

Bio 101 - General Biology
Spring 2017 Syllabus and Schedule
Lecture: MW 9:35-10:50, SCI D 101

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by appointment

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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 25% 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.**

Behavioral Expectations

In order to keep the course running smoothly, and to ensure that all students have a good learning environment, I have the following expectations of students in this course:

1. Arrive on time, and take your seat promptly, so that the lecture can begin at 10:00. It is rude and disruptive to others to arrive late.
2. No phones out during lecture.
3. No computers/tablets out during lecture.
4. No tapping of pencils, pens, legs, hands, or other repetitive movements that will annoy the person sitting next to you.
5. No talking or side conversations.
6. No blurting. If you have a question, please raise your hand and wait to be called on.
7. One question per person per lecture. Save extra questions for office hours.

Any student committing a first violation of these rules will be asked to leave the classroom for the remainder of the lecture period. Upon second violation, students will be asked to leave and will be referred to the Dean of Students for behavioral concerns.

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 3 points. You will receive up to 45 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 54 points worth of quizzes and activities during the term, but the maximum possible score is 45 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 45 points.

4. **In-Class Discussions.** At three points during the term, there will be in-class discussions of non-text reading materials. Students are expected to read the articles provided in advance of the discussion and complete an 8-point worksheet, submitted on D2L, prior to the start of class on the day of discussion. In class, students will break into small groups and will complete a summary worksheet based on their discussion. This will also be worth 8 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.

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	3 pts @ up to 45points	45 points
Discussion Preparation Sheets	3@ 8 points	24 points
Discussion Summary Sheets	3@8 points	24 points
Prelabs	Best 12 of 13 @ 3 points	36 points
Lab Reports	Best 12 of 13 @ 8 points	96 points
Total		665 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%	F = <60%
	B- = 80.0-82.9%	C- = 70.0-72.9%		

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/RightsRespns/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
M Jan 23	1. Introduction	Syllabus	
W Jan 25	2. Scientific Study of Life	Chapter 1	
M Jan 30	3. The Chemicals of Life	Chapters 2 & 3	
W Feb 1	4. Chemistry and the Cell	Chapters 3 & 4	
M Feb 6	5. How Cells Work	Chapter 5	
W Feb 8	6. Chemical Energy in the Cell	Chapter 6	
M Feb 13	7. Photosynthesis	Chapters 7	
W Feb 15	8. Cellular Reproduction	Chapter 8	
M Feb 20	9. In-class Discussion I; Review		Prep. Worksheet I
			Summary Wks. I
W Feb 22			Exam I
M Feb 27	10. Inheritance	Chapter 9	
W March 1	11. Molecular Biology of the Gene	Chapters 10	
M March 6	12. Evolution 1: Historical Context	Chapter 13	
W March 8	13. Evolution 2: Natural Selection	Chapter 15	
M March 13	14. Microbes, Protists, Fungi	Chapters 16 & 17	
W March 15	15. Plants	Chapters 17	
March 20-26	SPRING BREAK!		
M March 27	16. Invertebrate animals	Chapters 18	
W March 29	17. Chordates, Form and function	Chapters 19 & 20	
M April 3	18. In Class-Discussion II; Review		Prep. Worksheet II
			Summary Wks. II
W April 5			Exam II
M April 10	19. Gas Exchange	Chapter 22	
W April 12	20. Circulation	Chapter 23	
M April 17	21. The Immune System	Chapter 24	
W April 19	22. The Biosphere	Chapters 34	
M April 24	23. Population Ecology	Chapter 36	
W April 26	24. Communities and Ecosystems	Chapter 37	
M May 1	26. Ecosystems & Conservation Biology	Chapters 37 & 38	
W May 3	26. Conservation Biology In-Class discussion III	Chapter 38	Prep. Worksheet III
M May 8	27. Review Session; Course wrap up		Summary Wks. III
W May 9			Exam III
T May 16	Final Exam 14:45-16:45		Final Redemption

Lab Schedule

Week of	Lab Topics
Jan 23	Lab 1. Scientific investigation
Jan 30	Lab 2. Microscopes and Cells
Feb 6	Lab 3. Diffusion and Osmosis
Feb 13	Lab 4. Enzymatic activity
Feb 20	Lab 5. Photosynthesis
Feb 27	Lab 6. Mitosis
March 6	Lab 7. Meiosis
March 13	Lab 8. Natural Selection
March 20-26	SPRING BREAK
March 27	Lab 9. Bacteria and Protists
April 3	Lab 10. Land Plants
April 10	Lab 11. Animal Diversity
April 17	Lab 12. Circulation and Gas Exchange
April 24	Lab 12. Circulation and Gas Exchange
May 1	Lab 13. Food Webs
May 8	Final Redemption Review