

Biology 1441/1341, Spring 2017
Cell & Molecular Biology
Section 001 TR 9:30-10:50
118 Life Sciences

Dr. Lee Ann Frederick

465 Life Science

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Faculty Profile: <https://www.uta.edu/mentis/public/#profile/profile/edit/id/4019/>

Office Hours: MWF 11:00-12:00 or by appointment

COURSE DESCRIPTION: The first of an 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. The italicized student learning outcomes required of core courses below will be assessed for each student in the laboratory portion of the course. The final lab report will be assessed to determine how a student has mastered critical thinking, communication, and empirical and quantitative skills. A teamwork assessment (peer evaluation) will be completed by each student in lab to determine how students work together in lab groups to achieve the student learning outcomes described below.

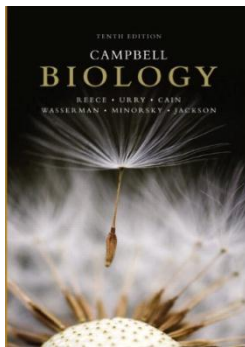
STUDENT LEARNING OUTCOMES:

- 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 creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- *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 component of this course, plus a description of how your total course grade is calculated by combining the grades for lecture and lab.

I am not responsible for the labs. If you have a laboratory-related issue, you should speak with your Graduate Teaching Assistant, and then if necessary the Laboratory Coordinator (Ms. Rachel Wostl). Refer to the Laboratory Syllabus for details (provided by your lab GTA = Graduate Teaching Assistant). Information on obtaining the lab manual will be provided by your GTA and is also posted on my Blackboard page.

Lecture Requirements: You are responsible for material covered in lectures, plus anything else that I specify, from the textbook or other sources.



Required Textbook for Lecture: Campbell Biology, 10th Edition, by Reece and coauthors (Publisher: Benjamin-Cummings, Pearson). Among the cheapest ways to accomplish this is to buy a subscription to electronic version of the text book which is good for several semesters: Campbell Biology, 10th Edition ISBN-10: 0-321-97473-5 / ISBN-13: 978-0-321-97473-0 / eTextbook <http://www.mypearsonstore.com/bookstore/campbell-biology-subscription-0321974735>. For those who would rather have a paper version of the textbook, the UTA bookstore has it: ISBN-13: 978-0321775658 / ISBN-10: 0321775651. You can use earlier versions of the physical textbook, however you are responsible for noting any changes. Exams will be based on the material in the 10th edition.

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, 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.

Lecture Attendance: Class attendance and participation will be based on interactive questions using the Echo360 system (via your phone, tablet, or laptop). Students who attend class regularly almost always perform better on exams than those who do not (and if you don't attend you won't receive the Echo points). Attendance at lab is **REQUIRED** for Biol 1441 (see Laboratory Syllabus).

Supplemental instruction (SI): You will have a Supplemental Instructor who will hold sessions outside lecture to help you understand the material. She will provide details early in the semester, and you can also attend SI sessions for other sections of the course. SI is run through the Student Support Services office in Ransom Hall. I do not oversee Supplemental Instruction for 1441/1341 or have any connection to it. 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>.

StartStrong tutoring: This is a program that provides individualized tutoring for freshmen. You will have received information on this from the appropriate office via email. This can be very valuable, but you have to sign up early and attend at least one session prior to the date they set. Don't miss this opportunity!

Lecture Schedule (topics and exams): Timing of material covered is approximate and may be adjusted according to our progress. You will be given information via Blackboard and in class of the locations of upcoming exams at least a week in advance, and the exam schedule is given below (some specific details of the final exam will be determined later in the semester). There is no excuse for "not knowing" that an exam is coming up! Come to class regularly and check your email and Blackboard regularly. The URL for blackboard is <https://elearn.uta.edu>.

There will be three major exams administered during the evenings of Tuesday February 14th, Tuesday March 21, and Tuesday April 25, 2017, each beginning at 7:00 PM. The UTA Biology program uses a common exam for every section of Biol 1441 & 1341 (= all instructors participate in making an exam that all students take). You will be assigned a room in which to take the exam, which may be different from the current lecture room. **It is your responsibility to attend the correct exam room.**

Course topics:

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, February 14, 7:00 pm) = 23% of lecture 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, March 21, 7:00 pm) = 23% of lecture grade

Chapter 10: Photosynthesis

Chapter 12: The Cell Cycle

Chapter 13: Meiosis and Sexual Life Cycles

Chapter 14: Mendel and the Gene Idea

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

Chapter 15: The Chromosomal Basis of Inheritance

Chapter 16: The Molecular Basis of Inheritance

Chapter 17: Gene Expression: From Gene to Protein

Final Lecture Exam (comprehensive, Saturday, May 6) = 23% of lecture grade

Class participation/attendance = 8% of lecture grade via Echo360 (answering interactive questions in class using phone, tablet, or laptop)

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. Smear/incomplete erasures should be called to the attention of the professor at the time the Scantron is turned in on the exam day. Scantrons are copied immediately after the exam. You must circle the answers on your test paper as well.

NO ELECTRONIC DEVICES MAY BE USED IN ANY LECTURE EXAM.

Important Dates:

Feb 14: Exam 1, 7:00 pm

Mar 13-17: Spring Break (no classes)

Mar 21: Exam 2, 7:00 pm

Mar 31 by 4:00 PM: Last day to drop classes

Apr 25: Exam 3, 7:00 pm

May 5: Last Day of Classes

Saturday, May 6: Final Exam, time to be announced

NOTE: We will inform you of the exam locations later in the semester. All students from all sections will take the same exams, made up by all of us who teach the course.

Blackboard: You are responsible for checking Blackboard on a regular basis. Lecture slides, syllabus, exam dates, grades, and other information can be found on Blackboard (the exact content varies by instructor). 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>. I also send email messages to the class periodically, so be sure to check your university email regularly (which you should be doing anyway).

Grading Policy (Biol 1441 & 1341): Biology 1441 is a 4 credit hour class that includes a lecture and a laboratory. 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 0.667 and your lab grade by 0.333 and add them together to get your complete course grade. In Biol 1441, you are not permitted to drop/withdraw from the lecture OR laboratory separately. Drops and withdrawals will be applied to both (= lecture and lab are parts of the same course). Biology 1341 is identical to Biol 1441 except that there is no lab associated with the course. The grade in 1341 is based solely on the lecture. 1341 is taken only by students in certain programs; almost everyone in this class will be taking 1441.

Your lecture grade will be determined as follows:

- Midterm exams (3 total), 23% each
- Comprehensive final exam, 23% (46% if I drop one of your midterms, see below)
- Class Participation: 8%, answering interactive questions using the Echo360 system

University policy prohibits extra credit in any form for lecture or lab. There are no make-up exams in lecture. At the end of the semester, I will drop the lowest lecture midterm exam and replace it with the final exam grade if that helps the student (i.e., the final exam will be weighted as 46% of the lecture grade). The maximum the final exam can count toward the lecture grade is 46% (i.e., missing one exam, or replacing the lowest midterm exam grade if you take all three). 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. After posting the exam results, I will go over the exam in class. You will be able to view your most recent exam during office hours for two weeks post posting of the grade.

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. Smearly/incomplete erasures should be called to the attention of the professor at the time the Scantron is turned in on the exam day. Scantrons are copied immediately after the exam. You must also circle the answers on the exam paper. However, if the answer is not marked on your scantron, but is circled on your exam, the answer does not count.

The grading scale is:

90% + = A

80-89.9 = B

70-79.9 = C

60-69.9 = D

Less than 59.9 = F

Grade Grievance Policy: Students have *one week* from the time a grade is provided to dispute the grade. Grades cannot be contested after this deadline has passed. You will be able to briefly view your exams during office hours for *two weeks* post posting of the grade.

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 from the building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. In the event of a tornado warning we will move to the basement. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

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.

	M	Tuesday	W	Thursday	F
Jan		17 syllabus		19 Ch 2	
		24 Ch 3		26 Ch 3	
		31 Ch 4		2 Ch 5	
Feb		7 Ch 5		9 Ch 5/review	
		14 Ch 6 Exam 1 -night		16 Ex rev/ ch 6	
		21 Ch 7		23 Ch 7	
		28 Ch 8		2 Ch 8	
Mar		7 Ch 9		9 Ch 9	
		14 SPRING		16 BREAK	

	M	Tuesday	W	Thursday	F
Mar		Ch 10 21 Exam 2 -night		23 Ex rev/ch 12	
		28		30	drop
Apr		4 Ch 12/13		6 Ch 13	
		11 Ch 14		13 Ch 14	
		18 Gen prob		20 Ch 15	
		25 Ch 15		27 Gen prov/rev	
		2 Ch 16 Exam 3-night		4 Ch 16	
May		9 Ch 17		11 Ch 17	
		Finals		Week	

*FINAL EXAM: Saturday, May 6, time TBA