

Bio 101 - General Biology
Fall 2020 Syllabus and Schedule
Lecture: MW 9:35-10:50, Synchronous meeting, Available on Canvas/Zoom

Labs (in person):

- 01L1-M 12:00-2:50 pm, CBB 136-N. Shefferly, instructor
01L2- W 12:00-2:50 pm, CBB 136-N. Shefferly, instructor
01L3- Tu 11:00 am-1:50 pm, CBB 136-K. Bodensteiner, instructor
01L4 Th 11:00 am-1:50 pm, CBB 136-K. Bodensteiner, instructor
01L5 Tu 8-10:50 am, CBB 136-N. Shefferly, instructor

Instructor: Nancy Shefferly, M.S.

Email: nsheffer@uwsp.edu

Office: 154 CBB, 715-346-2366

Office hours: M/W 9:35-10:50, and by appointment.

Instructor: Dr. Karin Bodensteiner, Professor

Email: kbodenst@uwsp.edu

Office: 308 CBB, 715-346-3994

Office hours: TBA

Course Description

This course introduces non-major students to the basic principles of Biology and acquaints them with the diversity of life. We will explore basic cellular-level processes, genetics and reproduction, evolution, biological diversity, animal physiology, and how organisms relate to one another within their environments, with special emphasis on the applicability and relevance of biological concepts, knowledge, and technology to average citizens.

Student Learning Objectives

Students completing this course will attain varying levels of proficiency in their ability to:

1. Solve problems through application of the scientific method.
2. Discuss biological principles including:
 - a. cellular level functions that are necessary for life
 - b. inheritance and evolutionary change
 - c. the diversity of animals and plants within an evolutionary context
 - d. the function of animal organ systems
 - e. the basic functioning of populations, communities, and ecosystems
3. Discuss the relevance of biological principles to their lives and society.

Required texts:

Taylor MR, SJ Simon, JL Dickey, K Hogan, and JB Reece. 2018. **Campbell Biology: Concepts and Connections, 9th ed.** Benjamin Cummings/Pearson, Boston.

Biology 101 Lab Manual exercises, provided on Canvas.

Policies

This course is hybrid in nature, with both on-line and in-person components.

- Lectures and lab exercises will be delivered on-line, via Canvas. Lectures will begin synchronously (i.e. at the scheduled time), with announcements, and a question session, and will conclude with pre-recorded videos.
- Lab exercises will be provided via video on-line. Students will be responsible for viewing the video, reading through the lab, completing the outlined exercises, and answering questions that are embedded in the lab. These exercises must be completed prior to the in-person lab discussion. Plan to come prepared to discuss the lab results, to obtain additional data, and to ask questions about the lab.

- Exams will be provided on-line, in a synchronous format. Please read through the Honor-Lock instructions to verify that you have the necessary equipment available to take the exams.

This course has been designed with activities meant to help students remain on-track throughout the term. In order to prevent students from falling behind, the content of the course is divided into different modules.

- Students must complete the assignments in each module sequentially.
- Students must complete the entire module prior to moving on to the next module.
- Most modules will open one or two days before the date indicated in the schedule below.
- If you require an exception, please contact Ms. Shefferly as soon as possible.

Exams

All exams will be delivered on-line, synchronously. A grace period after the scheduled class time will be included for those who get a late start due to connectivity issues. Should you experience trouble connecting to the internet during a scheduled exam time, contact your instructor IMMEDIATELY. If you are ill and unable to take the exam at the scheduled time, notify your instructor PRIOR to the beginning of the exam. **You may be asked for a written, verifiable, medical excuse to be kept on file.**

Laboratory Meetings

Because of the need for social distancing during the pandemic, each lab section will be subdivided into groups of 8. These groups will meet in different 50-minute shifts during the scheduled lab time for a recitation section. Your instructor will notify you of your meeting time. In order to make the most of our time in lab, students are expected to complete the on-line portion of the lab prior to arriving at their assigned recitation section. Attendance at lab is not mandatory.

Dress appropriately! Even in non-pandemic times, the laboratory environment is associated with risks that require particular cautions. Students arriving in inappropriate attire will not be allowed in lab, for their own safety and for the safety of others.

- Shoes must be worn in all academic buildings.
- At all UW-Stevens Point campus locations, wearing 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 cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.
- Please monitor your own health each day using [this screening tool](#). 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.
- Upon arriving in lab, sit only in the seats indicated, and take a moment to wipe down your station with appropriate sanitizer.

Grading

My philosophy of grading is that **student learning is paramount**, and should be rewarded even if it does not occur according to *my* schedule. Therefore, this course is designed to allow you to improve your grade when possible. Your grade in this course will be based on the following:

1. **Exams.** Exams will be administered on-line, during normal class time, with a grace period of ½ hour on either side of class time. Exams will cover assigned readings, lecture, discussion, and lab material. There are three regular exams, each covering 1/3 of course material, and a **comprehensive final**. Each exam will be worth 100 points, and will consist of two sections. The first section is multiple choice. It will be worth 50 points. The second section will include 5 Essay questions, each worth 10 points. Students will upload the answers to these questions to Canvas, where they will undergo a plagiarism check. The expectation is that your answers to questions will be in your own words. Answers showing evidence of copying from other sources will be assigned a grade of 0. Consult the course schedule for the exact date of each exam.

Exams 1 will cover modules 1-8 and labs 1-3. Exam 2 covers modules 9-17 and labs 4-8. Exam 3 covers modules 18-25 and labs 9-12. The final exam covers all content from the course.

Sometimes, students get off to a rocky start. It's important to identify what is and is not working for you and to make corrections to your study behaviors if your performance indicates that you're not succeeding. To motivate you to do that, I will award bonus points for improvements in exam performance from Exam I to Exam II, and from Exam II to Exam III, as long as both exams are completed.

- a. Any higher exam score = 2 bonus points.
 - b. For improvements greater than 5% of the total exam score, I will award additional bonus points totaling ½ of the difference between the two scores. So, for example, if you score 77 on Exam I, and 88 on Exam II, you will receive 2 bonus points for improvement, and 5.5 additional bonus points for the improvement being substantial.
2. **Chapter Reading Worksheets.** A student's goal in an introductory course should be to gain a broad understanding of the discipline in question. This is best accomplished by reading all assigned chapters in the text. My expectation is that you will read the assigned chapter BEFORE completing the rest of the learning module associated with the chapter. This will prepare you to understand lecture material more completely. You will be familiar with the topic, and you will have some recollection of where further details regarding any particular topic are located in the text, so that you may be able to clarify aspects of the lectures you have difficulty with. When reading, you should be actively engaged, and working to understand the material. To that end, prior to viewing a lecture, students must complete reading worksheets (**see template on Canvas**) and submit them via the links provided. Late reading worksheets will be accepted only at the discretion of the instructor. Your top 15 of 21 worksheets will count toward your grade. Please note: Even if you choose NOT to complete a worksheet for a particular chapter, YOU MUST UPLOAD A FILE to Canvas in order to "unlock" the rest of the module.
 3. **Discussions.** At three points during the term, students will be assigned to groups and provided with non-text reading materials. Students are expected to read the articles provided in advance of the discussion and complete a 10-point reading-worksheet, and submit it on Canvas, prior to the time of their discussion. The class will meet synchronously via Zoom. Each group will then break out into a separate meeting to discuss the reading, and develop answers for the summary worksheet. This will also be worth 10 points. No points will be assigned for the in-class discussion summary unless the preparatory worksheet has been completed. Alternate assignments will be provided for excused absences from in-class discussions.
 4. **Lab:** Labs will be largely a self-guided tour through a topic, with a lab PDF instruction manual provided to you in a labeled lab module. In some cases, there will be a detailed video that serves as a companion to the lab. In others, the video may consist only of highlights. As you progress through each lab, you will be asked specific questions. You should answer these questions in a document with the file name (your last name_Lab#) using Times New Roman font, 12 point, with 1-inch margins. You must submit this file on Canvas no later than 24 hours after your scheduled lab meeting. Acceptable file types include .docx and PDF formats. Submissions will be checked for plagiarism by Turn-it-in software. You should phrase all of your answers in your own words to prevent academic misconduct charges. Your submission will receive a % similarity score. **This score must be LESS THAN 15%.**

The total score for each lab is 15 points. You will be graded for completeness (10/15 points) and the quality of your answers (5/15 points). Your lowest lab score will be dropped.

All late lab reports will receive a 20% per day deduction, unless a written excuse is provided. Submissions with similarity indexes greater than 15% will be penalized, and may be submitted for academic misconduct. To prevent high similarity indexes, please DO NOT INCLUDE THE QUESTION in your response. Use numbers and labels to indicate the question to which you are responding.

Grading Breakdown

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|-------------------------------|---------------------------|-------------------|
| Exams | 4 @ 100 points | 400 points |
| Reading Worksheets | Best 15 of 21 @ 5 points | 75 points |
| Discussion Reading Worksheets | 3@ 10 points | 30 points |
| Discussion Summary Worksheets | 3@ 10 points | 30 points |
| Lab | Best 11 of 12 @ 15 points | 165 points |
| Total | | 695 points |

Grading Scale

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|-----------------|-----------------|-----------------|----------------|
| A = 93-100% | B+ = 87.0-89.9% | C+ = 77.0-79.9% | D+ = 67.0-69% |
| A- = 90.0-92.9% | B = 83.0-86.9% | C = 73.0-76.9% | D = 60.0-66.9% |
| | B- = 80.0-82.9% | C- = 70.0-72.9% | F = <60% |

Grades will be available to students on the class Canvas site. Privacy laws preclude the distribution of grades via email or the phone.

Safe Learning Environment

UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive living and learning environment at UWSP. More information is available at: <https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx>

Academic Misconduct

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations of a student’s academic performance, and abetting any of the above. This includes submitting papers that reflect the work of a group rather than the work of an individual. **(Be very careful about this. Although you may work in groups for your labs, the written work you submit to me MUST BE YOUR OWN INDEPENDENT COMPOSITION.)** The Academic Standards and Disciplinary Procedures of the University of Wisconsin will be followed in the event that academic misconduct occurs. Students should refer to the Dean of Students website for more information (<https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx>).

Disability and Assistive Technology Center

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities. For more information about UWSP’s policies, check : <https://www.uwsp.edu/datc/Pages/default.aspx> If you are registered with the Disability and Assistive Technology Center, please contact me as soon as possible to plan any course accommodations that may be necessary. If you have a disability but have not contacted the DATC, please call 346-3365 or visit 609 LRC to register for services.

Lecture Module Schedule

| Date | Module Topics | Reading | Assignments |
|-------------|---|------------------|---|
| Wed Sept 2 | 1. The Scientific Study of Life | Chapter 1 | Practice Quiz 1 |
| Mon Sept 7 | Labor Day | | |
| W Sept 9 | 2. The Chemicals of Life | Chapter 2 | Reading Wks. Ch. 2 Practice Quiz 2 |
| M Sept 14 | 3. Biological Molecules | Chapter 3 | Reading Wks. Ch. 3 Practice Quiz 3 |
| W Sept 16 | 4. Cellular Structure | Chapter 4 | Reading Wks. Ch. 4 Practice Quiz 4 |
| M Sept 21 | 5. How Cells Work | Chapter 5 | Reading Wks. Ch. 5 Practice Quiz 5 |
| W Sept 23 | 6. Chemical Energy in the Cell | Chapter 6 | Reading Wks. Ch. 6 Practice Quiz 6 |
| M Sept 28 | 7. Photosynthesis | Chapter 7 | Reading Wks. Ch. 7 Practice Quiz 7 |
| W Sept 30 | 8. In-class Discussion I (SYNCHRONOUS PARTICIPATION REQUIRED) | | Prep. Worksheet I Summary Wks. I |
| M Oct 5 | (SYNCHRONOUS PARTICIPATION REQUIRED) | | Exam I |
| W Oct 7 | 9. Cellular Reproduction | Chapter 8 | Reading Wks. Ch. 8 Practice Quiz 8 |
| M Oct 12 | 10. Inheritance | Chapter 9 | Reading Wks. Ch. 9 Practice Quiz 9 |
| W Oct 14 | 11. Molecular Biology of the Gene | Chapters 10 | Reading Wks. Ch. 10 Practice Quiz 10 |
| M Oct 19 | 12. The Road to Darwin | Chapter 13 | Reading Wks. Ch. 13 Practice Quiz 11 |
| W Oct 21 | 13. Speciation and Evolutionary History | Chapters 14 & 15 | Reading Wks. Ch. 14+15 Practice Quiz 12 |
| M Oct 26 | 14. Microbes, Protists, Fungi | Chapters 16 & 17 | Reading Wks. Ch. 16+17 Practice Quiz 13 |
| W March 28 | 15. Plants | Chapters 17 | Reading Wks. Ch. 17 Practice Quiz 14 |
| M Nov 2 | 16. Invertebrate animals | Chapters 18 | Reading Wks. Ch. 18 Practice Quiz 15 |
| W Nov 4 | 17. In Class-Discussion II (SYNCHRONOUS PARTICIPATION REQUIRED) | | Prep. Worksheet II Summary Wks. II |
| M Nov 9 | (SYNCHRONOUS PARTICIPATION REQUIRED) | | Exam II |

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| W Nov 11 | 18. Chordates | Chapters 19 | Reading Wks. Ch. 19 Practice Quiz 16 |
| M Nov 16 | 19. Gas exchange and circulation | Chapter 22 and 23 | Reading Wks. Ch. 22+23 Practice Quiz 17 |
| W Nov 18 | 20. The Immune System | Chapter 24 | Reading Wks. Ch. 24 Practice Quiz 18 |
| M Nov 23 | 21. The Biosphere | Chapters 34 | Reading Wks. Ch. 8 Practice Quiz 19 |
| W Nov 25 | 22. Population Ecology | Chapter 36 | Reading Wks. Ch. 36 Practice Quiz 20 |
| M Nov 30 | 23. Communities and Ecosystems | Chapter 37 | Reading Wks. Ch. 37 Practice Quiz 21 |
| W Dec 2 | 24. Ecosystems & Conservation Biology | Chapters 37 & 38 | Reading Wks. Ch. 38 Practice Quiz 22 |
| M Dec 7 | 25. In-Class discussion III (SYNCHRONOUS PARTICIPATION REQUIRED) | | Prep. Worksheet III Summary Wks. III |
| W Dec 9 | (SYNCHRONOUS PARTICIPATION REQUIRED) | | Exam III |
| TH May 17 | Comprehensive Final Exam | 10:15 am -12:15 pm | |

Lab Schedule

| Week of | Lab Topics |
|---------|---|
| Sept 1 | No labs: Partial Week |
| Sept 7 | No Lab recitation: Partial Week Complete Lab 1 on line. |
| Sept 14 | Lab 1 recitation. Scientific investigation Submit Lab 1 on line Complete Lab 2 on line. |
| Sept 21 | Lab 2 recitation. Data Analysis and Graphing Submit Lab 2 on line Complete Lab 3 on line. |
| Sept 28 | Lab 3 recitation. Macromolecules and Cells Submit Lab 3 on line Complete Lab 4 on line. |
| Oct 5 | Lab 4 recitation. Diffusion and Osmosis Submit Lab 4 on line Complete Lab 5 on line. |
| Oct 12 | Lab 5 recitation. Enzymatic activity Submit Lab 5 on line Complete Lab 6 on line. |
| Oct 19 | Lab 6 recitation. Photosynthesis Submit Lab 6 on line Complete Lab 7 on line. |
| Oct 26 | Lab 7 recitation. Cellular Division Submit Lab 7 on line Complete Lab 8 on line. |
| Nov 2 | Lab 8 recitation. Natural Selection Submit Lab 8 on line Complete Lab 9 on line. |
| Nov 9 | Lab 9 recitation. Bacteria and Protists Submit Lab 9 on line Complete Lab 10 on line. |
| Nov 16 | Lab 10 recitation. Land Plants Submit Lab 10 on line Complete Lab 11 on line. |
| Nov 23 | No Labs: <i>Thanksgiving</i> |
| Nov 30 | Lab 11 recitation. Animal Diversity Submit Lab 11 on line Complete Lab 12 on line. |
| Dec 7 | Lab 12 recitation. Ecology Submit Lab 12 on line |