

Genetics Laboratory, Fall 2006
Biological Sciences 211 (BSCI211)

Syllabus & Schedule of Experiments

Instructor- Mark A. Woelfle, PhD
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Teaching assistants-

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Meeting Times/Location-

section 01	T	1:10 – 4 PM
section 02	W	1:10 – 4 PM
section 03	M	1:10 – 4 PM

All laboratory sections meet in 2121 Stevenson Center.

You can only attend your scheduled lab section.

Course Policies-

- Attendance in lab is required; each unexcused absence will result in the reduction of your final course average by 5 points. If you are absent due to illness or emergency, you must have a valid excuse.
- All assignments are due on the dates indicated. Assignments that are turned in after that time are subject to a deduction of 10%.
- The Honor Code governs all assignments in this course. Although you will collaborate with other students in the completion of tasks and the collection of data, all data analysis (including graphs, statistical analysis, etc.), interpretation of data and all assignments must be the product of your own efforts.

Grades in this course will be based on the following:

Lab Assignments (5@ 12%)	60%
<i>Drosophila</i> Lab Report	20%
Lab notebook	20%

There is not a lab manual for this course; outlines of procedures will be provided to students.

You must purchase a bound, laboratory notebook for use in this course.

Your lab notebook will be collected more than once over the course of the semester and it will be evaluated based on three general criteria- organization, completeness and accuracy. Use your notebook for all experimental notes and data.

- Each page of your should be numbered and all data entries should be dated. Use the first page or two of your notebook to keep a table of contents; indicate the page numbers for each experimental procedure.
- Introduce data entries with a brief outline or flow chart of the procedures performed to obtain that data.
- Numerical data should be contained in tables that are clearly labeled. All figures (graphs, photographs, etc.) should be numbered and have a brief legend explaining the figure.
- Perform any relevant data analysis and note appropriate conclusion(s).
- Keep you notebook up to date each class session.

If you have specific questions regarding your notebook, please ask your teaching assistant for help.

Schedule of Experiments:

Aug. 28-30	Introduction to <i>Drosophila</i> Eye pigment chromatography Parental wt^+ crosses to mutant females
Sept. 4-6	Probability & c^2 Analysis (Assignment 1)
Sept. 11-13	<i>Drosophila</i> (cont.) Assignment 1 Due

	Analyze wt ⁺ x mutant F1 generation Parental crosses- mutant x mutant
Sept. 18-20	Bacterial mutagenesis (Assignment 2)
Sept. 25-27	<i>Drosophila</i> (cont.) Assignment 2 Due
	Analyze mutant x mutant F1 generation Mutant F1 x F1
Oct. 2-4	Isolation/Characterization of Chromosomal & Plasmid DNA
Oct. 9-11	<i>Drosophila</i> (cont.)
	Analyze mutant x mutant F2 F2 white x white eye mutation
Oct. 16-18	Fall Break No labs scheduled
Oct. 24-26	<i>Drosophila</i> (cont.)
	Analyze F2 white males x white eye mutation females
	Restriction enzyme digestion/electrophoresis of chromosomal & plasmid DNA (Assignment 3)
Oct. 30-Nov. 1	DNA fingerprinting Assignment 3 Due
	PCR Amplification of TPA25 locus
Nov. 6-8	DNA fingerprinting (cont.)
	Analysis of TPA25 PCR products PCR amplification of multi-locus STR
Nov. 13-15	DNA fingerprinting (cont.) <i>Drosophila</i> Lab Report Due
	Analysis of multi-locus STR PCR products (Assignment 4)
Nov. 20-22	Thanksgiving Break No labs scheduled
Nov. 27-29	Population genetics Assignment 4 Due
	PTC tasting/PCR (Assignment 5)

Dec. 4-7

Assignment 5 Due
Lab Notebook Due