Genetics, Genomics and Cell Biology, Fall 2013
Monday, Wednesday, Friday 9-10 AM, 2050 VLSB

Instructors
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GSIs
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Course focus
This course will introduce students to key concepts in genetic analysis, eukaryotic cell biology, and state-of-the-art approaches in genomic medicine. Lectures will highlight basic knowledge of cellular processes that form the basis for human diseases. Emphasis in this course will be on eukaryotic cell processes, including cellular organization, dynamics, and signaling.

Grading
Midterm 1 (September 26 7-9 PM)  100 points
Midterm 2 (October 23 7-9 PM)  100 points
Midterm 3 (November 21 7-9 PM)  100 points
Final exam (December 19, 7-10 PM)  100 points
Quizzes (3 total, 25 points each)  75 points
Mini Quizzes (10 total, 2.5 points each)  25 points
Total  500 points

Exam policies and regrades
All exams are closed book and no notes or other reference materials can be used. Regrade requests for all exams except the final can be made in writing by the dates specified in class. A subset of all exams will be photocopied prior to being handed back. Anyone caught cheating on a quiz, exam, or regrade request in this course will receive a failing grade in the course and will also be reported to the University Center for Student Conduct.

Textbook
Customized text from "Genetics" by Hartwell et al, “Essential Cell Biology" by Alberts et al, Chapters 15, 16, 17 and 18, available for $9 each from: http://store.vitalsource.com/show/978-0-2038-2820-5

https://bspace.berkeley.edu
Contains class announcements and other resources, including slides from lectures. The course site is entitled, “Genetics, Genomics and Cell Biology Fall 2013”.

ASUC Lecture Notes Online
Complete lecture notes will be available online at https://notes.berkeley.edu for a small fee. Disclaimer: those notes are not proofread by the instructors.

Additional Needs
Please contact your GSI or Instructor if you require additional assistance.
Lectures

1. F, Aug 30  
   Course into and overview of genetics (ME, CM, MW)

2. M, Sep 2  
   Labor Day Holiday

3. W, Sep 4  
   Mutation and the origins of genetic variation (ME)

4. F, Sep 6  
   Transmission of DNA from parents to offspring (ME)

5. M, Sep 9  
   The fate of new mutations (ME)

6. W, Sep 11  
   Genotypes and Phenotypes (ME)

7. F, Sep 13  
   Recombination (ME)

8. M, Sep 16  
   Sex chromosomes and sex determination (ME)

9. W, Sep 18  
   Genetic mapping (ME)

10. F, Sep 20  
    Genetic mapping (ME)

11. M, Sep 23  
    Personal Genomics (ME)

12. W, Sep 25  
    Human Origins (ME)

   Th, Sep 26  
   Evening Midterm 1, 7-9pm

13. F, Sep 27  
    Sequencing and assembling genomes I (CM)

14. M, Sep 30  
    Sequencing and assembling genomes II (CM)

15. W, Oct 2  
    Genome dynamics (CM)

16. F, Oct 4  
    Genetic screens (CM)

17. M, Oct 7  
    Gene regulation (CM)

18. W, Oct 9  
    Molecular genotyping (CM)

19. F, Oct 11  
    Population genetics (CM)

20. M, Oct 14  
    Quantitative genetics (CM)

21. W, Oct 16  
    Genome Wide Association Studies I (CM)

22. F, Oct 18  
    Genome Wide Association Studies II (CM)

23. M, Oct 21  
    Review (CM)
23. W, Oct 23  Genetics, genomics and cell biology of vertebrate pigmentation (CM)

Evening Midterm 2, 7-9pm

24. F, Oct 25  Cell compartmentalization and organization (MW)

25. M, Oct 28  Cell signaling I (MW)

26. W, Oct 30  Cell signaling II (MW)

27. F, Nov 1  Cell cycle regulation I (MW)

28. M, Nov 4  Cell cycle regulation II (MW)

29. W, Nov 6  Intracellular transport I

30. F, Nov 8  Intracellular transport II

Veteran's Day Holiday

31. W, Nov 13  Cytoskeleton I (MW)

32. F, Nov 15  Cytoskeleton II (MW)

33. M, Nov 18  Cell division mechanisms (MW)

34. W, Nov 20  Review (MW)

Evening Midterm 3, 7-9pm

35. F, Nov 22  Human disease topic I, genetics (ME)

36. M, Nov 25  Human disease topic I, genomics (CM)

37. W, Nov 27  Human disease topic I, cell biology (MW)

Thanksgiving Holiday

38. M, Dec 2  Human disease topic II, genetics (ME)

39. W, Dec 4  Human disease topic II, genomics (CM)

40. F, Dec 6  Human disease topic II, cell biology (MW)

Reading, recitation and review week

Final Exam, 7-10pm