MCB181L Syllabus S15

Course description and goals

A] Biology 181L is the laboratory companion course to the Bio 181R lecture course. The credit and grade for 181L is separate from the lecture. You are not required to take the two courses simultaneously, although it is highly beneficial to do so.

B] This course is designed to deepen your acquaintance with the scientific approach and experimentation, as well as a range of fundamental biological concepts. Your level of involvement will dictate the benefit you receive from the course. Activities will include both 'wet' experiments and computer simulations, depending upon which format best engages the big ideas in an area of inquiry.

C] Specific topics include the scientific approach; the nature of the molecular world and the structure and function of key macromolecules; detection of macromolecules and their state; capture, storage and release of energy; experimental investigation into the communication and development of a simple organism

D] Learning goals (matches Lab Manual, p. ix)

If our time together this semester is successful, by the end of it, you will...

1] Distinguish between understanding a process or concept and merely knowing the labels associated with it

2] Understand and be proficient in the rhythm method of science: hypothesis-model-test-refine-repeat
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3] Be conversant in the Tao of molecules (the four feels: greasy, positive, negative, hydrogen-positive; the nature of the molecular world) and see how all of biology arises from molecular properties

4] Understand how molecules manifest in the macro world (color, odor, feel)

5] Understand how and why each class of macromolecules occupies its niche (DNA is info storage; protein is workhorse; lipids are compartment barriers; carbs are energy storage...)

6] Understand how genetic information is stored, accessed, and distributed

7] Understand how a protein in depth (how amino acids drive its structure and properties, how its properties generate its function, how its function allows life/health, and how changes in structure cause changes in health). Examples: hemoglobin, opsin

8] Understand the nature, flow and storage of energy within and between molecules

9] Become proficient in experimental design (defining an answerable question, designing an approach, identifying the adjuncts [controls] required to answer it)

E] Basic mathematics and chemistry knowledge is assumed and necessary. We will review Chemistry essentials the first week

II > Lab Administration (People)

A] Emily Dykstra Lab Director
edykstra@email.arizona.edu
Office Hours: TBA in BSW152

B] Bruce Patterson Technical and Content support patterso@email.arizona.edu
C] Tina Gingras  Course Coordinator  BSE109  introbio@email.arizona.edu  621-9267  
**Hours:** MTRF 9:30-11    W 1:00-3:00; also by appointment  
[Walk in anytime 8:30-12:30 the first week of classes]

D] Sarah Baillie  Lab Prep Coordinator  skbaillie@email.arizona.edu

E] Individual lab sections will be taught by different Lab Instructors; details on course website  
1) Lab instructors will have 1 office hour /week and be able to answer questions from lab

II II> **Assignments and Grading Policy** (see also cheating; absences and late work)

A] **Assignment relative values:**
All assignments of a given type will be averaged together and then incorporated into a final grade as follows:  
Online Assessments 15%  
In-class Quizzes: 10%  
Lab associated assignments (LABAs): 50% (all equally weighted)  
Photosynthetic wavelengths report: 6%  
Herbicide Conclusions Write-up: 4%  
Genetic Disease Semester Project: 15%

B] **Electronic and on-line homework**
The standard course deadline for lab work is 10 p.m. the night before your section meets. You are strongly advised to do your work well in advance of this in order to take advantage of Instructor e-mail and office contacts, as well as to avoid loss of credit due illness or other difficulty occurring closer to the deadline. Given that these assignments are accessible for an entire week, only excused absences that cover the majority of the period will prevent assignment of a zero score.

On-line homeworks should be done on your own or (when clearly indicated) in pairs. Unless your instructor indicates otherwise, on-line work is open book and open-web. Prior to doing an assignment, principles or basic understandings may be freely discussed; demo problems can be jointly worked on, but any work for which you receive an individual score should be executed on your own unless explicitly indicated otherwise.

It is your responsibility to ensure that electronic submissions are successfully stored in a valid format.

(a) For D2L, this means Word .doc or .docx format, or .pdf. You can verify the status of the document by downloading from your D2L account and opening the document.

(b) For course software, you can see the instantaneous database status of your work by using the 'Work Status' tab. It is your responsibility to check and ensure that this record reflects your intended submission.

What you should do to check your homework submission:

(a) Complete the relevant computer based home work via Control Center

(b) Submit the assignment

(c) Go to 'work status' and make sure the information you see there is what you expect
(d) If there is a discrepancy, repeat the assignment. Make sure to read ALL error messages and communications from the software.

(c) After the due date has passed, scores shown in work status are your final grade

C) Group work

1) A number of assignments in and out of class will be group work in which all group members are expected to actively contribute

2) A single grade will be given to all group members; each is responsible for the timely submission and quality of the entire final product

(a) All members are responsible for timely submission of the work. Best advice: submit 24 hours in advance, and have the submitter send confirmatory e-mails to other members

3) Individual members may be asked to assess contributions of their fellows; if there is a consensus that a member did not contribute equally, their score may be lowered to reflect this

D) Grade cutoffs will be: A >= 90.0%; B >= 80.0%; C >= 70.0%; D >= 60.0%

E) Extra credit, curving, bonus points, etc.

1) There will be one extra credit opportunity - Pattern Master. This will be worth 1% point added to your final grade
F] Re-grade Policy
You may submit written assignments for a re-grade within one week of having them returned to you. Re-grade requests must be accompanied by a typed clarification of what was overlooked or in error the first time. Your instructor will re-examine the entire work, not just the area in question. The purpose of re-grades is to correct errors in your instructor’s understanding or scoring of your work, not to debate scoring policies. Note that a regrade constitutes new work on your part; an egregious misunderstanding demonstrated in your regrade request may cost you additional points. You also have 1 week to contest the correctness of a posted score.

G] Ignorance of the existence of an assignment is no excuse. Even with an excused absence, it is your responsibility to be caught up as soon as possible. This may require you to make contact with your instructor instead of waiting until your next lab section.

H] We reserve the right to adjust your scores upward based on exceptional participation and/or mastery of the course material as judged by your instructor.

IV> Required Resources
A] Biology 18L lab manual and the Course website: http://blc.arizona.edu/courses/181Lab/
B] Essential software will be available from the course website for download and use on most modern, internet-connected Mac or Windows systems. You can access this material on newer computers in the Koffler 209 and in most cases, the Science Library and Main Library.
C] We have made every effort to make the software generally accessible. However, we do not provide individual computer support. UA-provided computers in Koffler 209, the Science and Main Library will run this software. If you have trouble installing the software on a library computer, ask for help from library staff.
To do some lab exercises, you will need to have the latest versions of **Shockwave**, **Flash**, and **QuickTime** installed on your computer (Mac users: Quicktime is already installed).

A **LucidChart account**

This is a free on-line resource that will make creating visual thinking diagrams easier. An account is free; you'll be happiest if you follow the linked instructions for upgrading your account to a free educational one. These should now be accessible as a Google App via your UA CatMail account.

**Absences and lateness**

**Laboratory attendance is required**

1. Arrival more than 15 minutes late constitutes missing the lab; individual instructors may have additional policies
2. Late arrivals are not entitled to take in-lab quizzes
3. Leaving before lab exercises and discussions are complete constitutes missing the lab
4. All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion

**Lab absences** will be excused for exceptional and verifiable reasons only. Arrangements should be made well in advance. When feasible, excused absences are made-up by attending another lab that meets that week; this requires formal approval from the lab administrator via the Absences Website.

1. Please go to [https://blc.arizona.edu/IntroBio/absence/](https://blc.arizona.edu/IntroBio/absence/) and enter your absence request
2. Failing to use the webpage above within 48 hours of your missed lab will constitute an unexcused absence; failing to make a reasonable effort BEFORE this time may also be judged an unexcused absence
Excusable absences include but are not limited to:
Illness accompanied by a doctor’s note
University sponsored event/sport with Dean’s Excuse
Jury Duty or Court Hearing with corroborating documentation
Medical/Dental Appointment or Emergency with corroborating documentation
Funeral of Immediate Family Member with corroborating documentation
Bike/Auto Accident with police report

You will have TWO WEEKS from the date of your absence to provide relevant paperwork for excusing your absence. If you miss this deadline your absence will be UNEXCUSED.

Where possible, we will arrange for you to attend a lab for which you have an unexcused absence in order for you to keep up and master the material. This is a learning-only experience; loss of credit delineated above still applies.

A Dean’s excuse does not alter any of these policies and requirements, it specifies that the reason is valid; you still must handle the absence as specified. It is anticipated that all absences involving Dean’s excuses will be handled in advance of the absence.

Missing a lab because you were not enrolled in the course constitutes an unexcused absence.

Failure to have a lab officially excused will result in zero points for work done that day in the lab as well as homeworks derived from that lab (all those assigned for that week). Absence that are excused will not result in any loss of credit provided that the work is completed within the extended deadline.
1] Labs include many graded exercises including quizzes, lab reports and homework. If you are absent from your regular section of the lab and the absence is unexcused, you will be given zeroes for all graded exercises associated with that lab class.

2] Whether an absence is excused or unexcused, it is possible to attend the lab so that you do not miss out on the course instruction if notification is provided to the Program Coordinator prior to or during the week of your absence and you can be scheduled into a lab that has not yet met.

3] If the absence is excused, but you cannot attend a different lab that week, there are two options (which option is available to you is determined at the discretion of the Lab Director):

(a) You may schedule a one-on-one make-up lab with your Lab Instructor BEFORE your next lab meets.

(b) You will be given access to relevant online materials and, if applicable, data from the lab will be provided in order to allow you to complete written work.

4] Students who miss a lab because of an excused absence will be given until 10pm the following Thursday to complete relevant computer assignments and will have two weeks from the date of their absence to complete written assignments associated with the missed lab. At the discretion of the Lab Director, scores reflecting averages on comparable assignments (or end of semester average) may be recorded for relevant assignments. All make-up work must be done individually.

D] Written lab assignments submitted late (except due to excused absence)

1] A 50% credit deduction will be assessed prior to grading. It is your responsibility to ensure that your instructor receives any work that is not handed in during class.
Assignments will not be accepted for credit after those of your classmates have been returned to them (1 week after due)

If you miss and fail to attend make ups for more than two labs, (excused or not) you may be dropped from the course or given a failing grade. Even labs made up in another section may trigger this policy.

Academic Integrity

A General: Integrity is expected of every student in all academic work. The guiding principle of academic integrity is that a student’s submitted work must be the student's own. This principle is furthered by the Student Code of Conduct and disciplinary procedures established by ABOR Policies 5-308 - 5-403, all provisions of which apply to all University of Arizona students. For further information, please see: http://deanofstudents.arizona.edu/codeofacademicintegrity.

B Cheating/Plagiarism is an extremely serious matter and will be treated as such. Please note that possible responses to even a first instance of plagiarism include an 'E' for the course or expulsion from the university.

1 See the contract in your lab manual for some guidance.

C Reports that are highly similar or that lack proper credit for sources of information, will be considered as cases of cheating and/or plagiarism. We strictly adhere to the University’s Code of Academic Integrity and Code of Student Conduct as presented in the University catalog and the Student Handbook (http://deanofstudents.arizona.edu/codeofacademicintegrity). Therefore, any case of cheating or plagiarism will, at the very least, receive zero points for that assignment, and could result in your expulsion from the university. If you have any questions regarding how to properly cite a source for a scientific paper, resolve them with your instructor before you hand the assignment in.
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D] Lying about submission of electronic work will result in a loss of credit for that work and potentially submission of appropriate Honor Code violation paperwork.

E] Corrupt, empty or unreadable submissions to D2L DropBox will be treated as Academic Integrity issues.

F] Turnitin.com

1] If you decide to take and continue in this course, your written submissions will be filtered through a plagiarism-prevention program called TurnItIn.com. You should note that TurnItIn.com – always without your name and any personal information – will retain your paper as part of their database so that students who plagiarize your work can be detected. Because of this program, you will not have to compete with students who commit undetected plagiarism. Anyone who has questions or problems with TurnItIn.com may talk privately about these with the instructor.

VII> Lab/Classroom Rules

A] Read the introductory sections of the Lab Manual and adhere to those rules. No food or drink is allowed in the lab. We cannot risk contaminating the lab materials, or worse yet, contaminating you! Points may be taken off the week's quiz or homework for failure to observe reasonable clean-up behavior. Do your share in keeping the common areas of the lab clean as well.

B] Lab Safety
These labs have been developed to minimize dangers posed to students. However, we occasionally use equipment or reagents that can cause injury, and accidents sometimes happen. Report any injury to the prep-room staff or your instructor immediately! Showers, eyewashes, fire extinguishers, and first-aid kits are present in case of an emergency. Closely follow your instructor’s instructions in the use of dangerous equipment, and in the disposal of all reagents and supplies.
**CJ Decorum/Disruptive behavior**

If you are a distraction to learning in the classroom or lab, you will be administratively dropped from the course. A single offense is sufficient cause.

The Lab Instructor is the authority in the room. Simple courtesy is expected of everyone in the room—there’s never cause to yell or interrupt your peers or your instructor. Phones, mp3 players, etc. should be turned off throughout. During your lab instructor's (and peer's) presentations, you're expected to listen attentively unless called on or participating in discussion.

Computers are present in the labs for specific exercises which don't include checking e-mail, downloading the study guide for another course, or viewing human anatomy. Disruptive behavior is anything that interferes with the teaching/learning environment. Examples from the [http://deanofstudents.arizona.edu/examplesofdisruptivebehavior](http://deanofstudents.arizona.edu/examplesofdisruptivebehavior) include:

- Being persistently tardy or leaves early
- Talking incessantly during a presentation
- Loudly and frequently interrupting the flow of class with (inappropriate) questions or interjections
- Belligerence when confronted regarding inappropriate behavior in class
- Cell phones ringing in a classroom, text messaging, chatting online.
- Persistent and unreasonable demands for time and attention in or out of the classroom

Also: Lying about times electronic work was initiated or completed

Any of these actions may lead to your being administratively dropped from the course for the first offense

⚠️ While you're in the lab, texting, e-mailing and phoning are not appropriate. If something of overriding consequence comes up, excuse yourself and move to the hallway
2] Engaging in non-lab related activities (social or academically related to other courses) may result in partial or complete loss of credit for the ongoing lab activity and you may be administratively dropped from the course.

VIII> e-mail communication

A] Lab Instructors will 'sweep through' e-mails at least twice a week; these times will be identified for you. Emily is generally accessible by e-mail 2x/day on weekdays

B] Always include the course and section number in the Subject line

C] Email communications should be courteous and informative. Please include the tag "MCB181" in the subject line for ready identification. Use actual English words.

1] E-mails that do not achieve these minimum standards may receive no reply

IX> Accessibility and Accommodations:

A] It is the University’s goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let Emily and your Lab Instructor know immediately so that we can discuss options. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

X> Challenging topics

A] This course deals with biological evolution. This underlying principle is an inescapable foundation for the understanding of biology. It is critical for biologists, health care workers and an informed citizenry to understand what evolutionary biology does and does not say about current and historical life on earth. Evidence supporting the theory of evolution, as well as understanding of its explanatory power will be assessed.
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We will discuss a number of genetic diseases and mutations that may affect you or your family/friends.

Policy Regarding Threatening Behavior: [http://policy.arizona.edu/threatening-behavior-students](http://policy.arizona.edu/threatening-behavior-students)

Alterations to this syllabus may be made if deemed necessary. Advance notice will be clearly provided to all students attending lecture and an on-line notification will be made as well.