

LECTURE AND EXAM SCHEDULE

Date	Topic	Chapter	Sections
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*self review, no lecture coverage

1Jan 18	GATTACA excerpt		
	DNA structure and replication	1	All*
	Chromosome structure	2	2.1*, 2.2, 2.3*, 2.4, 2.5
2Jan 20	Genes in pedigrees & populations	4	4.1-4.3, 4.4*, 4.5*
3Jan 25	DNA amplification	5	5.1*, 5.2, 5.3*, 5.4, 5.5.2, 5.6
4Jan 27	Microarray hybridization	6	6.2*, 6.3*, 6.4
	Gene expression	7	7.1*, 7.2, 7.3
5Feb 1	Human genome project	8	8.1-8.3
6Feb 3	Human genome organization	9	All
7Feb 8	Review		
8Feb 10	Exam I: Chapters 2, 4-9		
9Feb 15	Human gene expression	10	10.1-10.3
10Feb 17	Human gene expression	10	10.4-10.6
11Feb 22	Mutation and repair	11	11.1-11.4
12Feb 24	Mutation and repair	11	11.5, 11.6
13Mar 1	Mapping human genes	13	13.1-13.5
14Mar 3	Identifying human genes	14	All
Mar 7-11	Spring Break		
15Mar 15	Review		
16Mar 17	Exam II: Chapters 10, 11, 13, 14		
17Mar 22	Mapping complex disease genes	15	15.1-15.4
18Mar 24	Mapping complex disease genes	15	15.5, 15.6
19Mar 29	Molecular pathology	16	All
20Mar 31	Cancer genetics	17	17.1-17.4
21Apr 5	Cancer genetics	17	17.5-17.8
22Apr 7	Genetic testing	18	18.1-18.4, 18.7
23Apr 12	Review		
24Apr 14	Exam III: Chapters 15-18		
25Apr 19	Functional genomics	19	19.1-19.3
26Apr 21	NCBI		http://www.ncbi.nlm.nih.gov
27Apr 26	Proteomics	19	19.4
28Apr 28	Gene transfer technologies	20	20.1, 20.2
29May 3	Gene transfer technologies	20	20.3, 20.4
30May 5	New approaches to treatment	21	All
31May 11	Review (room and time tba)		
32May 12	Exam IV: Chapters 19-21 (8:30 AM)		

COURSE DESCRIPTION

For the MAMS program, Biol 482 – Advanced Molecular Genetics will have a decidedly human face. The textbook, *Human Molecular Genetics 3* by Strachan and Read, is, not surprisingly, strongly biased toward human-specific aspects of gene processes. As talented graduate students, I have high expectations for what you have already encountered and undoubtedly learned during your undergraduate academic career. I presume you have a solid background in Mendelian genetics and the mechanics of DNA replication and expression. For the latter, I urge you to thoroughly review these concepts in Chapter 1.

The assigned readings are very specific and my lectures will be derived directly from the textbook. My Powerpoint Presentations for each chapter will be posted on the course web site (see below) as soon as I generate them. Knowledge transmission is really a team effort. Your role in learning and evaluating the information and ideas I communicate to you must be an active one. I highly recommend casually previewing reading assignments before coming to class. Molecular genetics can be an overwhelming experience for the unprepared. If you have no preconceptions of what I'll be covering in class, there's a strong chance you will have few post-conceptions. I am here to facilitate your own learning, not to teach at you, and will endeavor to fill your head with dynamic visual images of chromosomes and genes, and the molecules that support gene activity as their host lives, multiplies, and dies. To subvert an infamous axiom from the 17th century French philosopher and mathematician, Rene Descartes, "I see clearly, therefore I know," will be a good measure of your grasp of molecular genetics.

All exams will be multiple choice and each is preceded by an in-class review session. Exam questions will come from lecture material and chapter problem sets I will distribute throughout the semester. These should be the focus of your studies, using the textbook as a back-up to your lecture notes. Exam scores will be graded as follows: A: 95-100; A⁻: 90-94; B⁺: 85-89; B: 80-84; B⁻: 75-79; C⁺: 70-74; C: 65-69; C⁻: 60-64; D⁺: 55-59; D: 50-54. Missed exams must be made up. Make-ups will be administered, without penalty, for serious and/or important events that compel you to miss an exam, e.g. illness requiring a clinic visit, family emergency, religious observance, court hearing, incarceration, deportation, etc. You must secure a note or provide documentation. If possible make-ups should be taken within one week of the original exam date. If you know in advance that you will have a conflict on an exam date, let me know as early as possible, so that a makeup can be scheduled the following day. Exams missed for unexcused reasons will be assessed a late penalty of 10 points for the first day and 3 points per day (not per class period) thereafter (up to a maximum of 22 points).

One final note concerning academic dishonesty: The grades I assign are my certifications that you have attained a certain level of understanding. Attempts to discredit my certification by cheating on exams compromise my integrity (and obviously yours) and devalue the grades of other students. Academic dishonesty will result in a 0 on an exam and will be reported to the dean.

You should register on the Loyola Blackboard site (<http://luc.blackboard.edu/>) for Advanced Molecular Genetics to download my Powerpoint Presentations, to receive important email announcements from me, and to access your exam grades. My office is room QLSB 325 and I can be reached at 508-3640 or hlaten@luc.edu.. My walk-in office hours are Tuesdays and Thursdays from 4:00 to 5:00 PM.