

Course Syllabus

Course Information

<i>Course Number/Section</i>	BIO 3351-001
<i>Course Title</i>	Medical Cell Biology
<i>Term</i>	Spring 2016
<i>Days & Times</i>	Fridays 1:00 pm - 3:45 pm
<i>Class room</i>	FO 3.616

Professor Contact Information

<i>Professor</i>	Dr. Gail Breen Dr. Li Liu
<i>Office Phone</i>	972 883-2504 (Breen); 972-883-4159 (Liu)
<i>Email Address</i>	breen@utdallas.edu li.liu2@utdallas.edu
<i>Office Location</i>	FO 3.620C (Breen); BE 3.204D (Liu)
<i>Office Hours</i>	Fridays 3:45pm- 4:45pm, or by appointment (Breen) Fridays 3:45pm- 4:45pm, or by appointment (Liu)
<i>Teaching Assistants</i>	Morgan Ullrich: mxu110130@utdallas.edu Kevin Doan; Kevin.Doan@utdallas.edu

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

This class is an upper level science elective.

Prerequisites: BIO 2311 and BIO 2312

Course Description

This course will examine the basic concepts of medical cell biology, including the structure of cells, the structure and function of DNA, genetic inheritance, mutations in DNA, cell division, protein synthesis, gene expression, gene therapy, stem cells, regenerative medicine and the endocrine system.

Student Learning Objectives/Outcomes

1. Students will be able to describe basic concepts of medical cell biology, including the structure of cells, the structure and function of DNA, mitosis, meiosis, genetic inheritance, mutations in DNA, protein synthesis and gene expression.
2. Students will be able to describe the principles of gene therapy, stem cells and regenerative medicine.
3. Students will be able to give an oral presentation discussing a topic concerning the cell biology of health and/or disease (such as cancer, Alzheimer's, diabetes etc).

Required Textbooks and Materials

Required Texts

Biology: Concepts and Applications, Starr, Evers and Starr, Ninth Edition, Cengage Learning
ISBN-13: 978-1-285-42781-2; ISBN-10: 1-285-42781-5

Assignments & Academic Calendar

Topics, Reading Assignments, Due Dates, Exam Dates

Jan. 15	Breen	Introduction
Jan. 22	Liu	Chapter 4: Cell Structure Chapter 5: Ground Rules of Metabolism (pg 84-89) Chapter 3: Molecules of Life
Jan. 29	Liu	Chapter 8: DNA Structure and Function Chapter 9: From DNA to Protein
Feb. 5	Liu	Chapter 11: How Cells Reproduce Chapter 12: Meiosis and Sexual Reproduction
Feb. 12	Liu	Chapter 13: Observing Patterns in Inherited Traits Chapter 14: Human Inheritance Chapter 10: Control of Gene Expression (eukaryotic) Review sheets
Feb. 17	Liu	Exam Review (optional)-7 pm
Feb. 19	Liu	EXAM 1 (covers material Jan. 22 through Feb. 12)
Feb. 26	Breen	Gene Therapy Chapter 15: Biotechnology (pg. 232-233)
Mar. 4	Breen	Regenerative Medicine Chapter 8: DNA: Structure and Function (pg 132-133) Chapter 15: Biotechnology (p230-231) Chapter 28: Animal Tissues and Organ Systems

Mar. 11	Breen	Hormones: Messengers Chapter 31: Endocrine Control Review sheets
Mar. 18		No class- spring break
Mar. 23	Breen	Exam Review (optional)-7 pm
Mar. 25	Breen	EXAM 2 (covers material from Feb. 26 through March 11)
April 1	Breen	student presentations
April 8	Breen	student presentations
April 15	Breen	student presentations
April 22	Breen	student presentations
April 29	Breen	student presentations
May 6	Breen	Graduate student presentations

Grading Policy

Exam 1- 40% grade

Exam 2- 30% grade

Presentation- 20% grade

Attendance- 5% grade

Peer Evaluation Sheets-5% grade

A+ 97-100

A 93-96

A- 90-92

B+ 87-89

B 83-86

B- 80-82

C+ 77-79

C 73-76

C- 70-72

D+ 67-69

D 63-66

D- 60-62
F less than 60

Grade changes can only be made in the case of a clerical error.

Course Policies

Exams

Exams will begin promptly at **1:00 pm**. Students must be seated by 1:00 pm in order to take the exam. Any student not seated by 1:00 pm will either not be allowed to take the exam or points will be deducted for being late (1 point for every minute that a student is late). Once the first person has left the exam room, no late exams will be allowed.

For exams, no books, notes, cell phones, or hats are allowed. Students must show their student ID in the exam. Students cannot leave the room during an exam. You will need a scantron form (F-1712-PAR-L) for each exam.

All issues regarding exam scores **MUST** be resolved **WITHIN SEVEN DAYS** of when the exam is returned and scores posted on e-learning.

Make-up exams

No make-up exams are given except in the case of extreme documented emergencies. Students **MUST** contact the instructor by phone and email **within 24 hours** of any missed exam. All issues regarding exams **MUST** be resolved **WITHIN FIVE DAYS** of the exam dates. The score on a make-up exam cannot be higher than the average of the scores on the other exams. **Missed exams will receive a zero score.**

Presentations

Each student will give a powerpoint presentation, approximately 20 min in length, on a topic related to cell and molecular biology of health and/or disease (such as cancer, Alzheimer's disease, diabetes etc). Dr. Breen needs to approve all topics. Submit your topics to breen@utdallas.edu **no later than Monday, Feb. 15**. Student presentations will be worth **20%** of your grade. Students need to e-mail their powerpoint presentation **no later than 10 pm** the day before your talk- points will be deducted for any powerpoint presentations which are received late. Students must give their talk on the assigned dates. **Missed presentations will receive a 0 grade.**

All students in the class will fill out an evaluation sheet critiquing each student presentation. These will be given to the student presenter with the critiquer's name removed. These sheets are meant to help students improve their presentations. Completion of the peer evaluation sheets will be worth **5%** of your grade.

Extra Credit

N/A

Late Work

Not accepted. **All exams and presentations must be done on the assigned dates.**

Special Assignments

N/A

Class Attendance

Class attendance is required. Attendance will be taken and will be worth **5%** of your grade. A student cannot miss any more than 3 class periods in order to receive credit for the course. Each student will be allowed one missed class period (except exams and presentations) due to a **documented** illness or emergency. It is your responsibility to make sure that you sign the attendance sheet to receive credit for attendance. The university is now requiring us to document student participation in classes.

Classroom Citizenship

Any action that interrupts the lecture or disturbs your classmates is unacceptable.

Examples of such actions include:

- (a) Entering the classroom late.
- (b) Leaving the classroom before break or before the end of class.
- (c) Cell phones etc. – these must be turned off unless you are a member of an emergency response team.
- (d) No computers or similar electronic devices are allowed during class periods except during the break.

Students should raise their hands to participate in the discussion or ask questions and avoid side conversations with other students.

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.

For all examinations in this course, no books, notes, electronic devices, or hats will be allowed, and ID will be required. Students are not allowed to leave the room during an examination.

Please review the information listed at utdallas.edu/deanofstudents/integrity.

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.

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**.

Additional UTD policies are available at <http://go.utdallas.edu/syllabus-policies>

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