Mar	M	19	Circulatory Fluids & Gas Exchange	42.4-42.7 (932-947)	Lab 7: Transpiration
	17-Mar	W	20	Immune Systems	43.1-43.4 (950-972)	
	19-Mar	F	D2	Discussion 2	TBD	
22-26-Mar		M-F	SPRING BREAK — NO CLASSES			
9	29-Mar	M	21	Osmoregulation	44.1-44.3 (975-985)	Lab 8: Invertebrate Body Plans
	31-Mar	W	22	Kidneys	44.4-44.5 (985-994)	
	2-Apr	F	E2	Exam 2 (Lectures 11-20, D2)		
10	5-Apr	M	23	Endocrine Systems	45.1-45.3 (997-1014)	Lab 9: Vertebrate Body Plans
	7-Apr	W	24	Reproduction	46.1-46.5 (1017-1038)	
	9-Apr	F	25	Development	47.1-47.3 (1041-1062)	
11	12-Apr	M	26	Neurons & Synapses	48.1-48.4 (1065-1080)	Lab 10: Metabolism & Homeostasis
	14-Apr	W	27	Nervous Systems	49.1-49.5 (1083-1102)	
	16-Apr	F	28	Sense Organs	50.1-50.4 (1105-1123)	
12	19-Apr	M	29	Muscles & Skeletons	50.5-50.6 (1123-1134)	Lab 11: Digestive System of Cockroaches
	21-Apr	W	30	Behavior	51.1-51.4 (1137-1158)	
	23-Apr	F	D3	Discussion 3	TBD	
** ECOLOGY **						
13	26-Apr	M	31	The Biosphere	52.1-52.5 (1162-1185)	Lab 12: Plant-Microbe Interactions
	28-Apr	W	32	Populations	53.1-53.6 (1188-1209)	
	30-Apr	F	E3	Exam 3 (Lectures 21-30, D3)		
14	3-May	M	33	Community Interactions	54.1-54.2 (1212-1225)	Lab 13: Population Size Estimation
	5-May	W	34	Community Diversity	54.3-54.5 (1226-1233)	
	7-May	F	D4	Discussion 4	TBD	
15	10-May	M	35	Ecosystems	55.1-55.5 (1236-1255)	Lab TBA
	12-May	W	36	Study Day (no new material)		
	14-May	F	37	Review Session		
16	19-May	W	FE	FINAL EXAM 12:30-2:30 PM		

Boldfaced items are required synchronous events.