

Bio 101 - General Biology
Fall 2016 Syllabus and Schedule
Lecture: MW 9:35-10:50, SCI D 101

Instructor: Nancy Shefferly, M.S.
Email: nsheffer@uwsp.edu
Office: 237 TNR, 715-346-2366
Office hours: Wed 1-2:30 pm, Th 1-2:30 pm,
and by appointment

Lab Instructor: Roberta White, M.S.
Email: rwhite@uwsp.edu
Office: 167 TNR, 715-346-2159
Office hour: Friday 2:30-3:30, 254 TNR

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 Outcomes

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:
 - cellular level functions that are necessary for life
 - inheritance and evolutionary change
 - the diversity of animals and plants within an evolutionary context
 - the function of animal organ systems
 - the basic functioning of populations, communities, and ecosystems
3. Discuss the relevance of biological principles to their lives and society.

Required texts:

JB Reece, Taylor MR, Simon SJ, and JL Dickey. 2012. **Campbell Biology: Concepts and Connections, 7th ed.** Benjamin Cummings/Pearson, Boston.

Biology 101 Lab Manual, Available in the Campus Book store.

Attendance Policies

Attendance at lectures will help you to perform well on exams. There is no formal attendance requirement for lectures, but there are often quizzes and assignments during lecture for which you will receive points. If you are absent from lecture, you will not be able to make up these points.

Your lab activities count for approximately 1/4 of your grade in this course. Attendance in labs is required. Each week, you will watch an on-line prelab video, complete an on-line pre-lab quiz (3 points). These assignments must be completed **BEFORE** the beginning of your lab section. You will also submit a lab report worth 8 points. These assignments are provided to help you focus your learning and to give

you a direct grade-incentive to attend labs. They are not, however, the educational focus of the lab. Performing the lab assigned for any given week and interpreting the results you obtain provide the educational value of lab. Therefore, there are no make-ups for lab reports or pre-labs missed due to absence. Lab materials will be covered on the exams administered in Lecture (see exam attendance below.)

Attendance at exams is required. In general, the reasons that you miss an exam should be the same as those for which you would miss your wedding or a job interview. Make-up exams are difficult to administer, and students usually do poorly on them. Because of this, it is best to avoid make up exams if you can. If, however, you are very ill, in court, have a dental emergency, death in the family, etc., you can take a make-up exam. In order to qualify for a make-up exam, you must provide a written, verifiable excuse from an authorized party (doctor, dentist, minister, etc.) within one week of the missed exam. This excuse should clearly articulate that you were UNABLE to make it to class for the exam, including a timetable for restriction from work or school. **All make-ups for Exams I and II will be held in the lab room at 4 pm on December 16, 2016.** If you have a conflict with this time, please inform me in advance, so other arrangements can be made for your make-up exam. **Make-ups for Exam III and the final exam will by appointment.**

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 cover lecture and lab material, as well as assigned readings. They will contain a combination of T/F, multiple choice, and matching questions. There are three regular exams and a **comprehensive final** (aka **Final Redemption**). If a student's score on the final exam is higher than their mean exam score, all exam scores will be replaced with the final exam score for final grade calculation (hence redemption!). Each exam will be worth 110 points (100 pts Lecture, 10 pts lab). Consult your schedule for the exact date of each exam.
2. **Exam I and II revision:** It is possible to earn back up to half of the points you miss on Exams I and II. An alternative exam will be offered approximately one week after the exam results have been made available. If you are unhappy with your grade on Exam I or II, you have the option of taking this exam. Only students who have signed up in advance may take this exam. If you score higher on the revision exam than you did on the initial exam, your grade will reflect the average of the two. (This means that if your score improves, your grade will improve.) If you score lower on the exam revision than on the first exam, the revision will be dropped.
3. **In-Class Quizzes/Activities.** Quizzes will be given during of some lectures, and will cover material from the previous lectures and/or the day's assigned reading. In order to do well on these quizzes, it is essential that you **STUDY EVERY DAY.** Each quiz will be worth 5 points. You will receive up to 70 points for quizzes. Students not in attendance will NOT be allowed to make up these points. Quizzes will not be announced. There will be about 85 points worth of quizzes and activities during the term, but the maximum possible score is 70 points. This allows you some flexibility, since you can miss three quizzes, or score less than perfect on several, but still have the ability to score all 70 points.
4. **Essays.** At three points during the term, students will be assigned supplementary reading. Students are expected to read the articles and submit a 6-10 paragraph essay addressing specific

points, which will vary for each of the readings. In some cases, there will be a choice of readings. The specific contents of the essay will be described in the assignment itself, and will vary. Essays must be submitted on D2L by the prescribed due date. Late assignments will only be accepted with an authorized excuse. Each of these essays will be worth up to 15 points.

5. **Prelabs.** A prelab video and associated quiz worth 3 points will be posted on D2L for every lab exercise we complete. The goal of the prelabs is to ensure that you are ready to participate fully in the lab exercise. **You will not receive credit for prelab quizzes unless you have watched the entire prelab video.** Most prelab quizzes will take less than 10 minutes to complete. They must be submitted prior to the beginning of your scheduled lab period or you will not receive credit for them. Your lowest score will be dropped.
6. **Lab reports:** These are located in the lab manual. Each week, some part of the lab report will be collected and graded, for up to 8 total points. Your lowest lab report score will be dropped. In general, reports are graded for completeness and thoughtfulness of responses.
7. **Extra Credit:** Because interesting opportunities for learning sometimes come up (visiting lecturers, special events, etc), I will occasionally announce small assignments that will yield up to 5 points of extra credit each. Extra credit points will be added to your course total at the end of the term. No extra credit will be provided at the request of students as a means of grade improvement. No more than 15 extra credit and 10 bonus points will be applied toward your final grade.

Grading Breakdown

Exams	4 @ 110 points	440 points
Quizzes and Activities	5 pts @ up to 70 points	70 points
Essays	3 @ 15 points	45 points
Prelabs	Best 12 of 13 @ 3 points	36 points
Lab Reports	Best 12 of 13 @ 8 points	96 points
Total		687 points

Grading Scale

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 site at Desire to Learn. 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: <http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.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 and final lab report, 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 Dean of Students website for more information (<http://www.uwsp.edu/dos/Pages/Academic-Misconduct.aspx>).

Disability and Assistive Technology Center

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for student with disabilities. For more information about UWSP's policies, check : <http://www.uasp.edu/stuaffairs/Documents/RightsResps/ADA/rightsADAPolicyInfo.pdf> 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 Schedule

Date	Lecture Topics	Reading	Assignments
W Sept 7	1. Introduction	Syllabus	
M Sept 12	2. Scientific Study of Life	Chapter 1	
W Sept 14	3. The Chemicals of Life	Chapters 2 and 3	
M Sept 19	4. Chemistry and the Cell	Chapters 3 and 4	
W Sept 21	5. How Cells Work	Chapter 5	
M Sept 26	6. Chemical Energy in the Cell	Chapter 6	
W Sept 28	7. Photosynthesis	Chapters 7	
M Oct 3	8. Cellular Reproduction	Chapter 8	
W Oct 5	9. Review Session		Essay 1 due
M Oct 10			Exam I
W Oct 12	10. Inheritance	Chapter 9	
M Oct 17	11. Molecular Biology of the Gene	Chapters 10	
W Oct 19	12. Evolution 1: Historical Context	Chapter 13	
M Oct 24	13. Evolution 2: Natural Selection	Chapter 15	
W Oct 26	14. Microbes, Protists, Fungi	Chapters 16 and 17	
M Oct 31	15. Plants	Chapters 17	
W Nov 2	16. Invertebrate animals	Chapters 18	
M Nov 7	17. Chordates, Form and function	Chapters 19 and 20	
W Nov 9	18. Review Session		Essay 2 due
M Nov 14			Exam II
W Nov 16	19. Gas Exchange	Chapter 22	
M Nov 21	20. Circulation	Chapter 23	
W Nov 23	21. The Immune System	Chapter 24	
M Nov 28	22. The Biosphere	Chapters 34	
W Nov 30	23. Population Ecology	Chapter 36	
M Dec 5	24. Communities and Ecosystems	Chapter 37	
W Dec 7	25. Conservation Biology	Chapter 38	
M Dec 12	26. Review Session		Essay 3 due
W Dec 14			Exam III
F Dec 16	Final Exam 12:30-2:30		Final Redemption

Lab Schedule

Week of	Lab Topics
Sept 12	Lab 1. Scientific investigation
Sept 19	Lab 2. Microscopes and Cells
Sept 26	Lab 3. Diffusion and Osmosis
Oct 3	Lab 4. Enzymatic activity
Oct 10	Lab 5. Photosynthesis
Oct 17	Lab 6. Mitosis
Oct 24	Lab 7. Meiosis
Oct 31	Lab 8. Natural Selection
Nov 7	Lab 9. Bacteria and Protists
Nov 14	Lab 10. Land Plants
Nov 21	Lab 11. Animal Diversity
Nov 28	Lab 12. Circulation and Gas Exchange
Dec 5	Lab 12. Circulation and Gas Exchange
Dec 12	Lab 13. Food Webs