

**WORLD OF BIOLOGY LAB
BIOLOGY 1020-015
FALL 2019**

Instructor: Sandra Lehmann Vierra, MPH

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Office Hours: Room N252, R 12:15pm-1:50pm., or by appt.

Lab: 015: F 8:00-10:50

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.

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:

Graded quizzes will be discussed but will be kept by 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/worksheets: 13 @ 10 points each. Three lowest scores from Quiz/Worksheet 1-13 dropped. = 100 points. (*A missed quiz/worksheet for an unexcused absence will not be dropped.*)
2. Participation and assignments: This includes 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 ~5-20 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%, and F<60%. No fractional grades awarded.
 - For those who change their grading option before census date: CR≥70% and NC≤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, there will be no other make up and 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 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 the last day to change your grading option through Enrollment Services in MSR. Once you change your grading option, it cannot be changed back.

Tentative Schedule of Assignments

WEEK 1 (08/23)

No lab this first week.

WEEK 2 (08/30)

Lab Intro - Syllabus, Lab Safety, Science vs. Pseudoscience

WEEK 3 (09/06)

Labor Day — No lab this week

WEEK 4 (09/13)

Lab 1 - Scientific Method & Daphnia Lab

WEEK 5 (09/20)

Lab 2 - Cells & Microscopes

WEEK 6 (09/27)

Lab 3 - Membrane Transport

WEEK 7 (10/04)

Lab 4 - Metabolism

WEEK 8 (10/11)

Lab 5 - Cell Cycle & Mitosis

WEEK 9 (10/18)

Lab 6 - Genetics & Meiosis

WEEK 10 (10/25)

Lab 8 - Evolution

WEEK 11 (11/01)

Lab 7 - Phylogenetics

WEEK 12 (11/08)

Lab 9 - Plant Biology

WEEK 13 (11/15)

Lab 10 - Animal Adaptations

WEEK 14 (11/22)

Lab 11 - Population Parameters

WEEK 15 (11/29)

Thanksgiving Day — No lab this week

WEEK 16 (12/06)

Lab 12 - Central California Ecology

WEEK 17 (12/13)

OPTIONAL FINAL EXAM (scheduled with instructor)