

Biology 1110L: Biology for Health-Related Sciences Lab

UNM Valencia Campus

Semester: Spring

Year: 2022

CRN #: 56318 section 501

Credits: 1 credit hour

Course Description:

Instructor: Dr. Ben Flicker

Contact Information: My office is H100B. My phone number on campus is 505-925-8726. My email address is benflicker@unm.edu. Aside from my office hours and immediately before and after class, email is the best way to contact me.

Course Book: There is **No** lab manual for this class. The weekly lab activities will be provided for you by your instructor. Digital copies will also be made available on the course Learn page.

Course Materials: You are required to bring a notebook of unlined paper to keep as a lab notebook. You will turn this in regularly for your participation points, so if you obtain one with perforated pages you can submit your work without submitting your entire notebook. I also recommend you work in your notebook primarily in pencil. I will bring colored pencils if you want to get fancy (optional).

Student Drop-In Hours: These are times when I will be available in my office for student questions or other issues. Mondays 10:30-12:00 & 1:00-2:30, Tuesdays 10:30-12:00, Wednesdays 12:00-2:00, Thursdays 12:00-1:30, or by appointment.

Student Learning Objectives:

- 1.) Students will employ critical thinking skills to judge the validity of information from a scientific perspective (Lab 1).
- 2.) Students will use the scientific method to formulate questions and develop testable hypotheses (Lab 1, 2, 4).
- 3.) Students will be able to use laboratory equipment to collect relevant, quality data (CURE project).
- 4.) Students will recognize biodiversity in different ecological habitats and communities of organisms (Lab 7, 8, 9).
- 5.) Students will be able to communicate effectively about scientific topics and ideas (all).

Attendance: Attendance is Required for all classes. However, two make-up dates occur (the week before each exam) that will allow you to make up material from any absence.

Withdrawal: If you drop the course after the drop deadline, you will receive a grade of 'W'.

Missed quiz policy: Missed quizzes cannot be made up! Due to the practical nature of these, they can only be set up once.

Students with disabilities: Qualified Students with disabilities should see me or the testing center as soon as possible so we can meet your needs suitably and quickly.

Title IX: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the department of Education (see pg 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct, and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX coordinator at the Office of Equal Opportunity (Oeo.unm.edu) For

more information on the campus policy regarding sexual misconduct, see:
<https://policy.unm.edu/university-policies/2000/2740.html>

Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website: <http://undocumented.unm.edu/>.

Syllabus Language: UNM Administrative Mandate on Required Vaccinations

UNM requires COVID-19 vaccination and a booster for all students, faculty, and staff, or an approved exemption (see: [UNM Administrative Mandate on Required Vaccinations](#)). Proof of vaccination and booster, or a [medical, religious, or online remote exemption](#), must be uploaded to the [UNM vaccination verification site](#). Failure to provide this proof may result in a registration hold and/or disenrollment for students and disciplinary action for UNM employees.

Booster Requirement: Individuals who received their second dose of a Pfizer or Moderna vaccine on or before June 15, 2021, or their single dose of a Johnson & Johnson vaccine on or before October 15, 2021, *must provide documentation of receipt of a booster dose no later than January 17, 2022.*

Individuals who received their second dose of a Pfizer or Moderna vaccine after June 15, 2021 or who received their single dose of Johnson & Johnson after November 15, 2021 *must provide documentation of receipt of a booster within four weeks of eligibility*, according to the criteria provided by the FDA (6 months after completing an initial two-dose Moderna vaccine, 5 months after completing the Pfizer sequence, and 2 months after receiving a one-dose Johnson and Johnson vaccine).

Exemptions: Individuals who cannot yet obtain a booster due to illness should request a [medical, religious, or online remote exemption](#) (which may have an end date) and upload this to the [vaccination verification site](#).

Medical and religious exemptions validated in Fall 2021 (see your email confirmation) are also valid for Spring 2022 *unless an end date was specified in the granting of a limited medical exemption*. Students must apply for a remote online exemption every semester.

Syllabus Language: UNM Requirement on Masking in Indoor Spaces

All students, staff, and instructors are required to wear face masks in indoor classes, labs, studios and meetings on UNM campuses, see the [masking requirement](#). Students who do not wear a mask indoors on UNM campuses can expect to be asked to leave the classroom and to be dropped from a class if failure to wear a mask occurs more than once in that class. Students and employees who do not wear a mask in classrooms and other indoor public spaces on UNM campuses are subject to disciplinary actions. **Medical/health grade masks are the best protection against the omicron variant and these masks should be used, rather than cloth.**

Syllabus Language: COVID-19 Symptoms and Positive Test Results:

Please do not come to a UNM campus if you are experiencing symptoms of illness, or have received a positive COVID-19 test (even if you have no symptoms). Contact your instructors and let them know that you should not come to class due to symptoms or diagnosis. Students who need support addressing a health or personal event or crisis can find it at the [Lobo Respect Advocacy Center](#).

Quizzes: 2 quizzes will be given throughout the term. These will be worth 25 points each. They will cover recent lab activities and be a mixture of practical and written elements.

Exams: 2 practical exams will be administered during the term. They will be a mixture of both practical and written questions. Exam study guides will be provided for both. The final will not be cumulative.

Course Webpage: The course webpage can be found by logging in to learn.unm.edu. There, I will post course documents like the syllabus, exam study guides, and other relevant course material. Any course announcements will be made on this webpage, so be sure to check it regularly.

CURE: This semester we will be completing a course-based undergraduate research experience (CURE). This will be a semester-long project that you will complete with your group, where you will be compiling data and observations weekly, culminating in a final report where you will test a hypothesis you design early in the semester. This project will be worth 100 total points and be divided into several graded pieces.

The goal of this program is to increase exposure of research to more undergraduate students than are typically able to have traditional research experiences. Research has shown many benefits to these experiences including improved retention, increased sense of belonging and an increased interest in science. During this semester, working in groups, each group will complete a research project that will aim to uncover novel information in the field of biology. This project will be composed of four phases:

- 1.) Prep: Examine the assigned tree species and their locations to formulate and propose a hypothesis on dormancy ending.
- 2.) Conduct: Collect data from your trees using the given tools, keeping regular observations and making sketches.
- 3.) Analyze: Interpret the data that you collect in your experiment.
- 4.) Present: Share your findings with the class.

During the semester, you will be guided by your instructor in how to carry-out each step. I will aid you in all of these phases to make sure that your project is doable, that you are managing your time well, and that you are using proper means to address your problem and analyze your data.

Learning Goals: After successful completion of the course, students will:	Learning Objectives: After successful completion of the course, students will be able to:	Evidence from key Learning/ Instructional Activities
1. Understand and appreciate the process of research in plant biology.	<ul style="list-style-type: none"> • Apply the scientific method to formulate questions and develop testable hypotheses. • Analyze information/data and draw conclusions. • Operate laboratory equipment correctly and safely to collect relevant and quality data. • Communicate effectively about scientific ideas and topics. 	<ul style="list-style-type: none"> • Prepare an accurate results table with reasonable, supported conclusions in final lab report on your tree growth study. • Successfully maintain regular observations, data, and sketches of your tree species over the course of the semester, then accurately interpret your results in the lab. • Prepare and present a final lab report to the class in the form of a short (~2 pages) periodical article.

Laboratory Policies:

- 1.) No food or drink is allowed in the lab at any time.
- 2.) No chewing gum in the lab.
- 3.) Absolutely no horseplay will be tolerated.
- 4.) Come on time and prepared for the lab activity and quiz for that day.
- 5.) Treat all lab equipment carefully and with respect

Course Grading Policy: Lecture grades will be based on the percentage of points earned (100% or higher = A+, 99-91% = A, 90% = A-. 88-89% = B+, 87-81% = B, 80% = B-, 79-78% = C+, 77-71% = C, 70% = C-, 69-68% = D+, 67-61% = D, 60% = D-, < 60% = F.

- 90 points: Participation (10 lab exercises @ 9 points each)
- 50 points: Quizzes (2 quizzes @ 25 points each)
- 100 points: CURE project
 - Data table: 25 points
 - Observations: 25 points
 - Final report: 50 points
- 100 points: Midterm Practical Exam

- 100 points: Final Practical Exam
- 10 points: Free!
- = 450 Total points

Date	Lab Exercise	Quiz:
1/19/2022	Course Intro/ Scientific Method	
1/26/2022	CURE introduction and planning	
2/02/2022	Photosynthesis	
2/09/2022	Plant Cells & Microscopy	
2/16/2022	The Basic Plant Body	
2/23/2022	Flowers	
3/02/2022	Fruits	Quiz 1
3/09/2022	Midterm Practical Exam	
3/16/2022	Spring Break: No Class	
3/23/2022	Plant Ecology	
3/30/2022	Land Plant Evolution	
4/06/2022	Cactus Evolution	
4/13/2022	Plant Propagation	
4/20/2022	CURE wrap up	
4/27/2022	Plant Secondary Compounds	Quiz 2
5/04/2022	Final Practical Exam	