

BIOL 1020 World of Biology Lab

Spring 2020

Instructor: Ms. Katherine Russell

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Office: N324 Office Hours: Monday 12-1pm, 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.

GE Outcome Alignment and Assessment: This course meets GE requirement B3: Natural Sciences and Mathematics/Quantitative Reasoning – Laboratory requirement; and the GE learning outcomes in anchor area 1.6, and also areas 1.3, 2.1, and 2.2. These outcomes will allow students to 1) Develop the intellectual skills and competencies necessary to participate effectively in society and the world as well as 2) Develop broad knowledge of biological and physical sciences, humanities and creative arts, and social sciences.

GE Learning Outcome	Assignments and Quizzes will be used to assess learning outcomes in the lab activities listed below
1.6 - Comprehend and use appropriate technological resources effectively	Daphnia Lab Microscope and Cell Lab
1.3 -Demonstrate the ability to think critically and creatively	Science and Pseudoscience Presentations Evolution Lab Phylogeny Lab Population Parameters Lab Central Valley Ecology Lab
2.1 Explain and apply basic scientific methods.	Daphnia Lab/Daphnia Lab Report Transport Lab Metabolism Lab
2.2 Demonstrate an understanding of the living and non-living physical world.	Microscope and Cells Lab Mitosis, Meiosis and Genetics Lab Evolution Lab Phylogenies Lab Animal Adaptations Lab Plant Biology Lab Population Parameters Lab Central Valley Ecology Lab

Other 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.

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.

Weekly Quizzes	100 pts
Weekly HW Assignments (Labs)	120 pts
Optional Final	30 pts

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: These include sharing group data, presenting answers to observation and study questions, displaying graphs, writing lab reports, 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%
- No other points are available.
- 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). Make-ups must be completed before the next lab meeting. Out of the 11 quizzes for the semester, the lowest score will be dropped. Quizzes mainly cover the lab material from the previous week. 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. Make-up must be completed before the next lab meeting. 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 February 21st. This is the last day to change your grading option through Enrollment Services in MSR. Once you change your grading option, it cannot be changed back.

BIOL 1020 Lab Schedule
Spring 2020

Week of	Tentative Lab Schedule
1/27	Syllabus Lab Safety Science vs Pseudoscience
2/3	Lab 1: Scientific Method and Daphnia Lab
2/10	Lab 2: Cells and Microscopes
2/17	Lab 3: Transport
2/24	Lab 4: Metabolism
3/2	Lab 5: Cell Cycle & Mitosis
3/9	Lab 6: Genetics and Meiosis
3/16	Lab 8: Evolution (yes, we do lab 8 before lab 7 ☺)
3/23	SPRING BREAK
3/30	Cesar Chavez Day (3/31) No labs this week
4/6	Lab 7: Phylogenies
4/13	Lab 9: Plant Biology
4/20	Lab 10: Animal Adaptations
4/27	Lab 11: Population Parameters
5/4	Lab 12: CV Ecology
5/11	OPTIONAL Final Exam to be scheduled with instructor