Molecular Bases for Human Disease, BIMM110,
BIMM110
Spring 2016
TTh 8:00 AM to 9:20 AM
PCYNH 109

Faculty: Maho Niwa, Ph.D.
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Office Hours: Friday 10:00-10:50 am @NSB#1 Rm5328

Instruction Assistants:

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Exams:
Midterm Exam: April 28, 2016 @8:00 am-9:20 am in Class
Final Exam: June 9, 2016 @8:00 am-10:59 am

Course Description:
presents; 1) Genetic, biochemical, and molecular biological approaches used to identify the molecular basis of human diseases; 2) current understanding of selected major human diseases at the molecular and cellular levels; 3) successful and possible therapeutic treatments of these diseases. It is expected that students who take BIMM 110 already have a good background in molecular biology, metabolic biochemistry, and genetics.

Course Objectives:
Cells in our body are doing amazing jobs to conduct all the processes that you have learned so far in Molecular Biology, Cell Biology, Structural Biology, Metabolic Biochemistry, and Neuroscience classes and even more, to sustain life. Over the last half centuries, tremendous advances have been made to understand how each individual event occurs accurately, coordinately, properly, and timely manner. Researches in biology and medicine have made incredible progress over the past 50 years and sequence the entire human genome became a realistic tool for identification or diagnosis of diseases.

We are now in the era that the length of time that takes to translate basic research in molecular biology into development of new drugs and more effective treatments has been and will continue to be shortened. At the same time, we have witnessed tremendous growth in pharmacological and biotechnology industries over the past decades.

In this class, you will review how cellular processes coordinate with each other to sustain life and learn what happens if a specific process or cellular mechanisms fail to occur properly. As we progress more understanding of molecular mechanisms of cellular processes, we hope you to see how scientists can unveil mysteries of currently untreatable diseases or provide understanding for illness that lack information.

Materials:
No Assigned Textbook
All the lectures will be podcasted and lecture notes will be posted on UCSD TED.
Students will read primary research papers prior to attending some of the sections (required) and papers will be posted on UCSD TED ahead of time.

Policies

Classroom conduct: Please refrain from all unnecessary use of electronics, side conversations, and multi-tasking including eating, newspaper reading. Computer use in the lecture hall should be strictly limited to consultation of course materials and composition of class notes. Please turn off your cell phones in the classroom and be respectful of classmates. You are invited to participate in creating an environment of mutual respect and intellectual productivity by listening and speaking with an open mind.

Make up exams and lateness: A student may not take a make-up test unless she/he has an excused absence. Excused absences are given only with presentation of a valid medical or emergency excuse (for self or family member) in writing (written by a medical doctor although no specific identifying information regarding the condition should be included). Any other failure to take an exam when it is scheduled will result in no credit for the exam. There are absolutely no makeups for the final exam unless you meet the conditions set out in the undergraduate handbook.

Accommodations: Anyone in need of classroom or exam accommodations for a disability is encouraged to contact the Office for Students with Disabilities and should inform me as soon as possible.

Academic integrity: Absolutely no cheating will be tolerated. UCSD Policies on Academic integrity will be enforced. All suspicions of integrity violation will be reported to the Academic Integrity Office according to university policy. The Policy on Integrity of Scholarship (academicintegrity.ucsd.edu) list some of the standards by which you are expected to complete your academic work, but your good ethical judgment (or asking me for advice) is also expected as we cannot list every behavior that is unethical or not in the spirit of academic integrity.

Those students found to have committed academic misconduct will face administrative sanctions imposed by their college Dean of Student Affairs and academic sanctions imposed by me. Students can also face suspension and dismissal from the University; those sanctions are not at my discretion. Academic sanctions can range from an F on the assignment to an F in the class. The appropriate sanctions are determined by the egregiousness of the Policy violation. Students who assist in or are complicit with cheating could also be in violation of the Policy. Thus, students who become aware of their peers either facilitating academic misconduct or committing it should report their suspicions to me for investigation.

For further information:
http://blink.ucsd.edu/Blink/External/Topics/Policy/0,1162,19400,00.html

Grades

This course will have one midterm exam (in class) and one final exam. All the students enrolled in this class are expected to confirm that you are able to take the final exam on the specified date by the University. As the date for the final exam is already announced prior to the beginning of the spring quarter, an inability to make the final exam for any reasons except those addressed above will not warrant requests for make up exam.

All the exams will be closed book/closed computer devices. Questions will be derived from lectures and problem sets to test the understanding of the materials.

Final Grades will be determined by**:**

Midterm exam	34% of the final grade
Final exam	51% of the final grade
Clicker participation	5% of the final grade
Assignments	10% of the final grade

Overall course letter grades will be assigned based on the following:

90-100%	A (A-, A, A+)
78-89%	B (B-, B, B+)
60-77%	C
45-59%	D
0-44%	F

Schedule:

Week 1		
	March 29, Lecture 1:	Human Disease Today
	March 31, Lecture 2:	Down Syndrome
Week 2		
	April 5, Lecture 3:	Robertsonian Translocation
	April 7, Lecture 4:	Hemophilia
Week 3		
	April 12, Lecture 5:	Anthrax
	April 14, Lecture 6:	Cyctic Fibrosis
Week 4		
	April 19, Lecture 7:	Cholera
	April 21, Lecture 8:	Guest lecture
Week 5		
	April 26, Lecture 9:	Tools to Study Human Diseases
	April 28, Lecture 10:	Midterm exam
Week 6		
	May 3, Lecture 11:	Epigenetics, X-Inactivation
	May 5, Lecture 12:	Neurodegenerative Disease 1
Week 7		
	May 10, Lecture 13:	Neurodegenerative Disease 2
	May 12, Lecture 14:	Neurodegenerative Disease 3
Week 8		
	May 17, Lecture 15:	Epigenetic and X inactivation
	May 19, Lecture 16:	Cancer
Week 9		
	May 24, Lecture 17:	Tumor Suppressor
	May 26, Lecture 18:	Guest lecture
Week 10		
	May 31, Lecture 19:	Mitochondria Diseases
	June 2, Lecture 20	Special Topic
	June 9,	Final Exam