

BIO 100 The Living World Laboratory

Polytechnic Campus | T/Th | San Tan Hall, Room 201 In-Person | Fall 2024 | Credits: 0 | Prerequisites: None

Faculty Information

Two Lab Sections:

Tuesday 9:00am – 11:30am (64512) – *Galewski* Thursday 2:00pm – 4:30pm (67724) – *Li*

Instructor: Adrianna Galewski, MAT

Contact Info: Office: Wanner Hall 140A | Email Address: adrianna.galewski@asu.edu

Student Hours: By appointment, in office or via zoom

Instructor: Lin Li

Contact Info: Email Address: linli18@asu.edu

Student Hours: By appointment

Course Description: Lab component of BIO100, evaluating and experiments in principles of biology. Cannot be used

for major credit in the biological sciences.

Instructor Course Objectives

The goal of the labs is to provide hands-on experience with biological material and to enhance student abilities in scientific methodology and critical thinking. The activities performed will illustrate and reinforce the concepts introduced in the lecture portion of the class.

Student Learning Outcomes

At the completion of this course, students will be able to:

- Identify the different components of the scientific method.
- Identify the parts of a microscope their functions.
- Construct models of cellular membranes and be able to solve the tonicity of mystery solutions.
- Compare the function of enzymes that come from fresh and canned fruit.
- Identify how leave color impacts photosynthesis.
- Construct models of mitosis and meiosis.
- Compare DNA through Electrophoresis to solve a "crime".
- Compare different animal skulls to learn more about diet and habitat.
- Identify different types of bones found in an owl pellet to learn more about it's diet.
- Build a model about biodiversity and adaptations.

Student Success

To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers



- create a study and/or assignment schedule to stay on track
- access ASU Online Student Resources or CISA Academic Resources

Textbooks, Required Readings and Materials

Reading materials and assignments will be provided in lab or via Canvas.

Course Access

Your ASU courses can be accessed by both <u>my.asu.edu</u> and <u>asu.instructure.com</u>; bookmark both in the event that one site is down.

Additional Requirements

This course requires the following technologies:

- Web browsers (Chrome, Mozilla Firefox, or Safari)
- Adobe Acrobat Reader (free)
- Webcam, microphone, headset/earbuds, and speaker
- Microsoft Office (Microsoft 365 is free for all currently-enrolled ASU students)
- Reliable broadband internet connection (DSL or cable) to stream videos.

Note: A smartphone, iPad, Chromebook, etc. will not be sufficient for completing your work in an online environment. Although you will be able to access course content with mobile devices, you must use a computer for all assignments, quizzes, and virtual labs completed in Canvas.

Zoom Recordings

The contents of this course, including lectures and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling or distributing course content or notes taken during the conduct of the course. Any recording of class sessions by students is prohibited, except as part of an accommodation approved by the SAILS Office.

Assignment Details

Lab Activities

There will be several lab activities throughout the semester, these consist of in-class hands on activities, dissections, and worksheets. These activities will be completed during the student's scheduled lab time and handed in before leaving. Students must be present in the lab to complete the lab activities.

Lab Quizzes

There will be several lab quizzes throughout the semester, these consist of information from the class instructional material. These quizzes will be completed at the start of the student's scheduled lab. Students must be present in the lab to complete the lab activities.

Dreamscape Learn Virtual Labs

The primary purpose of the Dreamscape Learn (DSL) virtual labs is to help you understand pertinent biological concepts and develop scientific reasoning skills. You will complete several <u>Virtual Reality (VR) experiences</u> in the Polytechnic campus VR Pod, followed by collaborative problem solving of <u>Mission Objectives</u> in lab. Further information about these labs can be found on the "Dreamscape Learn Information and Support" page in Canvas.



Students will use canvas to schedule their VR experiences on the dates specified by the course schedule. All VR experiences will be completed promptly at the beginning of your scheduled lab time on the days specified by the course schedule. Scheduling and completion of the VR experiences are required to earn credit. Mission Objectives will be completed during the student's scheduled lab time, a phone, tablet, laptop, or device will be required during these labs.

The lowest assignment score from each category will be dropped at the end of the semester. The lowest Lab Activity or Mission Objective, AND the lowest Lab Quiz or VR Experience score will be dropped. That way, if students miss one lab for unexcused reasons and are unable to attend another session, it may not affect their final grade for the course. See 'Late or Missed Assignments' for more detailed information.

Lab Safety and Protocols

Safety

During the first lab period, we will cover several different safety rules and regulations. It is extremely important that you pay close attention and always follow the rules. Personal protective equipment (PPE) is mandatory- this always includes close-toed shoes, long pants, and shirt with sleeves, and depending on experiment may include lab coat, goggles, gloves, or masks. I will let you know each lab period if we need to take any additional precautions.

Food in Lab

Food in lab is absolutely **prohibited. This includes water!** We will be working with various chemicals and living organisms during lab time, to avoid contamination of food and drinks, these items are not permitted in the lab room. There will be a place to leave food and drinks outside the door. You can step out of the room to take a drink if you need to.

Grading

Grading Breakdown

The laboratory portion of BIO100 contributes a significant percentage (roughly 25% of the course total points) to your overall BIO100 grade. Points will be earned as follows:

Assignment Category	t Assessment Number		Point value	Points	Notes
1	1 Lab Quizzes		10	50	Lowest score from Lab Quizzes or
	VR Experience		10	60	VR Experience dropped, 10 out of 11 assignments counted.
		C	100		
2	Lab Activities	5 total	15	75	Lowest score from Lab Activities
	Mission Objectives	6 total	15	90	or Mission Objectives dropped, 10 out of 11 assignments counted.
Category 2 total:			150		
Lab Total:				250	

^{**} You will not receive a separate letter grade for the BIO100 lab portion of this course. However, if you fail to earn 60% or more in the lab, you will get an "E" for the overall BIO100 course (lecture + lab) grade.**

Grading Scale

Your grade will be determined based on the following grading schema:

Grade Percenta	ge Points Range	
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A+	100-97%	250 - 242.5
A	<97-94%	<242.5 – 235
A-	<94-90%	<235 - 225
B+	<90-87%	<225 - 217.5
В	<87-84%	<217.5 - 210
B-	<84-80%	<210 - 200
C+	<80-77%	<200 - 192.5
C	<77-70%	<192.5 - 175
D	<70-60%	<175 - 150
Е	<60%	<150 Failure
EU	<60%	Failing Did Not Complete
EN	0%	Failing Never Participated

Grading Procedure

Grades reflect your performance on assignments and adherence to deadlines. Grades on assignments will be available within **7 days** of the due date in the Gradebook.

Late or Missed Assignments

Please do your best to notify the instructor **BEFORE** an assignment is due if an urgent situation arises and you are unable to submit the assignment on time.

Late or missed assignments due to an **unexcused absence or reason**, will receive a score of "0". Unexcused absences include, but are not limited to, skipping lab, sleeping in, or absences for vacation or other social reasons. Students have the option to attend another lab session in the same calendar week, provided space is available, with instructor approval. Priority of seats will go to students with excused absences. Remember, we drop the lowest assignment score from each category at the end of the semester to help off-set one missed lab.

Late or missed assignments due to an **excused absence or reason,** may be made up. Qualifying excused absences include, but are not limited to, illness, religious events, active service, and ASU sanctioned events. These absences should accompany documentation provided by the student to the instructor. Students may attend another lab session in the same calendar week, provided space is available, with instructor approval. Should space not be available or the student's schedule not permit, the Dreamscape Learning Labs may be provided to students in a modified format. VR experiences may be made up in the same calendar week if scheduling permits. [Reach out to your instructor for approval, and the email address to contact for rescheduling.] If the student's schedule doesn't permit a reschedule, your instructor will work with you for other accommodations. Mission Objectives can be assigned in a modified format. Unfortunately, hands-on labs cannot be made-up in subsequent calendar weeks as the materials and apparatus are only provided during that week.

Emergencies and unavoidable life circumstances can occur at any time, please contact your lab instructor right away to discuss if any accommodation can be made. Excused absences do not relieve students of their responsibility for any part of the course work required during the period of absence.



Submitting Assignments

For your own protection, you should keep a copy of everything you hand in, and you should keep your graded assignments at least until grades are finalized at the end of the semester in the event you wish to contest any grades.

Assignments, unless otherwise announced by the instructor, MUST be submitted to the designated area of Canvas. Do not submit an assignment via email.

Assignment due dates follow Arizona Standard time. Click the following link to access the <u>Time Converter</u> to ensure you account for the difference in time zones. *Note:* Arizona does not observe daylight savings time.

Classroom Use of Generative AI (i.e. Chat GPT, Bard, etc)

In this course, all assignments must be completed by the student. Artificial Intelligence (AI), including ChatGPT and other related tools used for creating of text, images, computer code, audio, or other media, are not permitted for use in any work in this class. Use of these generative AI tools will be considered a violation of the ASU Academic Integrity Policy, and students may be sanctioned for confirmed, non-allowable use in this course.

Course Time Commitment

Coursework includes all learning activities including reading, watching videos, studying, and completing assignments. Arizona Board of Regents (ABOR) requires 45 hours of coursework per credit for college-level courses, which translates to:

· 1 credit hour = 45 total hours · 3 credit hours = 135 total hours · 5 credit hours = 225 total hours

2 credit hours = 90 total hours · 4 credit hours = 180 total hours

ASU courses range in length from 6 weeks to 15 weeks. Below is a breakdown of the 135-hour required time commitment for a three-credit course divided among weeks for courses of various lengths.

Course Length	Time on Coursework per	Total Time Requirement for a	
	Week for a 3-credit course	3-credit Course	
6 weeks	22.5 hours	135 hours	
7.5 weeks	18 hours	135 hours	
8 weeks	17 hours	135 hours	
15 weeks	9 hours	135 hours	

Drop and Add Dates/Withdrawals

If you are unable to take this course for any reason, be aware that there is a limited timeline to <u>drop or add the course</u>. Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review the following ASU policies: <u>Withdrawal from Classes</u>, <u>Withdrawing as a Financial Aid Recipient</u>, <u>Medical/Compassionate Withdrawal</u>, and a <u>Grade of Incomplete</u>.

Grade Appeals

Students must first speak with the instructor of the class to discuss any disputed grades. If, after review, a resolution is not achieved, students may proceed with the appeal process. Student grade appeals must be processed in the regular semester



immediately following the issuance of the grade in dispute (by commencement for fall or spring), regardless whether the student is enrolled at the university. Complete details are available in the <u>CISA Grade Appeals policy</u>.

Course Outline

Week #	Week of	Lab Exercise
1	Aug 22	No Labs
2	Aug 26	No Labs
3	Sept 2	Lab Safety & Handwashing Lab
4	Sept 9	Microscopes Lab & Handwashing Results
5	Sept 16	Mission 1: VR experience I & Scientific Reasoning- Mission Objective I
6	Sept 23	Mission 1: VR experience II & Scientific Reasoning- Mission Objective II
7	Sept 30	Mission 1: VR experience III & Scientific Reasoning- Mission Objective III
8	Oct 7	Cellular Respiration
9	Oct 14	No Labs- Fall break
10	Oct 21	Mitosis / Meiosis
11	Oct 28	Mission 2: VR experience I & Genetics- Mission Objective I
12	Nov 4	Mission 2: VR experience II & Genetics- Mission Objective II
13	Nov 11	Mission 2: VR experience III & Genetics- Mission Objective III
14	Nov 18	DNA / Electrophoresis Lab
15	Nov 25	No Labs- Thanksgiving Break
16	Dec 2	No Labs- Prepare for finals

Attendance Policy

Attendance and participation in class activities is an essential part of the learning process, and students are expected to attend class regularly. Class attendance is necessary to complete quizzes, VR experiences, in-class activities and Mission Objectives. Some absences are, however, unavoidable. Excused absences for classes will be given without penalty to the grade in the case of (1) a university-sanctioned event [ACD 304-02]; (2) religious holidays [ACD 304-04; a list can be found here [https://eoss.asu.edu/cora/holidays]; (3) work performed in the line-of-duty according [SSM 201-18]; and (4) illness as documented by a health professional.

If there is a disagreement as to whether an absence should be accommodated, the instructor and student should contact the academic unit chair immediately for resolution.

Communicating with your Instructor and Classmates



Classroom Community

To build a course climate that is comfortable for all, it is important that students (1) display respect for all members of the class – including the instructor and students; (2) pay attention to and participate in all interactive student partner/instructor sessions and activities; and (3) observe the rules of appropriate online behavior (also known as *netiquette*). This term is defined by the instructor and includes keeping course discussion posts and oral communication with other students (or the instructor) focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. In addition, they must avoid racist, sexist, homophobic, or other negative language that may unnecessarily exclude course members. This is not an exhaustive list of behaviors; rather, it represents examples of the types of things that can have a dramatic impact on the course environment. Your final grade may be reduced each time you engage in the types of negative behaviors indicated above.

Student Conduct

ASU and the College of Integrative Sciences and Arts expects and requires its students to act with honesty, integrity, and respect. Required behavior standards are listed in the Student Code of Conduct and Student Disciplinary Procedures, Computer, Internet, and Electronic Communications policy, ASU Student Academic Integrity Policy, and outlined by the Office of Student Rights & Responsibilities. Anyone in violation of these policies is subject to sanctions. Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per Instructor Withdrawal of a Student for Disruptive Classroom Behavior. The Office of Student Rights and Responsibilities accepts incident reports from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Establishing a Safe Environment

Learning takes place best when a safe environment is established in the classroom. In accordance with <u>SSM 104-02</u> of the Student Services Manual, students enrolled in this course have a responsibility to support an environment that nurtures individual and group differences and encourages engaged, honest discussions. The success of the course rests on your ability to create a safe environment where everyone feels comfortable to share and explore ideas. We must also be willing to take risks and ask critical questions. Doing so will effectively contribute to our own and others' intellectual and personal growth and development. We welcome disagreements in the spirit of critical academic exchange, but please remember to be respectful of others' viewpoints, whether you agree with them or not.

All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

Accommodation for Religious Practices or Military Service

Class attendance (either in-person or remotely) is required in the course, and attendance is taken every class session. If you are unable to attend class for any reason, please contact me as soon as possible.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to University-sanctioned activities or active military service.



Missed Classes Due to University-Sanctioned Activities

Class attendance (either in-person or remotely) is required in the course, and attendance is taken every class session. If you are unable to attend class for any reason, please contact your instructor as soon as possible.

Follow the appropriate University policies to request accommodation for religious practices, or to request accommodation for missed assignments due to University-sanctioned activities or active military service.

Academic Integrity

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see provost.asu.edu/academicintegrity.

If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, college, and/or dean. Academic dishonesty includes, but is not limited to, cheating on an academic evaluation or assignment, plagiarizing, academic deceit (such as fabricating data or information), or falsifying academic records. Turning in an assignment (all or in part) that you completed for a previous class is considered self-plagiarism and falls under these guidelines. Any infractions of self-plagiarism are subject to the same penalties as copying someone else's work without proper citations. Students who have taken this class previously and would like to use the work from previous assignments should contact the instructor for permission to do so.

If you have any questions about your work and the academic integrity policy, please discuss your assignment or concerns with your instructor, teaching assistant, or your college Academic Integrity Officer in advance of submitting an assignment. Student resources on Sun Devil Integrity and strategies for completing your work with integrity and avoiding plagiarism are available here: <u>ASU Student Resources for Academic Integrity</u> or <u>provost.asu.edu/academicintegrity</u> for more information.

Disruptive, Threatening, or Violent Behavior

In the classroom and out, students are required to conduct themselves in a manner that promotes an environment that is safe and conducive to learning and conducting other university-related business. All incidents and allegations of violent or threatening conduct by an ASU student will be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. Such incidents will be dealt with in accordance with the policies and procedures described in Section 104-02 of the Student Services Manual, available at https://public.powerdms.com/ASU/documents/1560490

ASU and the College of Integrative Sciences and Arts expects and requires its students to act with honesty, integrity, and respect. Required behavior standards are listed in the Student Code of Conduct and Student Disciplinary Procedures, Computer, Internet, and Electronic Communications policy, ASU Student Academic Integrity Policy, and outlined by the Office of Student Rights & Responsibilities. Anyone in violation of these policies is subject to sanctions. Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per Instructor Withdrawal of a Student for Disruptive Classroom Behavior. The Office of Student Rights and Responsibilities accepts incident reports from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.



Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Trigger Warning

Please note that some course content may be deemed offensive by some students, although it is not my intention to offend anyone. In addition, some materials that we link with online might also be considered offensive, troubling, or difficult to review in terms of language or graphics. I attempt to provide warnings when introducing this kind of material; yet, if I forget to do so, or if something else (in my materials or posts from fellow students) seems offensive, please contact me at <a href="mailto:

Student Accessibility and Inclusive Learning Services (SAILS)

Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to the instructor at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Student Accessibility and Inclusive Learning Services is required. Disability information is confidential.

Student Accessibility and Inclusive Learning Services (https://eoss.asu.edu/accessibility)

Email: Student.Accessibility@asu.edu

SAILS Phone: 480-965-1234 **SAILS FAX:** 480-965-0441

Tutoring

Free tutoring support is available in person and online for most courses. Services are offered through ASU's University Academic Success Programs for currently enrolled students.

- Tutoring is available in math, business, science, statistics, and engineering courses.
- Writing tutoring is available for any writing project at any stage of the writing process.
- Supplemental Instruction (SI) facilitates collaborative study groups for selected courses.
- Graduate academic tutoring is available for writing and statistics.
- Academic skills tutoring can help with critical reading, study skills, note taking, and more.
- Resources are available through our YouTube channel, Zoom recordings, and handouts.

Visit https://tutoring.asu.edu or call (480) 965-9072 for more information about these services, to view our schedules, or to book an appointment.

Copyright

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement. For more information, see the Computer, Internet, & Electronic Communications Policy at http://www.asu.edu/aad/manuals/acd/acd125.html



Instructor's Copyrighted Materials

In accordance with <u>ACD 304-06 Commercial Note Taking Services</u>, written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

Title IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish to discuss any concerns confidentially and privately. ASU online students may access 360 Life Services, https://goto.asuonline.asu.edu/success/online-resources.html.

Statement on Inclusion

Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access, and have an impact on our community, state, nation, and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic, and cultural diversity of our nation and world so that our students learn from the broadest perspectives, and we engage in the advancement of knowledge with the most inclusive understanding possible of the issues we are addressing through our scholarly activities. We recognize that race and gender historically have been markers of diversity in institutions of higher education. However, at ASU, we believe that diversity includes additional categories such as socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality, and intellectual perspective.

Mental Health

As a student, like anyone else, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating, and/or lack of motivation. These emotional health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. ASU Counseling Services provides counseling and crisis services for students who are experiencing a mental health concern. Any student may call or walk-in to any ASU counseling center for a same-day or future appointment to discuss any personal concern. Here is the website: eoss.asu.edu/counseling. After office hours and 24/7 ASU's dedicated crisis line is available for crisis consultation by calling 480-921-1006.

Course Evaluation

Students are expected to complete the course evaluation. The feedback provides valuable information to the instructor and the college and is used to improve student learning. Students are notified when the online evaluation form is available. The results are always anonymous and cannot be reviewed by the instructor/department until after final grades have been posted.

Academic Affairs Manual



For a complete guide to Arizona State University course policies, please refer to the Academic Affairs Manual (ACD).

Email

ASU email is an <u>official means of communication</u> among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account.

Syllabus Disclaimer

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Remember to check your ASU email and the course site often.

College Contact: This course is offered by the College of Integrative Sciences and Arts (CISA). For more information about the college, visit our website: https://cisa.asu.edu. If you have questions about this course, please speak with your instructor. If your instructor is unable to address your questions, please send your inquiry to cisa@asu.edu.