BIOL 2311.002
FALL 2024

The University of Texas at Dallas

INTRO. TO MODERN BIOLOGY I

August 19, 2024-
December 4, 2024

Mon., Wed., Fri.

4:00pm-4:50pm

SLC 1.102

COURSE DESCRIPTION

This course presents some of the basic concepts of modern Biology with an emphasis on the molecular and cellular basis of biological phenomena. Topics include metabolism of biological macromolecules, cell structure and function, cellular respiration, cell division, cell cycle, cell signaling, classical and molecular genetics, and DNA replication, transcription, and translation. Some landmark experiments that will help provide an in-depth understanding of the concepts will be discussed.

Instructor: Dr. Amy Jo M. Gómez
E-mail: AmyJo.Gomez@UTDallas.edu

Student Hours: Mon. and Wed. 2-3 pm
FN 3.104. Other times by appointment.

BIOL 2111.502 WORKSHOP Wednesday 6:00-6:50 pm
August 28, 2024- December 4, 2024
SLC 1.102

BIOL 2311.002

Student Learning Outcomes:

1. Students will be able to define the subcellular structures, macromolecules in a eukaryotic cell
2. Students will be able to explain and describe the basic functions of cells including energy production and utilization (in animal and plant cells), cell division, the basic mechanisms of genetic inheritance, structure of DNA, discovery of DNA, transcription and translation process, the regulation of gene expression, and selected aspects of the molecular basis of cancer.
3. Students will be able to understand basic cell signal transduction pathways and their final responses inside cells
4. Students will be able to develop hypotheses to interpret experimental observations and devise experiments to test these hypotheses.

MORE ABOUT THIS COURSE

Objectives:

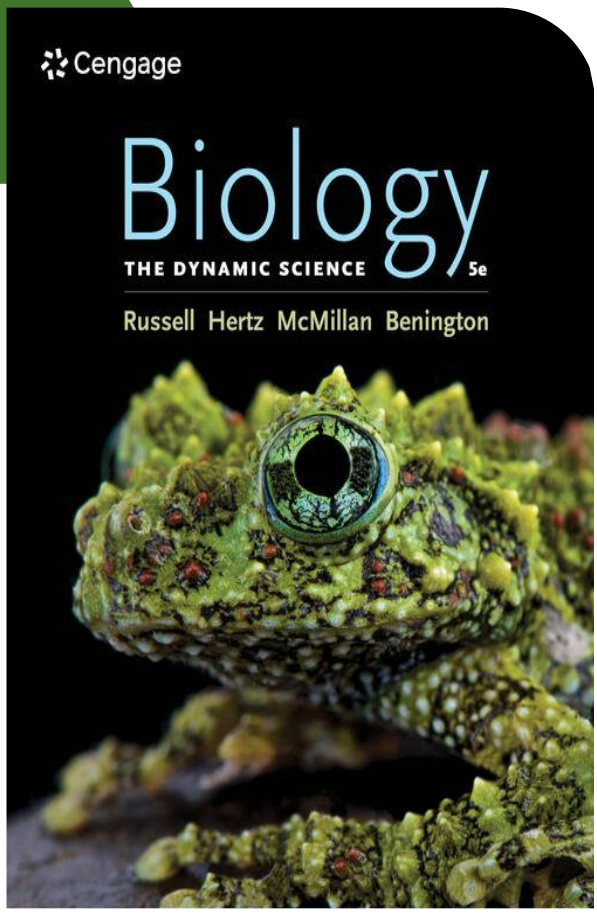
1. **Critical Thinking (CT)**–to include creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information
2. **Communication (COM)**–to include effective development, interpretation, and expression of ideas through written, oral, and visual communication.
3. **Empirical and Quantitative Skills (EQS)**–to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
4. **Teamwork (TW)**–to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Course Co-requisites, Pre-requisites, and/or Other Restrictions:

Co-requisite: **All students enrolled in BIOL 2311 must also enroll in the workshop (BIOL 2111.501)**. Questions relating to homework assignments and quizzes may be reviewed during workshops. Questions remaining about lecture material will be addressed during workshop. The same grade will be assigned for both BIOL 2311 and BIOL 2111.
If for any reason you decide to drop BIOL 2311, you must also drop BIOL 2111.501
Prerequisites: General Chemistry I and II.

Accommodations for Students with Disabilities
The University of Texas at Dallas is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you are seeking classroom accommodations under the Americans with Disabilities Act (2008), you are required to register with the AccessAbility Resource Center (ARC), located in the Administration Building, Suite 2.224. They can be reached by email, calling 972-883-2098, or at their website. To receive academic accommodations for this class, please register and request services by completing the Request for Services form with the proper documentation and meeting with the Director of ARC at the beginning of the semester.

Required Text and Online Tool



Biology: The Dynamic Science by Russell, 5th edition with MindTap (online access tool) (2 terms) is required. The price is $131 through cengage.com. Bookstore is $174.75.
ISBN: 9780357438466

If you are taking more than one class using Cengage, I recommend Cengage Unlimited. This is a subscription to all Cengage materials. I have linked CU information below: https://www.cengage.com/unlimited/

With a Cengage Unlimited subscription, you will have access to ALL Cengage eBooks and digital learning products. Cengage Unlimited has a 4-month subscription, a 12-month or a 24-month subscription (see above).

Depending on the option you choose, you will have access to the online tool and the e-book for either Fall 2024 only or for both Fall 2024 and Spring 2025. This will account for students planning to take 2311 (Biology I) in Fall and 2312 (Biology II) in Spring.

Power point lectures and grades will be posted on eLearning. Please look for the Cengage/MindTap links on eLearning under the assignments tab.

INSTRUCTIONAL MODE AND EXPECTATIONS

Instructional Mode- Lectures, workshops	Traditional Classroom face-to-face.
WORKSHOPS	BIOL 2111.502 - Wednesdays 6:00 – 6:50 PM. Led by instructor and graduate teaching assistants. Please see table under workshops for topics covered. Workshop attendance is optional but highly recommended.
Online assignments	MindTap is the name of the online assignment tool. Links to assignments/homeworks will be under assignments tab on eLEARNING. Online assignments will become available 12 am on Sunday and are due on Saturday by 12 am.
QUIZZES	Quizzes will be administered during lecture sessions. See schedule table for days and material covered.
EXAMS	EXAMS will be available at the testing center (see table) https://ets.utdallas.edu/testing-center
GRADES	Please see grading rubric table and notes below

SCHEDULE OF LECTURES

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.

	LECTURES	DATE	CHAPTER NAMES	CHAPTER #	QUIZZES
Week 1	1	Aug 19	Introduction		
	2	Aug 21	Biological Molecules	3	
	3	Aug 23	Biological Molecules	3	
	Assignments due Aug 24		Check eLearning		
Week 2	4	Aug 26	Biological Molecules	3	
	5	Aug 28	Biological Molecules	3	
	6	Aug 30	Cells	4	
	Assignments due Aug 31		Check eLearning		
Week 3		Sept 02	Labor Day Holiday		
	7	Sept 04	Cells	4	Quiz 1 Lectures 1-5
	8	Sept 06	Cells	4	
	Assignments due Sept 07		Check eLearning		
Week 4	9	Sept 09	Cells and Membranes and Transport	4, 5	Quiz 2 Lectures 6- 8
	10, 11	Sept 11–13	No lectures – EXAM 1 (Testing center)		Lectures 1 - 9
Week 5	12	Sept 16	Membranes and Transport	5	
	13	Sept 18	Membranes and Transport	5	
	14	Sept 20	Energy	6	
	Assignments due Sept 21		Check eLearning		
Week 6	15	Sept 23	Energy	6	Quiz 3 Lectures 12 - 14
	16	Sept 25	Cellular Respiration	7	
	17	Sept 27	Cellular Respiration	7	
	Assignments due Sept 28		Check eLearning		
Week 7	18	Sep 30	Cellular Respiration	7	
	19	Oct 02	Cellular Respiration	7	Quiz 4 Lectures 15 -18
	20	Oct 04	Cellular Respiration/Part II Enzyme inhibition Chapter 6	7/6	
	Assignments due Oct. 05		Check eLearning		
Week 8	21	Oct 07	Mitosis		
	22, 23	Oct 09-11	No lectures- EXAM 2 (Testing center)		Lectures 12 - 20
	Assignments due Oct. 12		Check eLearning		
Week 9	24	Oct 14	Mitosis	10	
	25	Oct 16	Meiosis	11	
	26	Oct 18	Meiosis	11	
	Assignments due Oct. 19		Check eLearning		
Week 10	27	Oct 21	Cell Cycle	10	Quiz 5 Lectures 24-26
	28	Oct 23	Cell Cycle	10	
	29	Oct 25	Cell Communication	9	
	Assignments due Oct. 26		Check eLearning		
Week 11	30	Oct 28	Cell Communication	9	Quiz 6 Lectures 27 - 29

	LECTURES	DATE	CHAPTER NAMES	CHAPTER #	QUIZZES
	31	*Oct 30*	*Cell Communication*	*9*	
	32	*Nov 01*	*Genes, Human Chromosomes, and Human Genetics*		
	Assignments due Nov. 02		*Check eLearning*		
Week 12	*33*	*Nov 04*	*Genes, Chromosomes and Human Genetics*	*13*	
	34, 35	*Nov 06- 08*	*No lectures- EXAM 2 (Testing center)*		*Lectures 21, 24-33*
Week 13	*36*	*Nov 11*	*DNA Discovery*	*14*	
	37	*Nov 13*	*DNA Replication*	*14*	
	38	*Nov 15*	*DNA Replication (No lecture – recording will be posted)*	*14*	
	Assignments due Nov 16		*Check eLearning*		
Week 14	*39*	*Nov 18*	*From DNA to Protein*	*15*	*Quiz 7 Lectures 36-38*
	40	*Nov 20*	*From DNA to Protein*	*15*	
	41	*Nov 22*	*From DNA to Protein*	*15*	
	Assignments due Nov 23		*Check eLearning*		
Week 15	*Nov 25 – Nov 29 Fall Break & Thanksgiving Holidays*				
Week 16	*42*	*Dec 02*	*From DNA to Protein*	*15*	*Quiz 8 Lectures 36 - 41*
	43	*Dec 04*	*Biotechniques/Development of Evolutionary thinking*		
		Dec 09 -11	*EXAM 4 (Testing center)*		*Lectures 36 - 43*

WORKSHOP SESSIONS

*Workshops run every week on **Wednesdays at 6:00 PM at SLC 1.102** unless canceled by the instructor. Workshops will be run by the instructor and/or graduate teaching assistants. Topics that will be covered in workshops are listed in the table below. Review sessions will be conducted in workshops. **WORKSHOPS BEGIN THE WEEK OF AUGUST 28, 2023.***
Workshops will not be recorded. No notes/problems/slides/recordings will be posted from these sessions.

	SESSION DATES	CHAPTER NAMES	CHAPTER #
Week 1	*Aug 21*	*No workshop*	
Week 2	*Aug 28*	*Biological Molecules*	*3*
Week 3	*Sept 4*	*Cells and Membranes and Transport*	*4, 5*
Week 4	*Sept 11*	***EXAM 1 REVIEW***	
Week 5	*Sept 18*	*Membranes and Transport*	*5*
Week 6	*Sept 25*	*Energy*	*6*
Week 7	*Oct 2*	*Cellular Respiration*	*7*
Week 8	*Oct 9*	***EXAM 2 REVIEW***	
Week 9	*Oct 16*	*Mitosis*	*10*
Week 10	*Oct 23*	*Cell Cycle/Meiosis*	*10,11*
Week 11	*Oct 30*	*Cell Communication*	*9*
Week 12	*Nov 6*	***EXAM 3 REVIEW***	*13*
Week 13	*Nov 13*	*DNA Discovery*	*14*
Week 14	*Nov 20*	*From DNA to Protein*	
Week 15	*Nov 27*	*Fall Break & Thanksgiving Holidays*	*15*
Week 16	*Dec 4*	***EXAM 4 REVIEW***	

GRADING POLICIES

There will be four tests given in BIOL 2311. The different tests and their weighted scores are listed below. Scoring on the exams is done by the Graduate Teaching Assistants, but the instructor determines in advance what key points must be included in each answer to get full credit. The instructor checks your scores after the TA has graded the exams and assigns letter grades.

If you have questions about the grading or your performance in an exam, please see me as soon as possible. Dedicated student hours will be held to address any questions or concerns regarding performance in exams. These hours will be sent in an eLearning announcement.

Students are assessed based on: (see rubric below)

1. *Tests*
2. *MindTap-LEARN IT Online assignments*
3. *MindTap-APPLY IT, HOMEWORK, and PRACTICE QUIZZES Online assignments*
4. *Quizzes*
5. *Team activities*

GRADUATE TEACHING ASSISTANTS:
Ezzeldin (Ezz) Elhawary and Dun Ning
Graduate Student Teaching Assistants (GTAs) will be responsible for grading, when needed. Our GTAs will grade based on the rubric provided by the instructor. The final letter grades are ASSIGNED BY THE INSTRUCTOR.

GRADING RUBRIC

	Points	Total Possible Points	% of Final Grade
Exams (4)	100	400	64%
Quizzes (8)	Varies	62.5	10%
MindTap Learn It Assignments (12)	Varies	62.5	10%
MindTap-APPLY IT, HOMEWORK, and PRACTICE QUIZZES Online assignments (~10)	Varies	62.5	10%
Team Activities (3)	12.5	37.5	6%
		625	100%

Although letter grades may be provided after the midterm, these should be treated only as a reflection of your relative performance when compared to the rest of the class. The final course grade will not be based on these letter grades, but on the weighted scores of exams, online assignments (learn its, apply its, practice quizzes, homework), quizzes, team activities, and mandatory attendance (see rubric above). Exact grade cutoffs will be determined based on the university approved grouping of total numerical grades. + and – will be assigned within each letter grade to further distinguish subgroups.

The midterm and final grades assigned to the lecture section of the course (BIOL 2311.001) will be assigned to your workshop course (BIOL 2111.501) as well.

LETTER GRADES:
This will be determined by the instructor at the end of the course.

MindTap-ASSIGNMENTS:

All these assignments (pre (Learn it), post – (Apply It) and other (homework, practice quizzes etc.)) will be posted on eLearning and are due as noted in the schedule.
Assignments will not be accepted past the due date due to their extended availability time. Due date extension will be given under extenuating circumstances, at the discretion of the instructor. Please keep checking the eLearning course page for links to take you to the date view for assessments for weekly assignments.

QUIZZES:

There are 8 graded QUIZZES in this class. Only 7 are counted toward the course grade and the other is bonus. Points may vary.
QUIZZES are a combination of multiple choice, T/F, fill-in the blank, short answers, and mix-and- match style questions.
You will have 10 minutes to complete the quiz ONLINE in CLASS.
Quizzes will be available for a small window of time and accessible by a code given in class.
Quizzes are closed book – no resources are allowed.

MindTap-LEARN IT:

Some are graded and some are for practice as will be indicated.
These assignments may be timed and may be set up for multiple attempts. When multiple attempts are allowed, the best score will be used.
If you incur technical difficulties, please email me the day before the assessment is due.
These assessment links can be found on the eLearning course page – in the assignments tab.
USE THESE LINKS TO ACCESS AND COMPLETE YOUR LEARN IT ASSESSMENT.

MindTap-APPLY IT, HOMEWORK, and PRACTICE QUIZZES:

These are assigned after the Chapter is discussed in lecture:
These may be assigned every week and may be timed.
These are graded assignments ONLY.
Some of these assignments may be set up for more than one attempt and the best score will be recorded.
The assessment links can be found on the eLearning course page under the assignments tab.
PLEASE ONLY USE THESE LINKS TO DO YOUR ASSESSMENTS.
If you incur technical difficulties, please email me the day before the assignment is due.
NOTE - Once you have completed these assignments, it will populate in your gradebook automatically. Please note that if you log into MindTap/Cengage and do your assessments there, your grade might not immediately transfer over to eLearning. Only assignments with links on eLearning will be counted towards your final grade. So please complete these assignments using the links on eLearning. And the extra assignments available on MindTap may be used for practice.

EXAMS:

All four EXAMS are required, and EXAM DATES are shown in the syllabus.
The last exam, EXAM 4, is not cumulative.
All EXAMS will cover chapters taught in prior lectures.
EXAMS may be a mixture of multiple choice, T/F, Fill-in the blanks, mix and match, and a few free response questions.
EXAMS are 50 minutes long.
EXAMS are available for a window of time at the testing center.
Please be sure to register to take the exam and make sure you are registering for Dr. Gómez BIOL 2311.002!
https://ets.utdallas.edu/testing-center
Please follow the testing center guidelines to take exams.
Alternate exam windows are not available unless it is a medical excuse with a doctor's note.
Details will be posted as an announcement on eLearning before exams.
On the day of the EXAM, there are no face-to-face lectures.
EXAMS are closed book. No outside resources are allowed.
Once the exam is graded, you may approach the instructor during dedicated office hours only to go over your free-response portion of the exam. The MC portion of the exam will not be discussed during these hours.
NO EXAM GRADE WILL BE DROPPED FROM THE FINAL GRADE CALCULATIONS.

MAKE-UP EXAMS:

These exams will be scheduled on a need only basis. If you are unwell and unable to attend the exam, please email the instructor at the earliest available opportunity. You must request a make-up exam within a 2-day window of the original exam day. Also, please remember to provide a copy of the doctor's note, so that the make-up can be scheduled.

EXAM VIEWING:

I will send announcements on eLearning about office hours for discussing exams after they have been graded. Please be sure to come and visit me during these in-person office hours. No grade changes will be made three weeks after the date of the exam.

MIDTERM GRADES:

Students are issued mid-term grades to apprise them of their progress within the semester. Midterm grades are important for advising and retention purposes, therefore it is vital that the grades accurately reflect academic progress. These grades are not a part of the permanent record and will not appear on academic transcripts.

TEAM ACTIVITIES:

These activities will be held during lectures. Announcements on eLearning will carry information on these team activities. Please understand that this activity carries points that will be used to calculate your final grade.

EXTRA CREDIT AND SPECIAL ASSIGNMENTS:

This course has no extra credit or special assignment options. BONUS points are available by doing ALL MindTap Assignments and in class Quizzes.

Course Policies

ACADEMIC SUPPORT:
Please visit the Academic Support Resources page to view the University's academic support resources for all students.

CLASS ATTENDANCE

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

CLASS PARTICIPATION

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

CLASS MATERIALS

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved AccessAbility Resource Center accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

CLASS RECORDINGS

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the AccessAbility Resource Center has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved AccessAbility Resource Center accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

COMET CREED

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:
"As a Comet, I pledge honesty, integrity, and service in all that I do."