

**COURSE SCHEDULE**

Tuesday - Thursday Solis 107 2:00pm - 3:20 pm

Week	Date	Lecture Topic	Klug Chapter	Assignment Due
1	Tu 4/2 - Th 4/4	Introduction; Mendelian Genetics	Chapters 1, 2, and 3	
2	Tu 4/9 - Th 4/11	Pedigrees and Probability; Modification of Mendelian Ratios	Chapters 3 and 4	Problem Set #1 due
<b>April 12<sup>th</sup> is the deadline to add the course</b>				
3	Tu 4/16 - Th 4/18	Modification of Mendelian Ratios; Sex determination and sex chromosomes	Chapters 4 and 5	Problem Set #2 due
4	Tu 4/23 - Th 4/25	<b>MIDTERM #1 - Tuesday</b> Chromosome Aberrations; Mapping Genes	Chapters 6 and 7	
<b>April 26<sup>th</sup> is the deadline to drop the course without a "W"</b>				
5	Tu 4/30 - Th 5/2	More on mapping; Bacterial genetics	Chapters 7 and 8	Problem Set #3 due
6	Tu 5/7 - Th 5/9	DNA structure and analysis; Mutations	Chapters 9 and 14	Problem Set #4 due
7	Tu 5/14 - Th 5/16	<b>MIDTERM #2 - Tuesday</b> Regulation of gene expression	Chapter 15	
8	Tu 5/21 - Th 5/23	Quantitative traits and measuring heritability; Population genetics and evolutionary genetics	Chapters 21 and 22	Problem Set #5 due
9	Tu 5/28 - Th 5/30	<b>Monday – Memorial Day Holiday</b> The genetics of cancer; Recombinant DNA Tech	Chapters 16 and 17	Problem Set #6 due
<b>May 31<sup>st</sup> is the deadline to drop the course and receive a "W"</b>				
10	Tu 6/4 - Th 6/6	Quantitative Traits, Population Genetics, Hardy-Weinberg Principle	Chapters 22 and 23	Problem Set #7 due
Final Exam - Tuesday June 11 <sup>th</sup> 3:00pm – 6:00pm Location TBA				

(the lecture schedule is subject to modification based on course flow and interesting topics)

**Problem sets are due on Friday at 5p.m.**

**INSTRUCTOR**

John Curington MD,  
Asst. Clinical Professor in Family Medicine, UCSD School of Medicine

**VENUES**

Lectures: Tuesday – Thursday 2:00pm - 3:20 pm Solis 107  
Office hours: Thursdays (12:45pm-1:45pm) at the Muir Woods Coffee House

**PREREQUISITES:** BILD1 is a required prerequisite for this course. No exceptions.

**COURSE OBJECTIVES:** We will explore how genes were discovered, how they are studied, and how they are used to analyze and manipulate biological function. We will mostly emphasize diploid organisms. Topics include Mendelian inheritance and deviations from classical Mendelian ratios, pedigree analysis, gene interactions, gene mutation, linkage and gene mapping, reverse genetics, population genetics, and quantitative genetics. We will also touch upon the societal and medical implications of this knowledge.

**CONTACT:** Your TAs and fellow students are your best resource for information and you should first attempt to answer your questions through them. Use the discussion board on TED or email your TAs through TED. This is important! The TAs do an excellent job at answering questions, and in fact are usually better than most professors at providing a response that will help you learn. Because of very high enrollment in classes at this time, Dr. Curington is no longer able to respond to emails individually. Ask questions in class! You will have plenty of opportunity. In the very rare event of emergency, contact Dr. Curington by email at [jcurington@ucsd.edu](mailto:jcurington@ucsd.edu). On all emails put BICD100 in the subject line to indicate that the email pertains to this course. In any email to Dr. Curington, include your UCSD username, and PID.

**TEXTBOOK:** Our textbook is **Essentials of Genetics** by Klug, Cummings, Spencer, and Palladino, 8th edition. This comes in 3 versions:

- 1) **Essentials of Genetics Plus MasteringGenetics with eText - Access Card Package, 8/e, Klug & Cummings, ISBN 0321803108 (\$119 UCSD bookstore)**
- 2) **Essentials of Genetics, Books a la Carte Plus MasteringGenetics with eText - Access Card Package, 8/e ISBN 032185716X (\$89 UCSD bookstore for 3-hole unbound version)**
- 3) **eText version at [www.MasteringGenetics.com](http://www.MasteringGenetics.com)**

**REQUIRED RESOURCES:** *MasteringGenetics*, a web-based resource, available from the textbook publisher (Pearson). Once you have logged onto the site, please register for the course webpage.

Course ID: GENETICSCURINGTON2013

You can find detailed instructions for registering on the TED Blackboard website. Do read these if you have any difficulties registering. Further questions about registering for MasteringGenetics can be directed by email to Robyn Martin ([Robyn.martin@pearson.com](mailto:Robyn.martin@pearson.com)).

**Lectures:** Held Tuesday Thursday, 2:00pm-3:20pm in Solis 107. When possible, I will try to post lecture Powerpoint slides on TED. This will not always be possible. You may be tested on

anything and everything presented in class. This will include topics and details not necessarily covered in your text or in the Powerpoint slides. Plan on attending lectures if you want to do well.

**LECTURE ‘NOTES’:** A PDF of figures and pictures from the lecture PowerPoints will be posted on TED (usually the evening before class). The PDFs are sparse in order to encourage thinking and note-taking during class. This is to help you process the material and learn better.

**CLICKERS:** not used in this course.

**TECHNOLOGY POLICY:** The use of cell phones or any other electronic devices (e.g. pagers, text messaging, PDAs, etc.) is not permitted during exams. Cell phones or other communication devices must be turned off and stored before entering the lecture hall at all times. Use of a cell phone, PDA, or other similar electronic devices during an exam, quiz or assignment is grounds for receiving a failing grade.

Laptop computer policy: Students are welcome to bring laptops to lecture for note-taking purposes. Laptops must be put away (closed and powered off or on sleep mode) during any lecture quizzes, assignments or exams. Unless specifically given permission by Dr. Curington, you may NOT access the web during the lectures. This is extremely distracting to neighboring students and will not be tolerated. Any student found using the web during class time will be required to turn off their computer for the remainder of the lecture and may be denied permission to use a computer in class thereafter.

**WEB SITE:** Very important announcements and resources are on the TED site (<https://ted.ucsd.edu/webapps/login/>). **Announcements** of exam room changes and many other important matters will be posted on the TED site. Check the site often! There will also be an **online discussion board** on the site, moderated by the TAs. You can ask the TAs questions, and discuss interesting matters that come up in class. **Grades** for the midterm exams will all be posted on the website. TED is where all course related assignments and materials not available on the MasteringGenetics website will be posted.

**GRADING:**

Discussion Section Quizzes	100 points
Midterm Exams (100 points each)	200 points
Final Exam	250 points
Problem Sets (15 points each)	105 points
<b>TOTAL</b>	<b>655 points</b>

These guidelines will be used to assign grades:

- > (85%) A (A-, A or A+)
- > (75%) B (B-, B or B+)
- > (60%) C (C-, C or C+)
- > (50%) D

If necessary, these cutoffs may be adjusted downward so that at least 50% of students in the class receive an A or a B. Any adjustments done will likely be to the students’ advantage.

**TA DISCUSSION SECTIONS and OFFICE HOURS:** We have a group of highly qualified Teaching Assistants ready to help you do well in this course. The TAs will lead 50-minute sections every week and will also hold office TA office hours starting on April 8<sup>th</sup>. There will be no sections during the first week of classes. TA sections and office hours should provide ample opportunity for you to seek help and get clarifications. Contact details, section times, and TAs' office hours and locations will be posted on TED. Attendance at sections is required. All students enrolled in this class should sign up for a section at <https://sections.ucsd.edu> Section enrollment will end on Thursday, April 11 at 5pm. Please check TED for detailed instructions on enrolling. The TAs will post their office hours and locations on TED. **If you do not sign up for a section, you will not receive the points for the section quizzes.** No excuses. Do not email me or beg for these points afterwards. Just enroll for a section on time.

Wait-listed students should also sign up for sections now but there is no guarantee that they will eventually become enrolled in the class.

The section meetings provide for:

1. Academic review. Each week the TA will provide an opportunity to review the previous week's lectures and readings. This review may take the form of answering your specific and general questions, clarifying something important presented quickly in lectures, expanding on something important described in the textbook, or working through a numerical problem of the type found on the exams. To benefit from these meetings you must prepare by completing both your lecture notes and the assigned reading.
2. Advice on studying. In particular, the TA's may be able to steer you through the enormous amount of descriptive material in the textbook. They will not know what will be on the exams but they are experienced enough to know how to set learning priorities. They meet with the professor frequently and can give you his advice on what's important and what is less likely to be a focus on exams.
3. Graded quizzes. During section meetings there will be a quiz. The quiz will be given during the 1<sup>st</sup> 15-20 minutes of section (at the TA's discretion, depending on the length of their particular quiz). If you are late, you will have whatever time is remaining of the time allotted. If you are later than that, you will not be able to take the quiz. If you have issues getting to class on time, discuss them with your TA before it is a problem. You will have a quiz during your first discussion section.
4. General course announcements. We will make numerous announcements about the course and course-related opportunities.
5. General advice. The TAs are a lot easier to find than the professor so please direct your questions about other courses, majors, careers, summer opportunities, study abroad opportunities to the TAs. See the TED discussion site for contact information for the TAs.

**SECTION QUIZZES:** During TA section meetings there will be a quiz. The quiz will be given during the 1<sup>st</sup> 15-20 minutes of section (at the TA's discretion, depending on the length of their particular quiz). If you are late, you will have whatever time is remaining of the time allotted. If you are later than that, you will not be able to take the quiz. If you have issues getting to class on time, discuss them with your TA before it is a problem. You will have a quiz during your first discussion section.

**ASSIGNMENTS VIA MASTERINGGENETICS:** Course problem sets will be administered through the MasteringGenetics website ([www.masteringgenetics.com](http://www.masteringgenetics.com)). Each problem set will promote comprehension of course topics through problem solving. Interactive input from the MasteringGenetics website provides instant feedback, hints, and directed review as needed. Assignments will be posted on Mondays at 6:30 pm and should be completed by the following Friday at 5:00 pm.

**MIDTERM EXAMS:** There will be two midterms, held during lecture time. **MAKE-UP EXAMS ARE NOT AVAILABLE. EXAMS ARE OFFERED AT THE SCHEDULED TIME ONLY.** Advise your coaches, teammates, traveling companions, significant others, and families accordingly. The exam will consist of multiple choice, short essay, short answer, and quantitative or graphical material designed to test your ability to synthesize information presented in the lectures and readings. The midterm exam will be based on material up to the lecture preceding the exam unless announced otherwise in class. **You must have a photo ID to turn in your exam and you must provide your own #2 pencils and non-erasable ink pens!**

**FINAL EXAM:** The comprehensive 3-hour final exam is scheduled for **Wednesday June 12<sup>th</sup>, 3:00-6:00pm. EARLY EXAMS ARE NOT AVAILABLE.** Watch for the announcement in class and on the web site about the location. The final will be cumulative. Approximately 1/3 of the final will be on the material from after the second midterm, and 2/3 of the final will be cumulative from material covered the entire quarter. **You must have a photo ID to turn in your exam!**

**MISSED EXAMS:** There are no make-up exams, so unexcused absences from scheduled exams will be recorded as zeroes. Unusual and serious problems that affect your ability to take a scheduled exam (e.g., death or serious illness in the family or personal tragedy) must be communicated to Dr. Curington directly. You will be required to provide official documentation of an unavoidable emergency (e.g., serious illness, etc.). Without such documentation (e.g. a physician's note), you will receive a zero for that exam. For a missed midterm exam with valid documentation, the remaining midterm and final exam will count for the entire test portion of your grade. For a missed final with valid documentation, you will have to retake the exam at a time chosen by Dr. Curington, usually by the end of finals week. For a missed final without valid documentation, you will receive a zero for the final exam.

**RE-GRADES:** It is your responsibility to check your exam for clerical errors in grading. If a grading error has been made, you should submit a written re-grade request to Dr. Curington at the end of a lecture within one week of return of a midterm exam, and within three days of the return of the final exam. Simply write "please re-grade Q #" or "arithmetic error on p. #" on the cover of your paper. Write a concise description of the alleged error on a separate, attached piece of paper. No re-grades are possible for exams written in pencil or non-permanent ink. Students who submit exams for re-grading understand that we may (1) re-grade the entire exam, and (2) compare the submitted paper to a scanned copy of the original exam.

**OSD:** Students requesting accommodations and services due to a disability for this course need to provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD), prior to eligibility for requests. Receipt of AFAs in advance is

necessary for appropriate planning for the provision of reasonable accommodations. For more information, contact the OSD at (858) 534.4382 (V); (858) 534-9709 (TTY); [osd@ucsd.edu](mailto:osd@ucsd.edu), or <http://osd.ucsd.edu>.

**CHEATING: DON'T.** Students are expected to do their own work, as outlined in the UCSD Policy on Integrity of Scholarship (go to TritonLink: Academics: Academic success: Academic integrity). Cheating will not be tolerated, and we will fail any student caught engaging in academic dishonesty. Their identity and the evidence of cheating will be passed to the relevant campus staff for further action. All exams will be closed book and closed-notes; all personal materials including cell phones must be stowed under your seat while exams are in progress. All assignments are to be completed individually, unless otherwise noted.

**COURSE IMPROVEMENT:** Your constructive criticisms are welcome. Dr. Curington is available immediately after lectures and at his scheduled office hours.

**TIPS ON HOW TO DO WELL:**

BICD 100 (like many other university courses) is complex enough to reward the student who gives some thought to how to take it. The most important trick is to keep up. The pace is unrelenting because BICD 100 must move rapidly, using less than 20 lectures to cover the field of genetics.

The following practices will help you best prepare for the exams:

1. Review lecture slides before each lecture.
2. Be present and take good notes during lectures (the lecturer will often use the board for explanation, which slows down the pace and allows you to take notes on the lecture slides).
3. Read the textbook – preferably before class (planned topics and corresponding textbook pages are indicated in the schedule).
4. Attend discussion section and prepare well for it. Go through the previous week's material and come up with specific topics or questions for the TA to clarify. Identify the material that is giving you trouble early.
5. Take all the material from lecture, the textbook, and the PowerPoints and consolidate it in a fashion that makes sense. The key to understanding and remembering so much complex concepts and terminology is to ORGANIZE, ORGANIZE, ORGANIZE!

Since your grade will be decided entirely from your total score and not based on how you do compared to other students in the class, it will never hurt you to help fellow students. In fact, research on learning has shown that whether you are on top of the material or are having a hard time understanding the concepts, you will improve your learning by discussing the material with other students. Participation in study groups and in peer discussion of questions is therefore highly recommended.