

BIOL 1020 World of Biology Lab

Fall 2015

Instructor: Celia Tarcha

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Office Hours: N257 Mondays 10:30-11:30 or by appointment

Text: *World of Biology 1020 Laboratory Workbook, 6th ed. by Stevens and Fleming. (2014).* Bring this each week. Photocopies are not allowed.

Course Description: World of Biology is intended to provide students with laboratory experience in various biological contexts. We will explore topics covered in BIOL 1010 with the added luxury of actually performing some of the experiments discussed in lecture. Note that this class is graded separately from BIOL 1010 and stands as a separate science course. As such, expect to spend 2-3 hours a week outside of class time working on homework and studying.

Learning Goals:

1. To provide an overview of basic knowledge, principles, methodologies, theories, and perspectives in biology.
2. To offer opportunities to work in groups with other students to practice effective communication about concepts and issues in biology.
3. To provide a broad understanding and appreciation of biology and encourage continuous inquiry and lifelong learning.
4. To provide the framework to critically evaluate and use information from various scientific sources to answer questions relevant to biology.
5. To understand the relationship between the fields of biology, chemistry, physics, geology and other sciences.
6. To appreciate the interdependence of humans, natural ecosystems, and diversity of life on earth.
7. To develop more informed and responsible citizens with respect to issues concerning the living world.
8. Use math as it applies to biology. This mostly includes making and interpreting graphs, and may also include calculating averages and variation around an average. I will help you and there will be chances to practice.

My Teaching Philosophy: As a lab instructor I act as a guide to your educational experience by introducing you to new concepts and methods to solve problems as well as providing challenges to develop your skills. I understand that this class has students from diverse backgrounds and I will do my best to deliver information so that all students, regardless of their familiarity with the sciences, will have a fruitful experience. This is a challenging course but not an impossible one; as a student you are responsible to engage with the course material and your classmates. In this class you "reap what you sow" in that the experience you gain is based on your effort and participation.

Online Resources: There are many videos online to help students with biology. I will post relevant videos on Blackboard for each lab but for general biological concepts some notable youtube channels are:

-CrashCourse <https://www.youtube.com/user/crashcourse>

-Amoeba Sisters <https://www.youtube.com/user/AmoebaSisters>

-Teacher's Pet <https://www.youtube.com/channel/UCxby2oPQwaY2poKTg5pSRqA>

Grading:

All assignments will be graded and returned to you the following lab period. Graded quizzes will be discussed the following week, but must be returned to the instructor. You may not use phones to take photos of quizzes. Grades are based on the percentage of points earned out of points possible on assignments, quizzes, participation, and the optional final exam. Categories are not weighed. As a habit, keep all passed back work and check your progress on Blackboard.

1. In-class quizzes: 11 @ 10 points each. Lowest score from Quiz 1-10 will be dropped. = 100 points.
(All 11 quizzes count in the case of an excused absence where a make-up could not be scheduled and the missed assignment score gets dropped instead.)
 2. Participation and assignments: This includes sharing group data, presenting answers to observation and study questions, displaying graphs, writing lab reports (20 points), completion of study questions from the lab manual, graphs, etc. for ~10 points in each session. Specific expectations of participation and details of assignment will be discussed during each lab.
 3. Optional comprehensive final exam. 30 points. Opting in is a commitment. Students who opt to take the final will receive a zero if they are not present at the final. Once you start the exam, you may not leave the room and return to complete it.
- Grading scale: A=90-100% B= 80-89% C= 70-79% D= 60-69% F<60% No fractional grades awarded.
 - For those who change their grading option before census date: CR \geq 70% NC \leq 69%
 - Extra Credit is rare, do not depend on it.
 - Late work will not be accepted except in dire emergencies where **you must provide documentation of hardship** (a note from a doctor, a tow truck receipt, etc). If you are late, your work is late. Late work will not be graded. All submitted work must be original; no photocopies will be accepted. You cannot photocopy any page of the lab manual at any time.

Lab Policies:

1. **Arrive to class on time and ready to learn.** You should expect to work productively both in groups and alone. Please demonstrate proper care and use of lab materials and supplies. Most importantly, please do not disrupt the learning environment, rights, and property of others. **Of course, all cell phones/etc. should be turned off and stored during class. After 2 warnings, the student will be dismissed from the lab, and any assignments pertaining to that lab will not be graded.**
2. **Quizzes will begin promptly at the start of lab.** If you are late you will have less time (or none!) to complete the quiz, so please make every effort to arrive on time. There are no make ups on quizzes, except in the case of documented medical or traffic emergencies (doctor's note, tow truck receipt). Out of the 11 quizzes for the semester, the lowest score from quiz 1-10 will be dropped. Quiz 11 will not be dropped. Quizzes mainly cover the lab material from the previous week AND also have one or two general questions about the upcoming lab, which you are required to read ahead of time. Reading the lab ahead of time makes your group work more efficiently, prevents mistakes that would cause you to need to start over, and allows you to ask better questions, utilizing your lab time more wisely. Once you start a quiz, you may not leave the room and return to complete it.
3. **Unexcused absences will result in no points for the week.** Like any lab course, this one requires your active participation each week. It will be impossible to pass this course without regular, on-time attendance. As per

university regulations, students with excessive absences or who are consistently late will be dropped from the course. Since the lab set-up changes each week, it will not be possible to make up missed labs. You may not turn in a lab write-up/assignment for a lab you did not attend. If an assignment is due during your **unexcused** absence, you may not turn it in, even if you were present to do the lab.

4. Absences are excused if they are documented medical or traffic emergencies. Please contact the instructor to schedule a make-up time for your quiz, and to turn in any assignments that were due during your absence. To make up the lab you can attend another section but you must email the instructor before attending. If you are not able to make up the lab you have missed because you cannot attend another section that week, or you are in the last lab section of the week, unfortunately, there will be no other make up, and therefore, you will not be able to turn in any assignments that are related to the lab you are missing. Students who find themselves in this unfortunate situation can drop one assignment grade instead of dropping their lowest quiz grade. Bring your documentation with you during your quiz make up.

5. Zero tolerance for cheating/plagiarism. Consequence: an F for the course and being reported to the Dean of Students.

6. Assignments are due at the beginning of class. No credit for late work. If you are late, your work is late.

7. The final exam for this class is optional! It will be comprehensive, worth 30 points, and will be structured similar to lab quizzes. If you sign up (opt in) to take the final and don't show, you will receive a zero on it. The last day to sign up for the optional exam is during the last lab of the semester.

8. In most labs you will work in small groups of 2-4 people, but **each student is required to hand in their own work!** These will be due at the beginning of the next lab meeting.

9. As a group, help each other with clean up. Each instance of not cleaning up will result in a deduction of 5 points for the group.

Student athletes and DRS students: please to notify me at the first lab meeting, or during my office hour.

Recording Lectures and Special Accommodations: Students with documented disabilities should seek special accommodations for all classes through the DRS office on campus. If DRS sends me a file on you that lists recording lectures as an acceptable accommodation, then you may record lectures. Otherwise, you have to do it the old-fashioned way with pen and paper. If you record lectures in any form (video, audio, still pictures, etc.) without accommodation from DRS, that constitutes intellectual property theft, will result in a zero in participation points, and preclude you from turning in any assignments related to the lab session.

Important Dates: Census Date is September 21st. This is the last day to add/drop the course or change your grading option without requiring a signature; it is your responsibility to submit the grade change form to the Enrollment Services in MSR by 5pm that day. It is possible to change your grading option up until October 27th if you go to enrollment services and pick up the form for me to sign. Note that my office hour ends at 12:50 on that day.

Fall 2015 BIOL 1020 Schedule

Week of	Schedule
August 24-28 th	Syllabus Lab Safety Sci vs Pseudosci
August 31-Sept 4 th	Lab 1 Scientific Method and Daphnia Lab
September 7-11 th No Monday	Lab 2 Cells & Microscopes
September 14-18 th	Lab 3 Transport
September 21-25 st	Lab 4 Metabolism
Sept 28 th - Oct 2 nd	Lab 5 Cell Cycle & Mitosis
October 5-9 th	Lab 6 Genetics and Meiosis
October 12-16 th No Tuesday	Lab 7 Phylogenies
October 19-23 rd	Lab 8 Evolution
October 26 th - 30 th	Lab 9 Plant Adaptations
Nov 2 nd - 6 th	Lab 10 Animal Adaptations
Nov 9 th - 13 th NO Wednesday	Mon, Wed-Fri labs do not meet this week
November 16 th -20 th	Lab 11 Population Parameters
November 23 rd -27 th No Wed-Fri	NO LABS THIS WEEK Happy Thanksgiving
Nov 30 th -Dec 4 th	Lab 12 Central CA Ecology
December 7 th - 11 th No Friday	OPTIONAL Final Exam
Dec 14 th -18 th finals	

Week #	Quizzes and Assignments	Points
1	Pseudoscience questions Study for quiz!	5
2	Scientific Method and Daphnia quiz *Quizzes are at the start of class, don't be late!	10
	Scientific Method and Daphnia lab questions (p.9-10)	5
	Daphnia Paper (due week 4)	20
3	Cells, Microscopes, and Measurements quiz	10
	Cells, Microscopes, and Measurements questions (p.25)	5
4	Cell Transport quiz	10
	Cell Transport lab questions #1-10 (p.36-37)	5
5	Cell Metabolism quiz	10
	Cell Metabolism lab questions (p.47-48) and graphs (p.46-47)	5
6	Mitosis quiz	10
	Mitosis lab questions (p. 55)	5
7	Meiosis and Genetics quiz	10
	Genetics and Evolution videos & questions(due week 9)	5
8	Phylogenetic Tree quiz	10
	Phylogenetic Tree lab questions p. 78 (include trilobite tree figure)	5
9	Evolution quiz	10
	Evolution lab questions(p.87) and graph (p.86)	5
10	Plant Adaptation quiz	10
	Plant adaptations lab questions(p.100-101)	10
11	Animal adaptations quiz	10
	Animal adaptations lab questions(p.111-113)	10
12	Population and growth curves quiz	10
	Population and growth curves ecological footprint & questions(p.125) and study questions 1-9(p. 126)	10
13	Ecology quiz	10
	Ecology lab questions (p.140) *These will be graded in-class as will lab workbook for completion!	5
1-13	Quizzes (lowest grade dropped)	100
1-13	Lab workbook completion	50
1-13	Participation	50
14	<i>Optional Final Exam</i>	30
	TOTAL POINTS WITH OPTIONAL FINAL EXAM	300 330