

Course Syllabus

BMEN/EEBM 6374 - Molecular and Cell Biology for Engineers

Course Information

Course number: BMEN/EEBM 6374
Title: Genes, Proteins and Cell Biology for Engineers
Time: Friday 10am-12:45pm
Semester: Fall 2016

Professor Information

Leonidas Bleris
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Email (preferred mode of communication): bleris@utdallas.edu
Office hours: before and after class and by arrangement
Office location: NSERL 4.708

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

Instructor approval is not required. No prior knowledge of biology is required

Course Description

This course provides an introduction to principles of modern molecular and cellular biology for engineers and other non-life-scientists.

Course learning outcomes

1. Acquire understanding of the basic biochemistry and macromolecules of life (SO a).
2. Develop basic understanding of cell and molecular biology of prokaryotes and eukaryotes (SO a).
3. Acquire knowledge of the state-of-the-art in recombinant DNA, high-throughput genomic and sequencing technologies (SO b).

Textbook:

New Biology for Engineers and Computer Scientists
Aydin Tozeren, Stephen W. Byers

Additional Material:

Essential Cell Biology 3rd edition
Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter

Grading Policy

Grades will be based on the project reports, homework, midterm and finals.

Course & Instructor Policies

Active participation in class room discussion is expected. Attendance is mandatory.

Course Schedule

August 26	Introduction
September 2	The Chemistry of Life
September 9	The Chemistry of Life
September 16	Macromolecules of Life
September 23	Macromolecules of Life
September 30	Molecular Biology
October 7	Cells and Their Housekeeping Functions
October 14	Midterm
October 21	Recombinant DNA
October 28	Recombinant DNA/Genomics
November 4	Bioinformatics/Systems Biology
November 11	Synthetic Biology
November 18	Genome Editing
November 25	Thanksgiving Holiday
December 2	Debate
December 9	Final

Course Policies

Grading (credit) Criteria	Homework/Quizzes: 15% Class Participation: 15% Exam 2: 35% Exam 3: 35% There will be two exams given during the semester. No makeup examinations will be offered in this course. In the event of an excused absence (illness, job-related travel, holy day absence, etc.; Proper documents should be provided), the weight of the exam will be shifted to the remaining exams.
Make-up Exams	No make-up exams or quizzes will be given.
Extra Credit	Bonus project may be assigned
Late Work	Not applicable
Class Attendance	Students are encouraged to attend every class.
Classroom Citizenship	Professional at all times. As courtesy to classmates and instructor, electronic devices should be turned off during class, except when permitted by the instructor
Comet Creed	<i>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:</i> "As a Comet, I pledge honesty, integrity, and service in all that I do."
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 go to http://go.utdallas.edu/syllabus-policies for these policies.

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