Biol 3302/3102 Course Syllabus

Course Information

Course Title: BIO 3302: EUKARYOTIC MOLECULAR & CELL BIOLOGY
Term: Fall 2015
Days & Times: **Monday and Wednesday, 11:30 -12:45 pm, CN 1.102 (Alexander Clark Center)**

Professor Contact Information

Dr. J. G. Burr: *Office:* FN 3.110 *Hours:* Thurs: 3:30-4:30 pm, or by appointment
Phone: 972-883-2508 *Email:* burr@utdallas.edu

Dr. Nikki Delk: *Office:* FO 3.704(E) *Hours:* Thurs, 11:00 am-12:00 n.
Phone: 972-883-2581 *Email*: nad140230@utdallas.edu

TAs for workshops (BIO 3102)[1]:

Section #	Time/Location	TA Name
3102-001	Mon. 8:00-8:50am/ FN 2.106	TBA
3102-002	Tue. 8:30-9:20am/ FN 2.106	TBA
3102-003	Thurs. 8:30-9:20am / SLC 1.102	TBA
3102-004	Thurs. 8:30-9:20am / FO 3.222	TBA

[1] *All students enrolled in BIO 3302 must also enroll in a workshop (BIO 3102). If for any reason you decide to drop the BIO 3302,* ***you must also drop BIO 3102!***

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

Prerequisites: BIOL 3301 and BIOL/CHEM 3361. Co-requisite: concurrent enrollment in BIOL 3102.

Course Description

BIOL 3302 Eukaryotic Molecular and Cell Biology (3 semester hour) Structural organization of eukaryotic cells; regulation of cellular activities; membranes and transport; cell cycle control; examples of cell specialization such as muscle cells.

Student Learning Objectives/Outcomes

Objectives: This course teaches students the structural organization of eukaryotic cells; eukaryotic cell surface membranes and transport molecules; cell signaling molecules and cell surface receptors; signal transduction pathways that control gene activity; the organization and control of the eukaryotic cytoskeleton; mechanisms of protein targeting to cellular organelles; vesicle traffic, secretion and endocytosis; the molecular regulation of the eukaryotic cell cycle, and aspects of the molecular basis of cancer.

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 secretion and endocytosis, the molecular regulation of the

eukaryotic cell cycle, and aspects of the molecular basis of cancer.

Required Textbooks and Materials

Lodish *et al*., ***Molecular Cell Biology***, Seventh Edition, 2013 (ISBN 13: 978-1-4292-3413-9)

Suggested Course Materials

Dr. Delk's course material and grades will be posted on eLearning.

Dr.Burr's course information and grades will be posted at:

http://www.utdallas.edu/~burr/BIO3302

Grading Policy

All students enrolled in BIO 3302 must also enroll in a workshop **(BIO 3102).** *The grade for BIO 3102 will be determined by a combination of attendance and homework grades, and it will be worth 10% of the overall grade given for BIO 3302.* ***The same letter grade will be assigned for both the lecture and workshop components of the course.*** *Do not blow off the workshop- it can drop your grade in the lecture part of the course (BIO 3302) from an A to a B, or from a B to a C, etc. if you do poorly in the workshop. The same grade will be assigned for both BIO 3301 and BIO 3302.* ***If you drop the course, you must drop both 3302 and 3102.***

There will be four exams given in BIO 3302. The exam questions will be a combination of multiple-choice plus brief essay or short-answer questions. Each of the four exams will be worth 22.5% of the final grade (for a total of 90%), and each will cover all of the material presented in class since the previous exam (lectures, handouts, and assigned reading). The remaining 10% of your grade is from the workshops-homeworks, etc. Scoring on the exams is done by the 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 the instructors as soon as possible. Although letter grades may be provided after each exam, these should be treated only as a reflection of your performance. The final course grade will be based not on these individual letter grades, but on the total of the scores of all four exams and the homework.

Course Policies

Make-up exams

- DO NOT MISS THE EXAMS. Makeup exams will be given only in case of a documented emergency and will be MORE DIFFICULT than the regularly scheduled exam. You must contact the Instructor within 24 hours of the missed exam.

Late Work

- Homework assignments must be submitted on time to get credit.

Assignments & Academic Calendar

Dates	Session	Instructor	Topics	Reading
Mon, Aug 24	1	Delk	Biomolecules	Chapter 2
Wed, Aug 26	2	Delk	Biomolecules	Chapter 2
Mon, Aug 31	3	Delk	Biological Membranes	Chapter 10
Wed, Sept 2	4	Delk	Biological Membranes	Chapter 10
Mon, Sept 7	--		**Labor Day Holiday**	--
Wed, Sept 9	5	Delk	Membrane Transport	Chapter 11
Mon, Sept 14	6	Delk	Membrane Transport	Chapter 11
Wed, Sept 16	7	Delk	Cellular Energetics	Chapter 12
Mon, Sept 21	**8**	Delk	**EXAM 1 (on material in sessions 1-6)**	
Wed, Sept 23	9	Delk	Cell Signaling/ Pathways that Control Gene Expression	Chapters 15 & 16
Mon, Sept 28	10	Delk	Cell Signaling /Pathways that Control Gene Expression	Chapters 15 & 16
Wed, Sept 30	11	Delk	Cancer Biology	Chapter 24
Mon, Oct 5	12	Delk	Group Presentations	--
Wed, Oct 7	13	Delk	Group Presentations	--
Mon, Oct 12	14	Delk	Group Presentations	--
Wed, Oct 14	**15**	Delk	**EXAM 2 (on material in sessions 7, 9-14)**	
Mon, Oct 19 Wed, Oct 21	16, 17	Burr	Moving proteins into membranes & organelles	Chapter 13
Mon, Oct 26 Wed, Oct 28 Mon, Nov 2	18, 19, 20	Burr	Vesicular traffic, secretion & endocytosis	Chapter 14
Wed, Nov 4, Mon, Nov 9	21, 22	Burr	Cytoskeleton: actin filaments in muscle cells	Chapter 17
Wed, Nov 11	23	Burr	Cytoskeleton: actin filaments in non- muscle cells (1)	Chapter 17
Mon, Nov 16	**24**	**Burr**	**EXAM 3 (Chapters 13 & 14; part of Ch 17: Actin in muscle cells)**	
Wed, Nov 18	25	Burr	Actin filaments in non- muscle cells (2)	Chapter 17
Nov 23-28	--	--	**Fall Break/Thanksgiving**	--
Mon, Nov 30	26	Burr	Regulation of actin polymerization in vitro	Chapter 17
Wed, Dec 2, Mon, Dec 7,	27, 28	Burr	Microtubules; intermediate filaments	Chapter 18
Wed, Dec 9	**29**	**Burr**	**EXAM 4 (Ch 17: Actin in non-muscle cells, etc; Ch 18: MT's, IF's**	

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. 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 (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

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 deal 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.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

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 example, 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 example, 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 Holy Days

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 exam 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 exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam 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 examinations, 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 the website address given below. Additional information is available from the office of the school dean. (http://www.utdallas.edu/Business Affairs/Travel_Risk_Activities.htm)

These descriptions and timelines are subject to change at the discretion of the Professor.