

**Biology 1441: Cell and Molecular Biology
Lecture Syllabus
Spring 2019, Lecture Section 002**

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Office Hours: MWF 11:00 – 12:00

Section Information: BIOL 1441-002, CELL AND MOLECULAR BIOLOGY

Time and Place of Class Meetings: SH 121, MWF 10:00 - 10:50 am

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. Below, find how your final grade will be calculated based on your lecture, recitation, and lab grades and state rules and requirements for the course.

NOTE: 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 in class, from the textbook or other sources.

Things You Need to Buy: Textbook (see below), **Modified Mastering Biology** (see below), **lab manual and personal safety gear** (see the lab syllabus), and **recitation manual** (see below).

Modified Mastering Biology (11th edition, online problem sets) plus Biology (11th edition) textbook (etext or physical) are required for Lecture.

The textbook we are use is Biology, 11th Edition, by Campbell, Reece and coauthors (Publisher: Benjamin-Cummings, Pearson) plus the Modified Mastering Biology online module for the 11th edition of Biology.

You can purchase the electronic textbook and Modified Mastering Biology from inside Blackboard. Alternatively you can buy the ebook and Modified Mastering Biology from the publisher's website or from the UTA bookstore (see below).

*You must buy **Modified Mastering Biology** for the 11th edition of the textbook from one of the sources described here. Failure to do so may result in a nonfunctional code.

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. **This is the easiest way to purchase these materials.**

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). The hard copy version of the textbook is more expensive than the electronic version.

You can also buy Modified Mastering Biology independently of the textbook. You must buy the 11th edition version of Modified Mastering Biology for this class. You can use earlier versions of the physical textbook, but you are responsible for noting any changes. Exams will be based on the 11th edition.

Do not buy the study guide sold at the UTA bookstore because Mastering Biology has the study guide material in it (and more). Please note that the publisher of Modified Mastering Biology (Pearson) will only honor Modified Mastering Biology codes bought through our Blackboard page, from the Pearson website, 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 (the company that publishes the textbook and provides Modified Mastering Biology):

Enter Your Blackboard Course:

1. Sign in to Blackboard and enter your Blackboard course.
 - From the left hand navigation menu click on the Modified Mastering Biology link.
 - 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>

Echo360 Active Learning System (clickers):

During classroom sessions, Echo360's engagement tool will be used for interactive questions and answers. You can participate in these activities using your laptop, tablet, or other mobile devices.

You will register for access to the Echo360 system by clicking on the "Echo360 ALP" link on the left-side menu of the course's Blackboard section. You will be prompted to register if you have not used the system before. Once you have logged into the course's Echo360 section via Blackboard the first time, you will then have able to directly log into the Echo360 system at *echo360.org*, and has access to the course's content via the mobile application.

If you are going to use your laptop, there is no special software to download. You will just access the Echo360 system either through the Blackboard link or directly at *echo360.org*.

If you want to use a mobile device to participate, you will need to download the free "Echo360" app available for both Android and Apple devices. When you open the app, it will ask you to login with your UTA email address and the password you setup when you registered (not your NetID password).

The Echo360 platform also allows you to take notes online. Those notes can be organized with the slides for the class session. Those notes can be downloaded to create study materials.

Echo360 provides a lot of content to help you fully utilize the system. Their support materials can be accessed at <https://goo.gl/XKZ8D6>. You can also contact Don Lane, the campus' Echo360 administrator, at lane@uta.edu if you have questions or problems.

Materials for Lab and Recitation: These materials are sold by the Phi Sigma Graduate Honors Society in 127 Life Science. Room 127 is in the hallway across from the women's bathroom in the main lobby of the Life Sciences Building. You need to purchase:

- Lab Manual
- Goggles
- Recitation Manual

The store hours will be as follows: **January 22 – February 7**

Monday, Thursday 10am – 4pm

Tues, Wed 10am - 7 pm

Fri 11am- 2pm

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 students should spend 3 hours per week studying for each course credit hour. This is a 4-credit course, therefore 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 down, it will make your entire degree program easier. This is a fast paced course covering a range of concepts, it is essential that you keep up with the material or you will get behind very quickly.

Supplemental instruction (SI): You will have access to Supplemental Instructor(s) for 1441 who will hold sessions outside lecture to help you understand the material. Supplemental Instruction is run through Student Support Services in Ransom Hall. For general information on Supplemental Instruction, as well as other student support services available at Ransom Hall, please visit <http://www.uta.edu/universitycollege/current/academic-support/learning-center/index.php>.

Lecture topics and exams: Timing of material covered is approximate and may be adjusted according to our progress. Dates for all exams are listed below. Come to class regularly.

There will be three major exams administered during the **evenings** of **Tuesday February 12, Tuesday March 19, and Tuesday April 23**. There is also a comprehensive final exam that will be held on **Saturday, May 4** (see "Important Dates" below). The UTA Biology program uses a common (departmental) exam for every section of BIOL 1441, assembled by all of us teaching the course. You will be assigned a room in which to take the exam and notified via Blackboard. **It is your responsibility to attend the correct exam room.** In general, we do not give make-up exams except under very special circumstances.

Lecture schedule:

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

Lecture Exam 1 (Tuesday, Feb 12, 7:00 pm) = 25% of lecture exam grade

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

Lecture Exam 2 (Tuesday, Mar 19, 7:00 pm) = 25% of lecture exam grade

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

Lecture Exam 3 (Tuesday, Apr 23, 7:00 pm) = 25% of lecture exam grade

Chapter 16: The Molecular Basis of Inheritance

Chapter 17: Gene Expression: From Gene to Protein

Final Lecture Exam (comprehensive), Saturday May 4 = 25% of lecture exam grade (or 50% if I use this grade to replace your lowest midterm exam grade; see example below under the explanation of how to determine your grade in terms of points)

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

Class participation/attendance via Echo360 = 5% of the total grade.

Important Dates:

Mon, Jan 14: First day of classes

Mon, Jan 28: Labs and recitations begin

Mon, Jan 21: MLK Day, no class

Tues, Feb 12: Exam 1, 7:00 pm

Tues, Mar 19: Exam 2, 7:00 PM

Fri, Mar 29: Last day to drop classes; submit requests to advisor prior to 4:00 pm

Tues, Apr 23: Exam 3, 7:00 PM

Sat, December 4: Final Exam, 9:00 – 11:30 AM and 12:00 – 2:30 PM (students from all course sections will be combined and divided alphabetically, so if your last name is early in the alphabet you will be in the morning section and if it's later in the alphabet it will be in the afternoon.)

Blackboard: You are responsible for checking Blackboard on a regular basis. Lecture slides, syllabus, exam dates, grades, and class recordings 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>.

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 grade. In Biology 1441, you are not permitted to drop/withdraw from the lecture, recitation, OR laboratory components separately.

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. Mark answers firmly on the Scantron and circle them on your exam. Smear/incomplete erasures should be called to the attention of the professor at the time the Scantron is turned in on the exam day. Please do not fold or crumple your Scantrons because this may interfere with their scanning and grading. **You MUST circle the answers on your exam paper as well as bubbling in the Scantron. If the answer is not marked on your scantron, but is circled on your exam, the answer does not count.** Biology Department and University policy prohibits extra credit in any form for lecture, recitation, or lab. There are no make-up exams in lecture. At the end of the lecture class, the lowest lecture midterm exam is dropped and replaced with the final exam if it helps the student. The score for any additional missed exams will be a zero. Being absent for a personal/health emergency (barring extreme circumstances) will be treated as above. You will be able to view your most recent exam during office hours for **two weeks** post posting of the grade.

NO ELECTRONIC DEVICES MAY BE USED IN ANY LECTURE EXAM.

Recitation Policies:

- 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).
- Students are permitted to make up a missed recitation only if they have been given prior approval by their lab instructor or the lab coordinator to attend another lab section.
- The requirements for an excused absence and procedures for requesting to make-up a missed lab/recitation are outlined in the lab syllabus.
- Students who do not have prior approval to attend another lab section will not be allowed to attend another recitation.
- Recitation leaders cannot approve lab make-ups and will not accept documentation or requests to do so.
- 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 quizzes, regardless of excuse. If you miss a 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 (Dr. Frederick for 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. If any 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. 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.