INTRODUCTORY GENETICS (BIO 2344) FALL 2011

Instructor: Professor John McDonald
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Lecture: TR 8:05-9:25 Molecular Sciences & Engn G011

Class Attendance/grading policy: If you miss lecture, you are responsible for obtaining all notes, announcements, and assignments. Final grades are determined on the basis of 4 exams. Written confirmation of a legitimate excuse, such as severe illness, will be required if any exam is missed otherwise you will receive a grade of "0" on the missed exam. *No exceptions.* There are no make-up exams. Therefore, if you legitimately miss an exam, your grade will be calculated based on the remaining graded exams.

Textbook: Robert J. Brooker, Genetics-analysis & principles , 4th edition (2012).

Honor policy: Your conduct in the course should conform to the Student Honor Code (http://www.honor.gatech.edu/). Students caught cheating will be reported to the College for disciplinary action.

Tentative Lecture Schedule

I. What is the hereditary material and how does it work?

Lec 1 Aug 23	The Science of Genetics DNA is the hereditary material	Ch 9
Lec 2 Aug 25	DNA structure and replication	Ch 11
Lec 3 Aug 30	Transcription and processing	Ch 12
Lec 4Sept 1	Transcription and processing	Ch 12
Lec 5 Sept 6	The genetic code/translation	Ch 13
Lec 6 Sept 8	Gene regulation in prokaryotes	Ch 14
Lec 7 Sept 13	Gene regulation in eukaryotes	Ch 15

Lec 8 Sept 15 Gene regulation in eukaryotes Ch 15

EXAM I Sept 20 (Chp 9,11,12,13,14,15)

Lec 9 Sept 22 Recombinant DNA technology Ch 18

Lec 10 Sept 27 Biotechnology Ch 19

Lec 11 Sept 29: Genomics I Ch 20

Lec 12 Oct 4: Genomics II Ch 21

Lec 13 Oct 6: Medical genomics/cancer Ch 22

Lec 14 Oct 11: Integrate cancer systems biology

EXAM II Oct 13 (Chp 18,19,20,21,22)

Last day to drop with grade of "W", Oct 14

FALL BREAK Oct 15-18

Lec 15 Oct 20 Developmental Genetics Ch 23

II. How is the hereditary material (genes) organized and transmitted through generations?

Lec 16 Oct 25: Mitosis & meiosis/ Chromosomal reproduction and transmission Ch 3

Lec 17 Oct 27: Mendelian genetics I Ch 2

Lec 18 Nov 1: Mendelian genetics II Ch 4

Lec 19 Nov 3: Non-mendelian genetics Ch 5

Lec 20 Nov 8: Genetic linkage and mapping In eukaryotes Ch 6

Lec 21 Nov 10: Genetic transfer and mapping In bacteria Ch 7

Lec 22 Nov 15: Quantitative genetics Ch 25

III. How does the hereditary material change and evolve over time?

Lec 23 Nov 17: Gene Mutation and repair Ch 16

EXAM III Nov 22: (Chp 2,3,4,5,6,7,23,25)

HOLIDAY Nov 24

Lec 24 Nov 29: Recombination and transposable elements Ch 17

Lec 25 Dec 1: Chromosomal mutations Ch 8

Lec 26 Dec 6: Population genetics Ch 24

Lec 27 Dec 8: Evolutionary genetics/molecular evolution Ch 26

EXAM IV (FINAL EXAM) Dec 15 (Chp 8,16,17,24,26)