Biology 2250 - Principles of Genetics course schedule: Fall 2011 04 Sept 2011

# Lectures:	Topic
1. Sept. 08	Introduction; Structure of DNA
2. Sept. 13	How Genes Work I: DNA replication & transcription
3. Sept. 15	The Genetic Code
4. Sept. 20	How Genes Work II: RNA translation
5. Sept. 22	How Genes Work III: Protein structure and function
6. Sept. 27	Molecular basis of heredity: haploid gene expression
7. Sept. 30	Molecular basis of heredity: diploid gene expression
8. Oct. 04	Chromosome Genetics I: Cytogenetics
Oct. 06	**Midterm I: DNA ➜ RNA ➜ Protein** [Lectures 1 - 7]
Oct. 11	**Thanksgiving** break - no lecture
9. Oct. 13	Chromosome genetics II: Genome organization
10. Oct. 19	Mendelian Genetics I: Dominance, Segregation, & Assortment
11. Oct. 20	Mendelian Genetics II: Extensions to Mendelian analysis
12. Oct. 25	Pedigree Analysis
13. Oct. 28	Chromosome Linkage
14. Nov. 01	Recombination & Mapping
15. Nov. 03	Molecular Basis of Mutation
Nov. 08	**Midterm II: Mendelian & Chromosomal Genetics** [Lectures 8 - 14]
Nov. 10	**Remembrance Day**
16. Nov. 15	Genetic Engineering & Biotechnology
17. Nov. 17	Genomics & Bioinformatics
18. Nov. 22	From Genetics to Genomics
19. Nov. 24	Genomics & Proteomics
20. Nov. 29	Genetics & Genomics Research at Memorial University I
21. Dec. 01	Genetics & Genomics Research at Memorial University II
Dec. ??	**Final Exam** [Inclusive, with emphasis on Lectures 15-21]

Laboratory Schedule:

Weeks of:	Exercise
Sept 12	Organization
Sept 19 & 26	Lab 1 - Internet Genetic Resources; Intra- & Inter-specific DNA Variation
Oct. 03 & 10	Lab 2 - Protein electrophoresis (*Barbarea*, *Daphnia*)
Oct. 12-13	**Thanksgiving Break**
Oct. 17 & 24	Lab 3 - Mendelian Genetics of *Drosophila* mutants; Virtual fly crosses
Oct. 31 & Nov 07	Lab 4 - Virtual fly: dihybrid crosses & linkage
Nov 14 & 21	Lab 5 - Restriction Endonuclease Mapping of DNA

Grading:

Midterm I	20%
Midterm II	20%
Lab (5 labs x 5% @)	25%
Final Exam	35%
TOTAL	100%