CBIO 893 ADVANCED CELL BIOLOGY I
Fall Semester 2012
Tuesdays and Thursdays 3-5 PM  6201 MBRB

Course Director: Scott Hammond  (hammond@med.unc.edu)

Introduction (Hammond)
Tuesday, August 21, 2012

Microscopy (Gupton, Costello, Jacobson)
Thursday, August 23, 2012 – Intro to light microscopy (Jacobson)
Tuesday, August 28, 2012 – Confocal microscopy (Costello)
Thursday, August 30, 2012 – TIRF microscopy (Gupton)
Tuesday, September 4, 2012 – Superresolution microscopy (Gupton)
Thursday, September 6, 2012 – Electron microscopy (Costello)

Molecular Biology & Genetics (Brennwald, Hammond, Alb, Brenman)
Tuesday, September 11, 2012 - Intro to Yeast Genetics (Brennwald)
Thursday, September 13, 2012 - Classical Yeast Genetics (Brennwald)
Tuesday, September 18, 2012 - Reverse Genetics in Yeast (Brennwald)
Thursday, September 20, 2012 - Suppressor & Modifiers (Brennwald)
Tuesday, September 25, 2012- Mouse Genetics (Alb)
Thursday, September 27, 2012- Advanced Mouse Genetics (Alb)
Tuesday, October 2, 2012- Advanced Mouse Genetics (Alb)
Thursday, October 4, 2012- Introduction to Fly Genetics (Brenman)
Tuesday, October 9, 2012-Classical Fly Genetics (Brenman)
Thursday, October 11, 2012- Modern Fly Genetics (Brenman)
Tuesday, October 16, 2012- Midterm exam – take home exam –due at 11am Monday October 22.
Thursday, October 18, 2012- Fall Break – NO CLASS THIS DAY
Tuesday, October 23, 2012 – RNAi (Hammond)
Thursday, October 25, 2012 - Mammalian Cell Genetics (Hammond)
Tuesday, October 30, 2012 - High Throughput Genomics (Hammond)

Proteomics and Integrated Functional Genomics (Major)
Thursday, November 1, 2012 - Proteomics I (Major)
Tuesday, November 6 2012- Proteomics II (Major)
Thursday, November 8, 2012- Integrating Genomics and High Throughput Approaches (Major)

Protein Quality Control (Cyr)
Tuesday, November 13, 2012- Quality Control (Cyr)
Thursday, November 15, 2012- Chaperones (Cyr)
Tuesday, November 20, 2012-ER Quality Control (Cyr)
Thursday, November 22, 2012 Thanksgiving—No Class
Tuesday, November 27, 2012-Quality Control and Human Disease (Cyr)

Take home final exam –Pick up at end of class November 27—Due Monday, December 3 at 5pm.
Time & Place

Class will meet Tuesdays and Thursdays from 3 to 5 PM in 6201 MBRB (except when noted).

Format

Part of the class will be a lecture by one of the block leaders. The remainder of the lecture will demonstrate or tutorials, but most often discussion of the primary literature. Active participation of the students, both in presentations, but also in general discussion, is required.

Student Assignments

For most of the classes groups of students will be assigned to present and lead discussion on research papers. Students listed first and marked with an asterisk are expected to present a few minutes of introduction and background information to “set the stage” for discussing the work in the paper. EVERYONE IN CLASS IS EXPECTED TO HAVE READ EACH PAPER AND IS EXPECTED TO CONTRIBUTE TO THE DISCUSSION. Those students assigned to each paper are expected to lead the discussion of the paper.

Text book

Molecular Biology of the Cell, 4th Edition
Alberts/Johnson/Lewis/Raff/Roberts/Walter

In a few instances, there will be specific reading assignments out of this text book. In most cases, there will be no assignment, but the text is intended as general reading material as background for the class as needed.

Grading

Paper Presentations: ~ 25%
Class Participation: ~ 25%
Mid term exam ~ 25%
Final exam ~ 25%