

**Biology 1441: Cell and Molecular Biology  
Lecture Syllabus  
Fall 2017 Semester, Lecture Section 002**

**Lecture Instructor:** Dr. Shawn Christensen

**Office Number:** 333 ERB

**Office Telephone Number:** 817-272-0520

**Email Address:** [shawnc@uta.edu](mailto:shawnc@uta.edu)

**Faculty Profile:** <https://www.uta.edu/profiles/shawn-christensen>

**Office Hours:** MW 1:50 pm -3:00 pm (i.e., right after class)

**Time and Place of Class Lecture Meetings:** MWF 1:00 pm - 1:50 pm, Nedderman Hall (NH) 100.

**Description of Course Content (BIOL 1441/1341):** 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, I describe 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, and then, if necessary, the Laboratory Coordinator. Refer to the Laboratory Syllabus for details.

**Lecture Requirements:** You are responsible for material covered in lectures, plus anything else that I specify, from the textbook or other sources. [Other instructors may have additional or slightly different requirements]

**Things You Need to Buy:** Textbook (see below), **Modified Mastering Biology** (see below), and iclicker Reef (phone app or the physical iClicker, see below), lab manual and personal safety gear (see the lab syllabus).

*Modified Mastering Biology (11<sup>th</sup> edition, online problem sets) plus Biology (11<sup>th</sup> edition) textbook (etext or physical) are required for Lecture*

The textbook we are using is Biology, 11th Edition, by Reece and coauthors (Publisher: Benjamin-Cummings, Pearson) plus the Mastering Biology for the 11<sup>th</sup> edition of Biology. The book is often identified as “Campbell Biology” after the original head author who has since passed away.

You can purchase the electronic Textbook and Modified Mastering Biology from inside Blackboard once your instructors get the blackboard module set up. Alternatively you can buy the ebook and Modified Mastering Biology from the Publisher’s web site (see below). You can also buy the book and Modified Mastering biology from the UTA bookstore (see below).

You must buy the **Modified Mastering Biology** for the 11<sup>th</sup> edition of the text book **from one of the sources mentioned above**.

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:

Wait until your professor has the blackboard module setup and then follow the prompts.

From The publisher:

Modified MasteringBiology with Pearson eText -- Instant Access -- for Campbell Biology, 11th Edition \$115.95 | ISBN-13: 978-0-13-444729-2.

<http://www.mypearsonstore.com/bookstore/campbell-biology-plus-masteringbiology-with-pearson-0134082311>

From UTA bookstore:

Modified MasteringBiology with eText standalone access card ISBN 9780134447285

For those that 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 considerably more expensive than the electronic version.

You can also buy Modified Mastering Biology independently of the textbook. Modified Mastering Biology without the textbook is \$68.95. <http://www.mypearsonstore.com/bookstore/campbell-biology-plus-masteringbiology-with-pearson-0134082311>. You must buy the 11<sup>th</sup> edition version of Modified Mastering Biology for this class. You can use earlier versions of the physical text book, but you are responsible for noting any changes. Exams will be based on the 11<sup>th</sup> edition.

Do not buy the study guide sold at the UTA bookstore as 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 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.

#### *iClickers:*

Lecture attendance and participation will be based on class questions posed through interactive question posed using iClicker Reef. You can choose to purchase either the phone app or the physical iClicker. The phone app is available through the app store on your phone (ios or android). The UTA bookstore sells the physical iClicker (iClicker2) as does Amazon (<https://www.amazon.com>; search for iClicker2).

#### *Recitation Workbook:*

Available through the Phi Sigma biological society. <https://mkt.com/phi-sigma>

**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. Many top students study 20 hours a week, spaced out over multiple days.

**Supplemental instruction (SI):** You will have access to Supplemental Instructor(s) for 1441/1341 who will hold sessions outside lecture to help you understand the material. Supplemental Instruction is run through the student support services 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>.

**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>.

There will be three major exams administered during the evenings of Tuesday September 26th, Tuesday October 24, and Tuesday November 28, 2017. There is also a final exam that will be held on Saturday December 9, 2017. The UTA Biology program uses a common exam for every section of Biol 1441. 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.** There are no make up exams.

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, September 26, 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, October 24, 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

Chapter 15: The Chromosomal Basis of Inheritance

**Lecture Exam 3 (Tuesday, November 28, 7:00 pm) = 23% of lecture grade**

Chapter 16: The Molecular Basis of Inheritance

Chapter 17: Gene Expression: From Gene to Protein

**Final Lecture Exam (comprehensive, Saturday, December 9, time/place TBA) = 23% of lecture grade**

**Class participation/attendance = 8% of lecture grade via iClicker2/Reef (i.e., answering interactive questions during lecture).**

NO ELECTRONIC DEVICES MAY BE USED IN ANY LECTURE EXAM.

**Important Dates:**

Aug 24 First day of classes

Sept 4 Labor Day (no classes)

Sept 21 Review session with Dr Clark at 7 p.m.

**Sept 26 Exam 1, Tuesday, 7:00 pm**

Oct 19 Review session with Dr Clark at 7 p.m.

**Oct 24 Exam 2, Tuesday, 7:00 pm**

Nov 1 Last day to drop classes; submit requests to advisor prior to 4:00 pm

Nov 22 Day prior to Thanksgiving Holiday (no classes as it is historically a sparsely attended day)

Nov 23-24 Thanksgiving Holiday (no classes)

Nov 27 Review session with Dr. Clark at 7 p.m.

**Nov 28 Exam 3, Tuesday, 7:00 pm**

Dec 6 Last Day of Classes

Dec 7 Review session with Dr Clark at 7 p.m.

**Dec 9 Final Exam, Saturday, time frame(s) to be announced**

**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>.

**Grading Policy:** Biology 1441 is a 4 credit hour class that includes a lecture, recitation, and laboratory. For grading purposes, the lecture comprises 65% of your course grade, recitation comprises 10% of your course grade, and laboratory comprises 25% of your course. In Biol 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.

Your lecture grade will be determined as follows:

- Midterm exams (3 total), 23% of lecture grade each
- Comprehensive Final Exam, 23% of lecture grade (46% if I drop one of your midterms, see below)
- Class Participation (answering interactive questions using clickers), 8% of lecture grade
- See below for more information exams

Your recitation grade will be determined as follows:

- Pre-recitation quiz, 33.33% of recitation grade
- Post-recitation quiz, 33.33% of recitation grade
- Recitation attendance and participation, 33.33% of recitation grade

Your lab grade will be determined as follows:

- please see the lab syllabus

**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. Smeary/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. **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, I will drop the lowest lecture midterm exam and replace it with the final exam (i.e., the final exam will be weighted as 46% of the lecture grade) if it helps the student. The maximum the final exam can count toward the lecture grade is 46% (i.e., missing one exam). 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.

#### **Recitation Policies:**

- Attendance is mandatory. You will be required to sign/swipe 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 programed 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 KWL table and vocabulary
  - 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 KWL table and vocabulary so your instructor can review your work. It is your responsibility to make sure that your workbook is checked.

*The grading scale used for your overall grade in the course 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 posted on Blackboard or provided otherwise to dispute the grade. Grades cannot be contested after this deadline has passed. After posting, I will go over the exam in class. You will be able to briefly view your most recent exam during office hours for **two weeks** post posting of the grade.

**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. Specifically for issues with labs, you may consult the Laboratory Coordinator, Rachel Wostl, if the problem remains unresolved after discussion with your lab instructor. 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](http://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](http://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](http://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/](http://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](http://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](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](mailto: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](mailto: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.

**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.