BIOM555-REGULATION OF THE GENOME: SPRING 2018-

Lectures:
Austrian Auditorium, CRB: Tuesdays/Thursdays: 9:00 am – 10:30 am

Small Group Discussions:  
A: Thursdays 11-12  
B: Thursdays 3:30-4:30  
C: Fridays 11-12

Course Directors:  
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Section 1 – Genome Maintenance
January 11:  
Course Introduction (Klaus Kaestner and Zhaolan (Joe) Zhou)

January 16:  
Regulation of DNA Replication (Paul Lieberman)

January 18:  
DNA Repair and Cell Cycle Checkpoints I (Eric Brown)

January 23:  
DNA Repair and Cell Cycle Checkpoints II (Eric Brown)

January 25:  
Telomere Function (Brad Johnson)

Section 2 – Transcription
January 30:  
Prokaryotic Transcriptional Regulation I (video by Mark Goulian)

February 1:  
Prokaryotic Transcriptional Regulation II (video by Mark Goulian)

February 6:  
Genomics (Klaus Kaestner)

February 8:  
Eukaryotic Gene Transcription I (Ken Zaret)

February 13:  
Eukaryotic Gene Transcription II (Ken Zaret)

Section 3 – Chromatin Modifications
February 15:  
DNA Modifications (Zhaolan (Joe) Zhou)

February 20:  
Polycomb (Roberto Bonasio)

February 22:  
Nucleosome Structure (Ben Black)

February 27:  
Histone and Chromatin I (Shelley Berger)

March 1:  
Histone and Chromatin II (Shelley Berger)

March 6 & 8: Spring Break

March 14: REVIEW SESSION FOR EXAM (TAs)

March 15: MIDTERM, IN CLASS

Section 4 – Chromatin Regulation
March 20:  
In the context of Chromatin-Chromatin Interactions (Gerd Blobel)
March 22: In the context of Metabolism (Katy Wellen)

March 27: In the context of Nuclear Architecture (Maya Capelson)
March 29: Genome Editing (Jorge Henao-Mejia)
April 3: In the context of Imprinting (Marisa Bartolomei)

Section 5 – Post-transcriptional Regulation

April 5: miRNAs/siRNAs (Zissimos Mourelatos)
April 10: Long non-coding RNAs (Montserrat Anguera)
April 12: RNA editing (Tom Jongens)
April 17: RNA processing I (Kristen Lynch)
April 19: RNA processing II (Kristen Lynch)
April 24: Translational Control and RNA Localization I (Peter Klein)
April 26: Translational Control and RNA Localization II (Peter Klein)

May 1: REVIEW SESSION FOR EXAM (TAs)

May 3: FINAL EXAM, IN CLASS

General References for Review (Library/Web)
Molecular Biology of the Cell (Alberts et al.)
Molecular Cell Biology Lodish et al. (older editions are by Darnell et al.)
Genes VIII Benjamin Lewin

Lecturers:
(Area code is 215 for all phone numbers)
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GRADES
2 EXAMS: midterm 30%, final 40%
DISCUSSION SECTION (STUDENTS MUST CHOOSE ONE DISCUSSION SESSION AND ATTEND THAT SESSION EACH WEEK. ATTENDANCE AND PARTICIPATION REQUIRED): 30%