

Biology II Laboratory (BIOL 1625)

Semester: Spring 2018

Location: BNR 120 or 124

I. Course Objectives: This is a laboratory course focused on the process of science in the context of the following broad topics: organismal biology, animal behavior, evolution and ecology. This course will give you substantial experience with hypothesis-driven science, whereas BIOL 1615 is largely focused on discovery-based science. It is designed to be taken concurrently with BIOL 1620, and it is available to BIOL 1010 students. By the end of BIOL 1625, you will be able to:

1. apply course information when problem solving
2. develop specific skills, competencies, and points of view needed by scientists
3. work effectively in a group

II. Instructor Information

Lab Coordinator: Lauren Lucas

Contact information: e-mail llucas@usu.edu, office phone 797-9461

Drop-in office hours: Wednesdays 1:30-3:00 pm in BNR 247; *See your TA first with any issues.*

Teaching Assistants (TAs): *Your TA will inform you of the time and location of their office hours the first week of lab.*

TA	Email	Section(s)
Corey Andrikopoulos	cja576@gmail.com	007, 016, 021
Casey Dooms	casey.dooms@aggiemail.usu.edu	008, 019, 022
Sylvia Kinoshian	Sylvia.kinoshian@gmail.com	003, 009
Meg Licht	meg.licht@aggiemail.usu.edu	012, 015, 024
Lauren Lucas	lauren.lucas@usu.edu	001
Jacqueline Peña	jacquelinepena@aggiemail.usu.edu	006, 013, 018
Tara Saley	Tara.Saley@gmail.com	002
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Amy Springer	amy.springer@aggiemail.usu.edu	017
Jelveh Tamjidi	jelveh.tamjidi1985@gmail.com	010, 014, 020
Cecilia Vieira	ceciliavieira@gmail.com	004

III. Required Lab Materials

- Canvas: You will use our course Canvas site to receive important announcements, download free lab manual documents, take quizzes, and submit group assignments.
- Printing: You will need to bring lab documents to class in print. For a list of printers on campus, see: <http://campusprint.usu.edu/>
- Laptop with a Google Drive account for data entry, statistical analysis and word processing: We have a laptop you and your group members can borrow during class if you do not have one. Laptops must be put away when we are working with chemicals or equipment.
- Course fee: Your \$110 fee is used for disposable equipment (\$30), equipment (\$20) and GTA support (\$50).
- Safety equipment: You will sign a lab safety document at the beginning of the course. In compliance with lab safety, you must wear pants and closed-toe shoes in class every week. If you are not wearing the proper attire, you will be sent home with an unexcused absence. No food or drink is allowed outside of your bag while in the classroom. We will provide disposable gloves, lab coats, and goggles for use when necessary. You may bring your own lab coat and goggles to class.

IV. Assignments and grading policy

- **Weekly online pre-lab quizzes (30% of grade).** You will read lab documents on Canvas before coming to lab each week. You will answer a few questions on Canvas regarding this background information. The quiz will be available online by Friday of each week and will close an hour before class starts. For all quizzes: it is not timed, you are allowed one attempt, and we will go over the correct answers together in class. Canvas will automatically drop your lowest pre-lab quiz score.
- **Weekly in-class scientific reflection (40% of grade).** At the end of each lab session, you and your group members will collaboratively answer questions about the lab project you completed to help you process the science we do together. You will turn this in on Canvas before you and your group members leave class. If you come to class more than five minutes late or leave before your group members, you will receive a zero. Canvas will automatically drop your lowest scientific reflection score.
- **Research proposal (10% of grade).** You and your group members will write a research proposal to justify and design your own hypothesis-driven experiment using seed beetles that you will conduct over several weeks. You will receive details in class and on Canvas. You will receive a 0 if you have an unexcused absence the day this is due.
- **Research presentation (20% of grade).** In 10 minutes, you and your group members will present to the rest of the class the entire process of science you experienced while you asked and answered an authentic scientific research question using seed beetles. You will receive details in class and on Canvas. You will receive a 0 if you have an unexcused absence the day this is due.

Your grade will be reflected by your performance on these two major assignments. Final course grades are based on the following scale and will not be rounded up to the nearest whole number: A (93-100%), A- (90-92%), B+ (87-89%), B (83-86%), B- (80-82%), C+ (77-79%), C (73-76%), C- (70-72%), D+ (67-69%), D (60-66%), and F (59% and below).

V. Lab format and schedule: There will be brief lectures and out-of-class readings and quizzes to cover background content, but hands-on, collaborative projects will dominate the course.

Week of	Lab project	Due Dates: Pre-lab quizzes are always due an hour before class, Scientific reflections are always due at the end of class.
Jan 8	<i>No lab this week</i>	
Jan 15	<i>No lab this week</i> (MLK Jr. Day on Mon.)	
Jan 22	1. Course introduction Guppy mating	Scientific reflection 1
Jan 29	2. <i>Daphnia</i> on drugs	Pre-lab quiz 1, Scientific reflection 2
Feb 5	3. Arthropod behavior	Pre-lab quiz 2, Scientific reflection 3
Feb 12	3. Get to know seed beetles	Pre-lab quiz 3, Scientific reflection 4
Feb 19	<i>No labs this week</i> (President's Day on Monday)	
Feb 26	4. Peer review and research proposal	Pre-lab quiz 4, Scientific reflection 5, Research proposal due at end of class
March 5	<i>No labs this week</i> (Spring Break)	
March 12	5. Set up seed beetle project	Pre-lab quiz 5, Scientific reflection 6
March 19	6. Evolution of multicellularity	Pre-lab quiz 6, Scientific reflection 7

March 26	7. Evolution of multicellularity	Pre-lab quiz 7, Scientific reflection 8
April 2	8. Evolution of multicellularity	Pre-lab quiz 8, Scientific reflection 9
April 9	9. Analyze seed beetle data	Pre-lab quiz 9, Scientific reflection 10
April 16	10. Seed beetle project presentations	Pre-lab quiz 10, Scientific reflection 11
April 23	11. Human population ecology	Pre-lab quiz 11, Scientific reflection 12
April 30	<i>No labs during finals week</i>	

VI. Attendance Policy (adapted from the USU Course Catalog): The university views class attendance as an individual student responsibility. You may not attend a lab other than the one for which you are registered. Your TA will not provide you an opportunity to make up work missed because of an unexcused absence. Unexcused absences include: being sent home due to coming to lab without the proper attire (in which case you will be sent home), coming to lab more than five minutes late (in which case you will be sent home) or leaving before group work has been submitted, family vacation. The following are considered excused absences if properly documented: absences demanded by university-sponsored or sanctioned activities; mandatory participation as a student-athlete in NCAA-sanctioned competition; injury, illness or medical condition/status that is too severe or contagious for the student to attend class; major injury, illness, medical condition/status, or death in a student's immediate family; required participation in military duties; mandatory admissions interviews for professional or graduate school; participation in legal proceedings that require the student's presence. In the case of an excused absence, you must provide your TA with written evidence substantiating the reason for the absence (for example, a medical confirmation note that contains the date and time of the visit and the medical professional's confirmation) prior to the date of absence if feasible. In cases where advance notification is not feasible (e.g., accident or emergency), the student must provide written documentation by the end of the second working day after the absence. If the absence is excused and properly documented, you must meet with your TA outside of class to discuss your make-up work assignment. Any make-up work must be completed within 14 calendar days of the last day of the absence. Your TA will deny any excused absence make-up work requests that exceeds 20% of class sessions (more than two class sessions).

VII. The Honor System and Plagiarism: To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- espouses academic integrity as an underlying and essential principle of the Utah State University community;
- understands that each act of academic dishonesty devalues every degree that is awarded by this institution;
- is a welcomed and valued member of Utah State University.

Plagiarism includes knowingly "representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

VIII. Students with Disabilities: USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn # 101, 435-797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.