

Biology 1441: Cell and Molecular Biology

Lecture Syllabus

Fall 2018, Lecture Section 003

Instructor: Dr. Lee Ann Frederick

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Faculty Profile:

Office Hours: 12:00-2:00 Tuesday/Thursday or by appointment

Section Information: BIOL 1441-003, CELL AND MOLECULAR BIOLOGY

Time and Place of Class Meetings: 424 Life Science, Tues/Thurs 9:30 – 10:50

Description of Course Content (BIOL 1441): The first of a two-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 theory presented in lecture.

This course satisfies the University of Texas at Arlington core curriculum requirement in life and physical sciences.

Student Learning Outcomes (lecture and lab):

- Understand the essential details of cell and molecular biology at an introductory level and gain a basic knowledge of the scientific method.
- Gain hands-on knowledge of cellular and molecular aspects of biology through demonstration and experimentation
- Learn the scientific process by designing and conducting experiments, collecting and analyzing data, and presenting results, in both written and oral formats
- Learn essential laboratory procedures and protocols
- *Critical Thinking Skills: to include epistemology, scientific methodology, synthesis of information, creative thinking, innovation, inquiry, analysis, and evaluation;*
- *Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication*
- *Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions*
- *Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal*

Course Components and Syllabus Structure: This syllabus describes policy, procedures, and content for the lecture and recitation components of the course. See the lab syllabus posted by your lab instructor for the laboratory components of this course. See below on how your final grade will be calculated based on your lecture, recitation, and lab grades and state rules and requirements for the course.

NOTE: I am not responsible for the labs. If you have a laboratory-related issue, you should speak with your Graduate Teaching Assistant (GTA), and then, if necessary, the Laboratory Coordinator, Rachel Wostl. Refer to the Laboratory Syllabus (which will be provided separately) for details.

Lecture Requirements: Students are required to read the notes and book chapters in advance and come to class prepared to address the study topics. Students are responsible for material covered in lectures, plus anything else specified, from the textbook or other sources.

Things You Need to Buy:

Lecture/Recitation: textbook, Modified Mastering Biology access, recitation manual

Lab: lab manual and personal safety gear

TEXTBOOK: Biology, 11th Edition, by Campbell, Reece and coauthors plus the Modified Mastering Biology online access for the 11th edition of Biology.

Options: You can purchase the electronic textbook and Modified Mastering Biology using the link in Blackboard. Or you can also buy the book and Modified Mastering biology from the UTA bookstore.

You must buy **Modified Mastering Biology** for the 11th edition of the textbook from one of the sources described here.

The cheapest way to get the textbook and Modified Mastering Biology is to buy the electronic textbook packaged with the Modified Mastering Biology component.

From inside Blackboard:

Click on the link on the left that says "Modified Mastering Biology" and follow the prompts.

From UTA bookstore:

Modified Mastering Biology with eText standalone access card ISBN 9780134447285

For those who would rather have a paper version of the text, the UTA bookstore sells Modified Mastering Biology along with a hard copy of the textbook (ISBN 9780134683461).

Please note that the publisher of Modified Mastering Biology (Pearson) will only honor Modified Mastering Biology codes bought through our Blackboard page or from the official (UTA) University Bookstore. Amazon and other third parties most often do not work. Please also note that **Modified** Mastering Biology is NOT the same as Mastering Biology: the codes are NOT interchangeable. "Modified" means that it works with Blackboard; Mastering Biology (without the "Modified" part) does not.

Student registration instructions from Pearson:

Enter Your Blackboard Course:

1. Sign in to Blackboard and enter your Blackboard course.
 - From the left hand navigation menu click on the MasteringBiology homework link (it may say Modified Mastering Biology).
 - Click on the green icon to enter the registration process.

Get Access to Your Pearson Course Content:

1. Enter your Pearson account **username** and **password** to **Link Accounts**.
You have an account if you have ever used a Pearson MyLab & Mastering product, such as MyMathLab, MyITLab, MySpanishLab, MasteringBiology or MasteringPhysics.
 - If you don't have a Pearson account, select **Create** and follow the instructions.
2. Select an access option:
 - Enter the access code that came with your textbook or was purchased separately from the bookstore.
 - Buy access using a credit card or PayPal account.
 - If available, get temporary access by selecting the link near the bottom of the page.
3. From the You're Done page, select **Go to My Courses**.

******If your only existing Pearson account is a MyLabsPlus account for math, you must create a new account and you CAN use your email as your log in name. Just exit out of the screen telling you that username exists.**

Note: We recommend you always enter your MyLab & Modified Mastering course through Blackboard.

Get Your Computer Ready

For the best experience, check the system requirements for your product at:

<http://www.pearsonmylabandmastering.com/system-requirements/>

Need help?

For help with MyLab & Modified Mastering with Blackboard, go to:

<http://help.pearsoncmg.com/mylabmastering/bbi/student/en/index.html>

Materials for Lab and Recitation: Laboratory manuals, recitation manuals and additional materials are available through the Phi Sigma Graduate Honors Society in room LS 127.

Our store hours will be as follows:

Aug 22 – Sep 13 Monday - Thursday 10am – 4pm * No sales on Sep 3rd (Labor Day) *****

Purchases can be made in person or preordered online at: <https://squareup.com/store/phi-sigma>

Purchases made online will **not** be shipped and must be picked up in person during regular store hours. Please bring your student ID when picking up an online order.

Studying: UTA recommends that for courses such as these, students should expect to spend about 3 hours per week studying for each course credit hour. Including lab/recitation, this is a 4-credit course -- so the University's recommendation is 12 hours per week outside of class. This is the foundation for all other Biology classes that you will take, and if you get the basics straight here, it will make your entire degree program easier. Given the fast pace and range of facts and concepts that we cover, this course is pretty much guaranteed to take a lot of time. There is no way to avoid this, and it is essential that you keep up with the material or you will get behind very quickly.

Supplemental instruction (SI): Supplemental Instructor(s) for 1441 hold free sessions outside lecture to help you understand the material. ***Note:** We do not have an SI leader for our honors class, however you may attend the other instructors sessions for free. www.uta.edu/universitycollege/current/academic-support/learning-center/si/si-leaders/index.php

Lecture Schedule (topics and exams): Timing of material covered is approximate and may be adjusted according to our progress. You will be notified on Blackboard and in class of upcoming exams at least a week in advance. There is no excuse for "not knowing" that an exam is coming up! Come to class regularly and check blackboard regularly. The URL for blackboard is <https://elearn.uta.edu>.

Chapter 2: The Chemical Context of Life
Chapter 3: Water and Life
Chapter 4: Carbon and Molecular Diversity of Life
Chapter 5: The Structure and Function of Large Biological Molecules

Chapter 6: A Tour of the Cell
Chapter 7: Membrane Structure and Function
Chapter 8: An Introduction to Metabolism
Chapter 9: Cellular Respiration and Fermentation

Chapter 10: Photosynthesis
Chapter 12: The Cell Cycle
Chapter 13: Meiosis and Sexual Life Cycles
Chapter 14: Mendel and the Gene Idea
Chapter 15: The Chromosomal Basis of Inheritance

Chapter 16: The Molecular Basis of Inheritance
Chapter 17: Gene Expression: From Gene to Protein

Lecture notes will be available on Blackboard. The URL for blackboard is <https://elearn.uta.edu>.

Blackboard: You are responsible for checking Blackboard on a regular basis. Lecture slides, syllabus, exam dates, grades, and other topical information can be found on Blackboard. If you have any questions, please check Blackboard first before emailing me. To access Blackboard point your web browser of choice to <https://elearn.uta.edu>. Note that Safari sometimes doesn't work that well, so if you're having trouble try Firefox or Chrome.

Grading Policy: Biology 1441 is a 4 credit hour class that includes a lecture, recitation, and laboratory. For grading purposes, the lecture comprises 60% of your course grade, class participation 5% of your course grade, recitation comprises 10% of your course grade, and laboratory comprises 25% of your course. In Biology 1441, you are not permitted to drop/withdraw from the lecture, recitation, OR laboratory components separately. Drops and withdrawals will be applied to across all components.

The grading scale used for your overall grade in the course is:

89.5+ = A
79.5-89.4 = B
69.5-79.4 = C
59.5-69.4 = D
Less than 59.5 = F

Lecture Exams: Lecture exams will be multiple-choice. You are required to bring #2 pencil and a form 4521 Scantron to each exam. Please do not fold or crumple your Scantrons because this may interfere with their scanning and grading. Biology Department and University policy prohibits extra credit in any form for lecture, recitation, or lab. At the end of the semester, the lowest lecture midterm exam grade is dropped and replaced with the final exam grade. The score for any missed midterm exam (beyond one missed midterm exam) will be a zero.

Recitation Policies: **Recitation begins the week of August 27th.**

- Attendance is mandatory. You will be required to sign in at the beginning of recitation.
- You must attend the recitation section you are enrolled in (this is the same as your lab section).
- One low participation grade and a total of two low quiz grades will be dropped. This will be programmed into Blackboard and will be reflected in your recitation grade the entire semester.
- There are no make-ups for missed recitations or quizzes, regardless of excuse. If you miss a recitation or quiz, this will count as your lowest grade. Late quizzes will not be accepted and will be assigned a grade of zero.
- It is your responsibility to make sure you have access to Modified Mastering Biology. Except in the case of documented technical difficulties with Modified Mastering Biology or Blackboard, you will not be given extra time to complete assignments in the case of computer-related issues. If you experience technical difficulties completing a Mastering Biology quiz, it is your responsibility to contact your instructor and provide verification of the difficulty (e.g. a screenshot) BEFORE the quiz is due.
- Students who are more than 10 minutes late to recitation will not be permitted to attend and will receive a participation grade of 0.
- If you miss a recitation you can still receive credit for the associated quizzes.
- Students can earn up to 10 participation points for each recitation. In assigning participation points, your instructor will consider if you:
 - completed your vocabulary table
 - arrived on time and stayed for the duration of the recitation
 - actively engaged with your partner/team
- When you arrive to recitation open your workbook to your vocabulary table so that your instructor can review your work. It is your responsibility to make sure that your workbook is checked.

Grade Grievance Policy:

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

Conflict Resolution: If you are experiencing an issue in lab or class, you should first arrange a meeting with your instructor to discuss the issue (me for issues with lecture or recitation, and your lab GTA for issues with lab). For issues with labs, you may consult the Laboratory Coordinator, Rachel Wostl, if the problem remains unresolved after discussion with your lab instructor (GTA). If you feel the issue requires further attention, you may then consult the Associate Chair of the Department of Biology, Dr. Laura Mydlarz. To do this you should first file a grievance at <https://www.uta.edu/php-lib/machform/view.php?id=3403>. You must file the online form and have all supporting documentation in order to have your issue heard. Please note, none of the listed personnel will discuss the issue with you until you have first consulted all of those preceding him/her.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code. 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 EXAM OR ASSIGNMENT AND MAY BE DISMISSED FROM LECTURE OR LAB. ALL CASES OF PLAGIARISM OR OTHER CHEATING 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 (= if you stop showing up, taking exams, going to lab, etc. you will receive a grade of zero for everything you missed and a final grade that includes these zero grades).** 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. Payment must be received by the term due date or your registration will be cancelled. If your registration is cancelled for non-payment, you may reregister for classes but only if seats are available.

Grade Replacement Policy: Students enrolling in a course with the intention of replacing a previous grade earned in the same course must declare their intention to do so at the Registrar's office by Census Date of the semester in which they are enrolled. Grade replacement will not be allowed if the above procedure is not followed.

Americans with Disabilities Act: UT 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), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. 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 disability. Students are responsible for providing the instructor with official notification

in the form of a letter certified by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability. In order to receive accommodation, students must present this letter to their lecturer AND GTA or the Laboratory Coordinator **by the end of the second week of lecture AND second week of labs, and prior to any assignments, exams, quizzes or other 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.

Counseling and Psychological Services, (CAPS): www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.*

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Student Support Services Available:

UT 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. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

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. 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 individuals with disabilities. If there is a tornado warning, we will move to the basement of the building.

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 a 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.

Tentative Schedule:

	M	Tuesday	W	Thursday	F		M	Tuesday	W	Thursday	F
Aug				23		Oct		23		25	
				syllabus			Exam 2			Ch 12 gr 4	
Sep		28		30		Nov		30		1	
		Ch 2		Ch 2/3			Ch 12/13			Ch 13	
		4		6			Ch 14			8	
		Ch 3/4		Ch 5 gr 1			Ch 14			Ch 14 gr 5	
		11		13			Ch 15			15	
		Ch 5		Ch 5/6			Ch 15			Ch 15	
		18		20			Exam 3			22	
		Ch 6		Exam 1						Thanksgiving	
		25		27			Ch 16			29	
		Ch 7		Ch 7 gr 2			Ch 16			Ch 16/17	
Oct		2		4		Dec		4	Last day		
		Ch 7/8		Ch 8			Ch 17				
		9		11				12		14	
		Ch 8/9		Ch 9 gr 3						Final Exam 8-10:30 AM	
		16		18							
		Ch 10		Ch 11							