

BIOL 3302.001 EUKARYOTIC MOLECULAR & CELL BIOLOGY
FALL 2022 (AUGUST 22, 2022 – DECEMBER 8, 2022)

The University of Texas at Dallas

TEXTBOOK: Lodish et al., *Molecular Cell Biology*, Eighth Edition 2016 (ISBN-13: 978-1-319-04387-2)

CLASS HOURS, LOCATION: Monday, Wednesday, Friday, 10:00 -10:50 AM, SCI 1.210

Dr. Nikki Delk:

Office Hours: Appointment only
Email: nikki.delk@utdallas.edu

Dr. Uma Srikanth:

Office Hours: FN 3.108
Tuesdays and Thursdays 1-2 PM
Email: ukrish@utdallas.edu

Course Modality and Expectations

Instructional Mode	Face-to-face (both lectures and workshops)
Testing Guidelines	Your Tests and/or assignments will be available for a window of time and details will be posted on eLearning.

Course Policies:

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 Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

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 regardless of course modality. 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 Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility 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 Office of Student AccessAbility 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.

Classroom Citizenship 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.”

Academic Support Resources

The information contained in the following link lists the University’s academic support resources for all students.

Please see <http://go.utdallas.edu/academic-support-resources>.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus. Please review the catalog sections regarding the [credit/no credit](#) or [pass/fail](#) grading option and withdrawal from class. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

BIOL 3302/3102 (Undergraduate students): EUKARYOTIC MOLECULAR & CELL BIOLOGY (4 semester hour) Structural organization of eukaryotic cells; regulation of cellular activities; membranes and transport; cytoskeleton; Cell Signaling, Protein movement and their sorting within cells.

Course Materials

Course material and grades will be posted on **eLearning**.

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

Prerequisites: BIOL 3301 (Classical and Molecular Genetics) and BIOL/CHEM 3361 (Biochemistry I). Co-requisite: concurrent enrollment in BIOL 3102.

Student Learning Objectives/Outcomes

Objectives: This course teaches students eukaryotic cell surface membranes and transport molecules; cell signaling molecules and cell surface receptors; signal transduction pathways that control gene activity; eukaryotic cell cycle, and aspects of the molecular basis of cancer. In this course we use results from journal articles and their interpretations to teach students to apply these concepts to solve problems.

Outcomes: Upon completing this course, students will:

1. Become familiar with the structural organization of eukaryotic cells.
2. Be able to describe typical signal transduction pathways.
3. Be able to explain concepts such as the molecular regulation of the eukaryotic cell cycle and aspects of the molecular basis of cancer.

Grading Policy

There will be six tests given in BIOL 3302. The different tests and their weighted scores are listed below on this page. Scoring on the Tests 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 Tests, and assigns letter grades.

If you have questions about the grading or your performance in a Test, please see the instructors as soon as possible. Although letter grades may be provided for you midterm grade, 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 be based NOT on these individual letter grades, but on the total of the numeric scores of all four Tests and the homework/quizzes. Exact grade cutoff will be determined based on grouping of total numerical grades. + and – will be assigned within each letter grade to further distinguish subgroups.**

Students are assessed based on:

1. Tests
2. Home works

Your numerical grade will be calculated as follows: (The details of the tests/quizzes will be posted as an announcement on eLearning). **While there will be a window given to take Tests, please understand that any extension of the window is granted only under extenuating circumstances.**

1st half, Dr. Delk: 50% of final grade

Test 1: 12.5%

Test 2: 12.5%

Test 3: 12.5%

Test 4: 12.5%

2nd half, Dr. Srikanth: 50% of final grade

Details of homework and their due dates will be posted on Elearning.

Test 1 Srikanth : 21%

Test 2 Srikanth : 21 %

Homeworks (4): 8%

WORKSHOPS

Section #	Time/Location	UGTA
3102-001	Monday, 4:00pm - 4:50pm FO 3.222	Steve Lee Steve.Lee@Utdallas.edu
3102-002	Tuesday, 4:00pm - 4:50pm SLC 2.203	Ou, Joshua Titus Joshua.Ou@utdallas.edu
3102-003	Wednesday, 4:00pm - 4:50pm FO 3.222	Puria Razinobakht Puria.Razinobakht@utdallas.edu
3102-004	Thursday, 4:00pm - 4:50pm CB 1.222	Fatima Rehman Fatima.Rehman@utdallas.edu
3102-005	Friday, 4:00pm - 4:50pm FO 3.222	Noah Kim Noah.Kim@utdallas.edu

WORKSHOPS BEGIN THE WEEK OF AUGUST 29, 2022

Our Undergraduate Teaching Assistants (UGTAs) will be leading the workshops and our Graduate Student Teaching Assistants (GTAs) will be responsible for grading of test/homework, if needed. Our GTAs will grade based on the rubric provided by the instructor. The final letter grades are ASSIGNED BY THE INSTRUCTOR. Midterm grades will be assigned depending on the instructor's grading guidelines and letter grade assignments.

Graduate Teaching Assistants: Jessica Gomez (Jessica.Gomez2@utdallas.edu), Stephanie Yamauchi (Stephanie.Yamauchi@utdallas.edu), Umar Patel (Umar.Patel@utdallas.edu), and Rafah Falah (Rafah.Falah@utdallas.edu)

All students enrolled in BIOL 3302 must also enroll in a workshop (BIOL 3102).

Homework assignments and clicker questions will be reviewed during workshop. Questions remaining about lecture material will be addressed during workshop. The same grade will be assigned for both BIOL 3301 and BIOL 3302. **If you drop the course, you must drop both 3302 and 3102.**

All students enrolled in BIOL 3302 must also enroll in a workshop (BIOL 3102). If for any reason you decide to drop BIOL 3302, you must also drop BIOL 3102!

Schedule of Lectures:

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

Dates	Session	Instructor	Topics	Reading
FIRST ½ OF COURSE 22 AUG - 10 OCT 2022 (DELK)				
Mon, Aug 22	1	Delk	Biomembranes	Chp 10 (6 th ed.)
Wed, Aug 24	2	Delk	Biomembranes	Chp 10 (6 th ed.)
Fri, Aug 26	3	Delk	Membrane Transport	Chp 11 (6 th ed.)
Mon, Aug 29	4	Delk	Membrane Transport	Chp 11 (6 th ed.)
Wed, Aug 31	5	Delk	Membrane Transport	Chp 11 (6 th ed.)
Fri, Sep 2	6	Delk	Test Review	
Mon, Sep 5			Labor Day	
Wed, Sep 7	7	Delk	Test 1 (Lectures 1-6)	
Fri, Sept 9	8	Delk	Cell Signaling	Chp 15/16 (6 th ed.)
Mon, Sept 12	9	Delk	Cell Signaling	Chp 15/16 (6 th ed.)
Wed, Sept 14	10	Delk	Cell Signaling	Chp 15/16 (6 th ed.)
Fri, Sept 16	11	Delk	Test Review	
Mon, Sept 19	12	Delk	Test 2 (Lectures 8-11)	
Wed, Sept 21	13	Delk	Cell Cycle	Chp 19 (6 th ed.)
Fri, Sept 23	14	Delk	Cell Cycle	Chp 19 (6 th ed.)
Mon, Sept 26	15	Delk	Cell Cycle	Chp 19 (6 th ed.)
Wed, Sept 28	16	Delk	Test Review	
Fri, Sept 30	17	Delk	Test 3 (Lectures 13-16)	
Mon, Oct 3	18	Delk	Cancer Biology	Chp 20 (6 th ed.)
Wed, Oct 5	19	Delk	Cancer Biology	Chp 20 (6 th ed.)
Fri, Oct 7	20	Delk	Test Review	
Mon, Oct 10	21	Delk	Test 4 (Lectures 18 – 20)	
SECOND HALF OF COURSE 12 OCT- 7 DEC, 2022 (SRIKANTH)				
<i>Wed, Oct 12</i>	22	<i>Srikanth</i>	<i>Introduction – Cell Strains</i>	
<i>Fri, Oct 14</i>	23	<i>Srikanth</i>	<i>Cell Strains and Cell Culture</i>	<i>Chapter 4</i>
<i>Mon, Oct 17</i>	24	<i>Srikanth</i>	<i>Cell Biology Techniques</i>	<i>Chapter 4.1-4.4</i>
<i>Wed, Oct 19</i>	25	<i>Srikanth</i>	<i>Cell Biology Techniques</i>	<i>Chapter 4.1-4.4</i>
<i>Fri, Oct 21</i>	26	<i>Srikanth</i>	<i>Cell Biology Techniques</i>	<i>Chapters 4 and 6 (6.5 pp 264-266)</i>

Mon, Oct 24	27	Srikanth	Cell Biology Techniques	Chapters 4 and 6 (6.5 pp 264-266)
Wed, Oct 26	28	Srikanth	Cell Biology Techniques	Chapters 4 and 6 (6.5 pp 264-266)
Fri, Oct 28	29	Srikanth	Cell Biology Techniques and Review	Chapters 4 and 6 (6.5 pp 264-266)
Mon, Oct 31	30	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Wed, Nov 2	31	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Fri, Nov 4	32	Srikanth	Test 1 Srikanth (Lectures 22 - 31)	
Mon, Nov 7	33	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Wed, Nov 9	34	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Fri, Nov 11	35	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Mon, Nov 14	36	Srikanth	Moving proteins into membranes and organelles	Chapter 13
Wed, Nov 16	37	Srikanth	Vesicular Trafficking and Endocytosis	Chapter 14
Fri, Nov 18	38	Srikanth	Vesicular Trafficking and Endocytosis	Chapter 14
Nov 21 – 25		No classes	FALL BREAK AND THANKSGIVING HOLIDAY	
Mon, Nov 28	39	Srikanth	Vesicular Trafficking and Endocytosis	Chapter 14
Wed, Nov 30	40	Srikanth	Vesicular Trafficking and Endocytosis	Chapter 14
Fri, Dec 2	41	Srikanth	Vesicular Trafficking and Endocytosis and Review	Chapter 14
Mon, Dec 5	42	Srikanth	Signaling pathways	Chapter 16
Wed, Dec 7	43	Srikanth	Review	
TBD			Test 2 Srikanth (Lectures 33 - 42)	

MAKE-UP TESTS

These Tests will be scheduled on a need only basis. If you are unwell and unable to attend the Test, please email the instructor at the earliest available opportunity. Also, please remember to provide a copy of the doctor's note on the day your make-up Test is scheduled.

EXTRA CREDIT AND SPECIAL ASSIGNMENTS

This course has no extra credit or special assignment options.

TEST VIEWING OFFICE HOURS

Instructors will send announcements on eLearning about office hours for discussing tests after they have been graded. Please be sure to come and visit the instructor virtually during these hours. If the allotted time is in conflict with your classes, please email instructor in advance for an alternate time. No grade changes will be made **three weeks after the date of the test.**

ACADEMIC INTEGRITY

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

EMAIL USE

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

WITHDRAWAL FROM CLASS

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper

paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

STUDENT GRIEVANCE PROCEDURES

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

DISABILITY SERVICES

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For Tests, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for Tests, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

RELIGIOUS HOLIDAYS

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the Test or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed Test or assignment may not be penalized for the absence. A student who fails to complete the Test or assignment within the prescribed period may receive a failing grade for that Test or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or Tests, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

OFF-CAMPUS INSTRUCTION AND COURSE ACTIVITIES

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean.