

Genetics - BSC 370
Fall 2002

The course

4 credit hours

Day and Time – Monday and Wednesday 3:30-4:45 p.m., Friday 2:00-2:50 p.m.

Prerequisites – BSC 380 or BSC 110.

Instructor - Brian Kreiser

Office - JST 409; phone - 266-6556

Office Hours – Monday, Wednesday and Friday 1:00-2:00 p.m. and by appointment.

Email - You can reach me through the WebCT email system.

Texts - Concepts of Genetics, 6th ed. W.S. Klug and M.R. Cummings 2000. Prentice Hall.
- Student Handbook, 6th ed. H. Nickla 2000. Prentice Hall.

Website - I have prepared a supplement for this course using WebCT. See attached handout for details.

Background

Why is genetics a required course for all biology majors? Genetics is fundamental aspect of biology, and many courses that you may take later assume some sort of understanding of genetics, whether it is molecular biology, microbiology, ecology or systematics.

Additionally, in order to be scientifically literate in the modern world of biotechnology and medicine one needs a background in genetics.

Expectations

Exams— There are a total of 4 exams (3 in class exams and the final exam), which will count towards 90% of your grade. However, only your highest 3 exams will be included in your average. If you take all 4 exams you will have the option to drop your lowest exam score. Thus, if you take all 3 in class exams and are happy with your scores, should you so desire, you may skip the final exam. I will post a final point distribution before the day of the final so that you may determine what letter grade will correspond to your numerical score. Exams will be given on Wednesdays (see Lecture Schedule for dates). I will lecture on the Monday prior to the exam, but this material will not be tested until the following exam. The final exam will be cumulative with an emphasis on chapters covered since the 3rd exam.

Recitations (Friday Class)— Each week I will assign homework problems. This homework will not be graded (unless specifically stated), but we will work through these problem sets during recitation. Recitation is also a time for questions about lecture material as well as discussion of current topics in genetics. Your recitation score (10%) will be based mainly on web quizzes, which will be taken using WebCT. The web quiz is not intended to be a group effort, but you are welcome to use your notes and textbook. The purpose of these quizzes is to encourage you to prepare ahead of time for recitation. Attendance at recitations will likely improve your performance in this class. As additional incentive for attending, I will periodically give graded quizzes at the beginning of recitation. However, these points will be

used as bonus points on your exam score. Make-ups will not be provided for any of these assignments (WebCT or in class). However, I will drop your lowest quiz score.

Grading Policy— Your final score will be based on the following point breakdown:

30% Each exam (best 3 of 4 exams) = 90%

10% Recitation score (includes web quizzes and in class quizzes)

The grading scale will be

A = 90% and above

B = 80-89%

C = 70-79%

D = 60-69%

F = 59% and below.

The grading scale may be subject to change, but only to lower the cut off points for each letter grade. I will post the final grading scale before the day of the final exam.

Missed exams— Make up exams will not be given without prior authorization from myself, and the reason for missing an exam had better be one of major importance. Otherwise, missing an exam will mean that you will no longer have the option to drop your lowest exam score. Missing two exams means that one of your exam scores will be a zero.

Important dates

Labor Day = Monday, September 2

Last day to drop a class without academic penalty = Monday, September 30.

Fall break = November 28-December 1

Last day of classes = December 6

Final exam = Wednesday, December 11 2:00-4:30 p.m.

If a student has a disability that qualifies under the Americans with Disabilities Act and requires accommodations, he/she should contact the Office of Support Services for Students with Disabilities (OSS) for information on appropriate policies and procedures: Box 8586; Tel: 266-5024; TTY: 266-6837; FAX: 266-6035.

Lecture Schedule

Date	Day	Chapter	Topic
Aug. 19	Monday	1	Introduction
Aug. 21	Wednesday	2	Mitosis/Meiosis
Aug. 23	Friday	recitation	Quiz #1
Aug. 26	Monday	3	Mendel's Laws
Aug. 28	Wednesday	3	Probability, Chi-square, pedigrees
Aug. 30	Friday	recitation	Quiz #2
Sept. 2	Monday		Labor Day - no class
Sept. 4	Wednesday	4	More Mendel
Sept. 6	Friday	recitation	Quiz #3
Sept. 9	Monday	6	Linkage & Crossing over I
Sept. 11	Wednesday	6	Linkage & Crossing over II
Sept. 13	Friday	recitation	Quiz #4
Sept. 16	Monday	7	Genetic recombination - bacteria and phages I
Sept. 18	Wednesday	7	Genetic recombination - bacteria and phages II
Sept. 20	Friday	recitation	Quiz #5
Sept. 23	Monday	8	Extrachromosomal inheritance
Sept. 25	Wednesday		Exam I
Sept. 27	Friday	recitation	review exam
Sept. 30	Monday	9	Sex chromosomes (last day to drop class)
Oct. 2	Wednesday	10	Chromosome mutations
Oct. 4	Friday	recitation	Quiz #6
Oct. 7	Monday	11	The structure of DNA
Oct. 9	Wednesday	12	DNA replication and recombination
Oct. 11	Friday	recitation	Quiz #7
Oct. 14	Monday	13	Transcription
Oct. 16	Wednesday	14	Translation
Oct. 18	Friday	recitation	Quiz #8
Oct. 21	Monday	15 & 16	Regulation of gene expression I
Oct. 23	Wednesday		Exam II
Oct. 25	Friday	recitation	review exam
Oct. 28	Monday	15 & 16	Regulation of gene expression II
Oct. 30	Wednesday	17	Mutations and DNA repair
Nov. 1	Friday	recitation	Quiz #9
Nov. 4	Monday	18	You too can be a molecular biologist: cloning, PCR, RFLPs and sequencing
Nov. 6	Wednesday	19 & 20	Chromosome structure and gene organization
Nov. 8	Friday	recitation	Quiz #10
Nov. 11	Monday	21	Genetics and ethics
Nov. 13	Wednesday	22	Developmental genetics
Nov. 15	Friday		no class
Nov. 18	Monday		recitation
Nov. 20	Wednesday		Exam III
Nov. 22	Friday	recitation	review exam
Nov. 25	Monday	5	Quantitative genetics
Nov. 27	Wednesday	25	Population Genetics - Hardy Weinberg I
Nov. 30	Friday		Thanksgiving break - no class
Dec. 2	Monday	25 & 26	Population Genetics II & Genetics in action - Evolution
Dec. 4	Wednesday		open topic
Dec. 6	Friday	recitation	Quiz #11
Dec. 11	Wednesday		Final Exam - 2:00-4:30pm