

BIOL 1441: Cellular and Molecular Biology Laboratory

GTA: Melissa Walsh
Office Number: LS461

Email Address: mjwalsh@uta.edu
Office Hours: W 11-12, Th 2-4

Time and Place of Class Meetings:

- Labs will be held in LS 201, 205, and 207.
- Check MyMav for the exact room number, time, and day of your section.
- Labs begin on Monday, August 26, 2013

Lab Coordinator: Rachel Wostl

Email Address: rlwostl@uta.edu

Office: TBA

Office Hours: TBA

Laboratory Instructors

Instructor	e-mail
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Description of Course Content

The first of a three-part introductory biology sequence, this course focuses on the chemical and molecular basis of life, including metabolism, cell structure and function, and genetics. Laboratory experiments are designed to complement topics presented in lecture. Formerly listed as BIOL 1449; credit will not be given for both.

Note: Modern Biology is an integrative discipline, incorporating elements of mathematics, chemistry, computer science, and writing. We expect that you have at least a basic understanding of each of these elements since you will be drawing on each for your experimental designs and report writing.

Student Learning Outcomes

- gain hands-on knowledge of cellular and molecular aspects of biology through demonstration and experimentation
- learn the scientific process by designing and conducting experiments
- become proficient at collecting, analyzing, and presenting data, in both written and oral formats
- develop critical thinking skills through development and design of experiments, and analysis of scientific results
- learn essential laboratory procedures and protocols

Expectations

Attend every lab and participate in experiments and exercises. Show up prepared by reading the upcoming laboratory exercise and reviewing the previous lab. Turn in all assignments on time. Failure to do so will result in a reduced course grade.

In addition, it is expected that all students will:

1. Be respectful of GTAs, undergraduate TAs, and peers at all times. Behavior that is rude, aggressive, or inappropriate will be reported immediately to the laboratory coordinator and may be referred to the associate chair of Biology. Such behavior may affect your grade.
2. Turn off and put away all electronic devices during class. Cell phones will NOT be permitted in class at any time.
3. Be attentive to the information and instructions that your TA provides.
4. Abide by all rules and regulations regarding safety conduct in the lab. This includes wearing proper attire (long pants, closed-toe shoes) and safety equipment (goggles, gloves) as instructed. Failure to do so will result in dismissal from lab for the day and may affect your grade.
5. Place all belongings such as bags, coats, and electronic devices in the coat area upon arrival to lab.
6. By enrolling as a student at UTA, you have agreed to abide by the University's Honor code. Ultimately, it is your responsibility to ensure that you abide by this promise and uphold the integrity of UTA. If you are unsure if your assignment contains plagiarism, it is your responsibility to meet with your TA to get help prior to submitting the assignment.
7. Your education is your responsibility. The best way to get the grades that you desire and to achieve success in the course is to learn as much as you can. Work hard, study, and dedicate time to learning the material and developing strong scientific writing skills.

Required Textbook and Other Course Materials

TEXTBOOK

Biology 1441 Cell and Molecular Biology Laboratory Manual

This manual is available for purchase ONLY THROUGH A REPRESENTATIVE OF PHI SIGMA. (Location and time TBA). This manual cannot be purchased through the bookstore or online.

MATERIALS

Goggles. Goggles may be purchased from a Phi Sigma representative. Chemistry or microbiology goggles are acceptable. Wearing eyeglasses in place of goggles is not allowed.

Basic calculator. Graphing calculators and cell phone calculators are not permitted.

Laptops [*recommended*]. Students will benefit from having a laptop with Microsoft Excel and internet access for labs that require data analysis.

SUPPLEMENTARY COURSE MATERIALS

Additional materials can be accessed through blackboard. It is your responsibility to check Blackboard regularly for assignments, lecture materials, pre-labs, and other materials. Your GTA will use Blackboard to communicate information related to the course and important announcements. You are required to utilize Blackboard for this course.

Grading Policy

1441 is a four-credit class that includes a lecture and a laboratory. For grading purposes, the lecture comprises 2/3 of your grade while other 1/3 is your lab grade. Therefore, you can multiply your final lecture grade by 0.66 and your lab grade by 0.33 and add them together to get your complete course grade.

- You are not permitted to drop either the lecture OR laboratory. Drops and withdrawals will be applied to both.
- Course policy prohibits extra credit in any form

Your laboratory grade will be determined as follows:

25% Lab Report *To be completed individually*

25% Final Exam

20% Individual Assignments (Results, Peer Review, Quizzes)

15% Group Assignments (group proposals and worksheets)

15% Group Presentation

Assignments	Number
Quizzes	6
Group Proposals	2
Group Worksheets	2
Hand-eye Results	1
Peer Review	1
Osmosis Results	1
Lab Report	1
Group Presentation	1
Final Exam	1

See the schedule for due dates. Your TA will provide section-specific dates.

Important Dates

- First Day of Labs: August 26
- Census Date: September 9
- Drops and withdrawals after this date must be completed by the student's academic advisor
- Last day to drop a class with a "W": October 30
- Last day of labs: November 22

Attendance Policy

1. Attendance is mandatory. You will be required to sign in at the beginning of class.
2. Students who are more than 10 minutes late to class will be considered absent and the following penalties will be assessed to any assignments.
3. *There will be no make-up assignments to take the place of lab exercises* and you must be present to gather the data for lab reports. If you miss a lab, any associated assignments will be subject to a 10% grade reduction. For example, if you are absent for Photosynthesis Part 2, your lab report grade will be reduced by 10%. If you are absent on the day that a group worksheet is completed, you will receive a grade of 0 on that worksheet.
4. Pre-labs are to be completed prior to the start of lab.
5. Quizzes will be given at the start of lab. If you arrive late to lab you will not be allowed to take the quiz. Make-up quizzes will not be given in the case of absence or tardiness.
6. If you must miss a lab, contact your instructor prior to the absence. You will be permitted to attend a different lab section ONE TIME PER SEMESTER/SESSION with a legitimate, documented excuse (such as a medical excuse in the form of a physician's note, death in the immediate family, illness of a family member for which you are the primary care provider). Extreme circumstances will be considered on a case-by-case basis and will be subject to review by the Lab Coordinator.
7. If you do not receive approval from your TA or the Lab Coordinator to miss a lab, you will not be given the opportunity to make-up quizzes or assignments and will receive a grade reduction on other lab-associated assignments (see #2).
8. Should you receive permission to attend a different lab section, all assignments are still due by the original date/time indicated by your instructor. For example, if your section meets on Tuesday at 9am, and you are given permission to attend a section meeting on Thursday at 11, your pre-lab will still be due Tuesday at 9 am *unless otherwise indicated by your instructor or the lab coordinator, as determined on a case-by-case basis*. A make-up quiz must be taken prior to, or within 1 week of the excused absence.

General Assignment Submission Policies

1. You must follow submission guidelines in order to receive full credit.
2. Late assignments, or those incorrectly submitted, will not be accepted and will receive a reduced grade or a grade of 0.
3. Late assignments will be accepted up to 3 days (72 hours) past the due date/time. A grade reduction of 10% will be applied for each day that an assignment is late. Assignments will not be accepted once the 3 day grace period has expired.
4. It is your responsibility to submit all assignments correctly and on time. Except in the case of documented campus technical difficulties, you will not be given extra time to submit electronic

assignments in the case of computer-related issues. In other words, don't wait until the last minute to submit assignments! Plan to submit all electronic assignments the day *before* they are due.

5. Do not submit assignments via email. They will not be accepted.

Scientific Writing Assignments

Scientific writing is a vital component of this laboratory course. As such, you will spend considerable time learning about the process of scientific writing. The laboratory report alone is worth 30% of your grade. As such, you should plan to dedicate significant time to developing your writing skills over the course of the semester/session. The following are the rules and expectations for submitting scientific writing assignments.

1. All assignments (lab reports, conclusions/results follow up assignments) must be submitted through Safe Assign. An assignment that is not submitted through Safe Assign will not be accepted and may receive a grade of zero.
2. You will be required to submit highlighted sources and/or primary references with your lab report.
3. You must follow your TA's submission instructions for reports and supporting documents in order to receive full credit.
4. Plagiarized papers and assignments will receive a reduced grade and may receive a zero and will be reported to the Office of Student Conduct.

Quizzes

Quizzes will be given at the start of lab. Material covered will include the current prelab as well as previous labs' prelabs, and previous labs' protocols, conclusions, or follow-up questions. Question format: short answer, fill-ins, definitions. You should plan to spend time studying for these quizzes.

Prelabs and Follow-up Questions

Prelab assignments and the Follow-up Questions that appear in the laboratory exercises are meant to help you learn the material. It is very important that you complete these assignments. Prelabs should always be completed individually and may be subject to collection at the start of the lab.

E-mail Communication Policy

Your TA will make every effort to respond to your inquiry within a reasonable time, no longer than 24 hours. Do not email your TA at the last minute expecting help with an assignment. Plan ahead!

Before emailing your TA, ask yourself the following questions:

1. *Is this email professional, polite, and detailed?* If you would not speak those words to the President of the University, do not send them in an email to your TA. Rude or aggressive emails will be reported to the laboratory coordinator and possibly to the associate chair of the department. Threatening emails will be reported to campus police.
2. *Can I find this information in my syllabus or on Blackboard?* Check available resources BEFORE emailing your TA. TAs will not respond to emails regarding policies or dates that are set forth in the syllabus or on Blackboard.
3. *Was this information made available during a lab I missed?* If so, it is your responsibility to ask a classmate.

4. *Do I need to discuss my grades?* University policy prohibits discussion of grades over email. Make an appointment or see your TA during office hours.
5. *Do I need help with an assignment?* Email is NOT intended to take the place of meeting with your TA during office hours. If you need help with an assignment, attend office hours or make an appointment with your TA.

Conflict Resolution

If you are experiencing an issue in lab, you should **first** arrange a meeting with your instructor. After you have met with your instructor and if the issue remains unresolved, you may then consult the laboratory coordinator. If the issue still requires attention, you may then consult the associate chair of the Department of Biology, Dr. J. Robinson. None of the listed personnel will discuss the issue with you until you have first consulted all of those preceding him/her. The associate chair has final authority regarding any issue short of a filing a formal complaint with the University.

Grade Grievance Policy

Students have **one week** from the time a grade is posted on Blackboard to dispute the grade. Grades cannot be contested after this deadline has passed.

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2

Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

CHEATING IN ANY FORM WILL NOT BE TOLERATED. IF YOU ARE CAUGHT, YOU WILL NOT RECEIVE CREDIT FOR THAT ASSIGNMENT AND MAY BE DISMISSED FROM LAB. ALL CASES OF PLAGIARISM WILL BE REFERRED TO THE OFFICE OF STUDENT CONDUCT WITHOUT EXCEPTION.

Drop Policy

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-**

attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Americans with Disabilities Act

The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. In order to receive accommodation, students must present this letter to their TA or the Laboratory Coordinator ***by the end of the second week of labs, and prior to any assignments, quizzes or activities that require accommodation.*** Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Student Support Services Available

The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit www.uta.edu/resources for more information.

Electronic Communication Policy

The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

Student Feedback Survey

At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which can be found by exiting the classroom and turning left (rooms 207 and 205) or turning right (rooms 200 or 201) and exiting the building via the stairs. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

Lab Safety Information

The following safety rules will be enforced at all times. Failure to follow safety regulations or instructions regarding safety attire (goggles, long pants, etc.) or procedures (waste disposal), may result in dismissal from lab or grade reduction.

1. There is absolutely no food, drink, gum, cosmetics permitted in the lab at any time.
2. You must wear appropriate safety attire as instructed. This may include goggles, gloves, closed-toe shoes, long pants.
3. All personal materials, other than your lab manual and a pen/pencil (or other materials required for that day's lab) must be stowed in the coat closet area. This includes all bags, coats, electronic devices, and other personal belongings.
4. Electronic devices are prohibited during lab and must be turned off and stowed with your belongings. Using electronic devices during lab may result in your dismissal from lab that day and will affect your grade. If you have an extenuating circumstance during lab one day (e.g. sick child) notify your TA prior to the start of lab that you need to have your phone.







Mandatory University Online Safety Training

1. Go to <http://www.uta.edu/training>.
2. Log on using your network log-on ID and password (what you use to access email). If you do not know your NetID or need to reset your password, visit <https://webapps.uta.edu/oit/selfservice/>.
3. The available courses for completion will be listed under "Training I'm Enrolled In". Complete the course entitled 'Student Lab Safety Training – General.' ***NOTE: If you completed Wet, Dry or Biology Lab Safety Training course last semester for another class, that training is still applicable until the end of this academic year. Please follow instructions in #4 to print the certification page for your TA.
4. Go to 'Training I've Completed' and print the displayed page for your TA. Verify that it shows clearly your name, and that 'General, Wet, Dry or Biology' training is completed/passed and the date when the training was completed. If you have just completed the training but it is not updated on the 'Training I've Completed' page, please log out of the system and log back in. If the training still does not show up on this page, call the Helpline at 817-272-5100.
5. If you were enrolled in a course with a lab last semester and did not complete the training or if you do not see training for this academic year listed, email compliance@uta.edu providing your name, a contact phone number, NetID and course (e.g. BIOL 1441-005) and request the appropriate training for your course.
6. Students who have not completed the training by census date may be dropped from the lab (and consequently the lecture).
7. Lab Safety Training is required to be completed once every academic year. Training completed in the Fall semester is valid for the Fall, Spring and Summer sessions. It is your responsibility to print your training certification page and turn it in each semester to your TA for each course with a lab you are enrolled in.

For training specific questions, contact the Environmental Health and Safety office at 817-272-2185.

For technical assistance with the training, please contact the Office of Institutional Compliance at 817-272-5100 or email compliance@uta.edu

1441 Fall 2013 - Lab Schedule

Week	Date	Topic	Exercise(s)	Assignment(s) Due	Safety?
1	26-Aug	Lab 1: Scientific Method	Hand-eye coordination experiment	Group worksheet	
2	2-Sep	Labor Day- no labs this week			
3	9-Sep	Lab 2: Scientific Writing	Data analysis/presentation Scientific writing		
4	16-Sep	Lab 3: Photosynthesis Respiration	<i>Elodea</i> experiment Proposal writing	Group Proposal 1 Hand-eye Results	
5	23-Sep	Lab 3 Part 2: Photosynthesis Respiration	<i>Elodea</i> perform experiment Begin Lab Report		
6	30-Sep	Lab 4: Microscopes Peer Review	Microscopes and Cells Peer review	Report Draft Cells Group WS	
7	7-Oct	Lab 5: Osmosis and Diffusion	<i>Elodea</i> and Dialysis tubing experiments	Lab Report 1 Peer Evaluation	
8	14-Oct	Lab 6: Macromolecules	Food testing	Osmosis Results	
9	21-Oct	Lab 7: Proteins and Enzymes	Tyrosinase experiments	Group Proposal 2	
10	28-Oct	Lab 8: DNA	Gel electrophoresis		
11	4-Nov	Lab 8 Week 2: DNA Analysis	Gel electrophoresis- Analysis and Conclusions	Electrophoresis Group Worksheet	
12	11-Nov	Lab 9: Scientific Presentations	Group PPT Presentations: Enzymes	Group Presentations	
13	18-Nov	Final Exam			

Your instructor will provide section specific due dates.

If goggles are indicated you must also wear long pants and closed-toe shoes in order to participate in lab that day.