BIOM555-REGULATION OF THE GENOME: SPRING 2017-

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

**Course Director:**
Zhaolan (Joe) Zhou: zhaolan@mail.med.upenn.edu

**Teaching Assistants:**
Jennifer Myers: jenmyers@mail.med.upenn.edu
Sara Borst: borsts@mail.med.upenn.edu
Vanessa Muñoz: vanessalynne23@gmail.com

**BGS Administrator:**
Colleen Dunn: dunncoll@mail.med.upenn.edu; 898-2792; 160 BRB II/III

**Section 1 – Genome Maintenance**
January 12: Course Introduction (Zhaolan (Joe) Zhou)
January 17: Regulation of DNA Replication (Paul Lieberman)
January 19: DNA Repair and Cell Cycle Checkpoints I (Eric Brown)
January 24: DNA Repair and Cell Cycle Checkpoints II (Eric Brown)
January 26: Telomere Function (Brad Johnson)

**Section 2 – Transcription**
January 31: Prokaryotic Transcriptional Regulation I (Mark Goulian)
February 2: Prokaryotic Transcriptional Regulation II (Mark Goulian)
February 7: Eukaryotic Gene Transcription I (Ken Zaret)
February 9: Eukaryotic Gene Transcription II (Ken Zaret)
February 14: Genomics (Klaus Kaestner)

**Section 3 – Chromatin Modifications**
February 16: DNA Modifications (Zhaolan (Joe) Zhou)
February 21: Polycomb (Roberto Bonasio)
February 23: Nucleosome Structure (Ben Black)
February 28: Histone and Chromatin I (Shelley Berger)
March 2: Histone and Chromatin II (Shelley Berger)

March 7 & 9-Spring Break

March 14: REVIEW SESSION FOR EXAM (TAs)

**March 16: MIDTERM, IN CLASS**

**Section 4 – Chromatin Regulation**
March 21: In the context of Imprinting (Marisa Bartolomei)
March 23: In the context of Chromatin-Chromatin Interactions (Gerd Blobel)
March 28: In the context of Nuclear Architecture (Maya Capelson)
March 30: In the context of Metabolism (Katy Wellen)
April 4: Genome Editing (Jorge Henao-Mejia)

**Section 5 – Post-transcriptional Regulation**
April 6: miRNAs/siRNAs (Zissimos Mourelatos)
April 11: Long non-coding RNAs (Montserrat Anguera)
April 13: RNA editing (Tom Jongens)
April 18: RNA processing I (Kristen Lynch)
April 20: RNA processing II (Kristen Lynch)
April 25: Translational Control and RNA Localization I (Peter Klein)
April 27: Translational Control and RNA Localization II (Peter Klein)

May 2: REVIEW SESSION FOR EXAM (TAs)

May 4: 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)
Montserrat Anguera (898-0567: anguera@vet.upenn.edu)
Marisa Bartolomei (889-9063: bartolom@mail.med.upenn.edu)
Shelley Berger (746-3106: bergers@mail.med.upenn.edu)
Ben Black (898-5039: blackbe@mail.med.upenn.edu)
Gerd Blobel (590-3988: blobel@email.chop.edu)
Roberto Bonasio (573-2598: rbon@mail.med.upenn.edu)
Eric Brown (746-2805: brownej@mail.med.upenn.edu)
Maya Capelson (898-0550: capelson@mail.med.upenn.edu)
Mark Goulian (573-6991: goulian@sas.upenn.edu)
Jorge Henao-Mejia (898-2212: jhena@mail.med.upenn.edu)
Brad Johnson (573-5037: johnsonb@mail.med.upenn.edu)
Thomas Jongens (573-9332: jongens@mail.med.upenn.edu)
Klaus Kaestner (898-8759: kaestner@mail.med.upenn.edu)
Peter Klein (898-2179: pklein@mail.med.upenn.edu)
Paul Lieberman (898-9491: lieberman@wistar.org)
Kristen Lynch (573-7749: klyn@mac.med.upenn.edu)
Zissimos Mourelatos (746-0014: mourelaz@uphs.upenn.edu)
Katy Wellen (746-8599: wellenk@exchange.upenn.edu)
Ken Zaret (573-5813: zaret@upenn.edu)
Zhaolan (Joe) Zhou (746-5025: zhaolan@mail.med.upenn.edu)

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%