SYLLABUS
BIMM 100: Molecular Biology

Fall 2019

Instructor: Michael Burg, Ph.D.
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Lecture Mon/Wed 6:30pm-7:50 PM, Solis 107

Office Hours: TBD

COURSE DESRIPTION

Molecular basis of biological processes, emphasizing gene action in context of entire genome. Chromosomes and DNA metabolism: chromatin, DNA replication, repair, mutation, recombination, transposition. Transcription, protein synthesis, regulation of gene activity. Prokaryotes and eukaryotes

Student Learning Outcomes:

1. Know the key concepts of the central dogma of molecular biology
2. Understand the basic levels of gene organization and control of gene expression
3. Understand some of the basic scientific techniques used to study genes, gene expression, and genetic manipulation.
4. Be able to apply molecular biology concepts to human disease and the development of therapeutics.
5. Understand the concepts of genomics, proteomics, and other-omics being used to further understand the relationship between genetic patterns and normal and abnormal functions.

RecommendedTexts, Materials, and Web-Enhancement

Optional! Lodish et al. 'Molecular Cell Biology' 7th edition, Freeman, 2012 Some nice animations and other helpful material related to the book can be found at the textbook web site: http://bcs.whfreeman.com/lodish7e/ Lectures will be,in part based upon topics covered in these texts.These are available on reserve at Geisel Library

- *Some additional readings will be provided via TED*
- All powerpoint lectures,associated handouts, and other relevant material are available on *TED*
- *Check for announcements on TED*
- *Instructional Assistants/Tutors: Names,sections, and contact information will be posted on TED*

Attendance, class ethics, and additional considerations

1. Attendance to class lectures and sections are **not required** but will ensure your success in the class.
2. Exams will be based upon material in class, assigned science articles; Class attendance will be important for success.
3. Please be respectful to your instructor and other classmates by making sure your cell phones are turned off and by **limiting conversations** within class.

1- **Academic dishonesty and plagiarism (the unauthorized or uncredited use of someone else's work) will result in a grade of "F" for the assignment. Its continued practice will be reported to the appropriate deans for possible disciplinary action and may result in an "F" for the course.**

Sections: Attendance Recommended: 4 bonus points for attendance/participation 7 sections
CAPE RESPONSE RATE: 4 bonus points for 80% response rate

Exams

1. **There will be two quizzes (each worth 100pts) and a final exam (worth 150pts) on the material stipulated in the study sheets, text reading, supplementary readings and videos and lectures.** All **exams count; You must take all exams during the scheduled times. A makeup exam *may* be granted with proper documentation of a hospitalization or death in the immediate family. There are no makeup final exams. Exams will include both multiple choice (using scantron) and short answer. If there is a question for regrading, IAs will present these to me and I will decide on any correction. There will be some additional assignments worth approximately 60pts**

2. **You must show a photo ID when turning in your exams.**
3. **Exams will not be returned and may not be photographed or copied. They can be reviewed in your IA section in the week after they are graded. If you and your instructional Assistant feel a regrade may be warranted, I will take up the matter. They will not be allowed to alter the grades. In addition, I reserve the option to look at the entire exam. The exams may be compared to a scan on the original exam to ensure no changes have been made**

Letter grades will be assigned as follows:

GRADING

Your grade is based upon a percentage of the total points you accumulate during the semester.

A^+ = 99% - 100% of the total possible points
A= 90% - 98.9% of the total possible points
B^+ = 89-89.9% of the total possible points
B = 80% - 88% of the total possible points
C^+ = 79-79.9% of the total possible points
C = 70% -78% of the total possible points
D = 60% -69%of the total possible points
F = Less than 60% of the total possible

Tentative Lecture Schedule

WEEK	Date	Lecture Topic	Lodish Chapter
1	9/30	Introduction, Review of central Dogma	4.1-4.4
	10/2	Introduction to cancer genetics	Supplemental
2	10/7	DNA replication	4.5-4.6 + supplemental
	10/9	DNA mutation	5.2-5.3 + supplemental
3	10/14	DNA repair	5.2-5.3 + supplemental
	10/16	Finish material and Review for quiz	
4	10/21	**Quiz 1**	
	10/23	Eukaryotic gene and chromosomal structure and function	6.1-6.2
5	10/28	Eukaryotic chromosomal structure and control of gene expression	7.5 and Supplemental
	10/30	Transcriptional control of gene expression	7.2-7.6
6	11/4	Epigenetics	7.7 + supplemental
	11/6	**Epigenetics and review for quiz**	7.7 + supplemental
7	11/11	**HOLIDAY**	
	11/13	**Quiz 2 (8-10)**	8.1-8.2,8.5
8	11/18 11/20	Post-transcriptional gene control: Splicing and human disease	8.1-8.2 8.5+suppleme

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9	11/25	Post-transcriptional gene control: mRNA, noncoding RNAs and translational control	8.3-8.4,5.5 + supplemental
	11/27	Post-transcriptional gene control: mRNA, noncoding RNAs and translational control	8.3-8.4,5.5 + supplemental
10	10/2 10/4	Post-transcriptional gene control: Application to human disease and therapeutics	8.3-8.4,5.5 + supplemental
Final MON	12/9	**FINAL EXAM 7pm-10pm**	**tbd**