

BIO 300: Genetics and Human Affairs

Sample Course Syllabus

CRN#	Subj	Crse	Sect	Course title	Units	Days	Time	Bldg	Rm	Instructor
30304	BIO	300	01	Genetics and Human Affairs	4.0	TR	12:00-1:50 pm	3	120	Dr. G. Kageyama

Professor: Dr. Glenn H. Kageyama Office hours: MTWR 11:00-11:50 a.m.
8-129, (909) 869-5305 (leave voice mail message)
e-mail: ghkageyama@csupomona.edu **and** ghkageyama@excite.com

Prerequisites: BIO 115/115L or equivalent.

Required texts: Gelehrter, Thomas D., Francis S. Collins and David Ginsburg (1998) Principles of Medical Genetics, 2nd Ed., Williams and Wilkins, Philadelphia (ISBN: 0-683-03445-6). All reading assignments are from this text. The level of presentation is aimed for upper division science majors and assumes class standing beyond that of a freshman and a certain level of background knowledge. Although not all material in the assigned readings will necessarily be covered during lecture, this material is still considered part of the course and will be covered on the tests. If you are a science major and if you are not required to take BIO 303, you should enroll in BIO 303: Genetics, which is the course for science majors.

Course Objectives: To give students an exposure to basic principles of modern genetic analysis, accomplished via classroom lecture-discussions, assigned readings and problem sets. Hopefully, students will develop an appreciation for a basic understanding of genetics. Through a review of the history of genetics, the student may learn the philosophy of science. After completion of this course the student is expected to be able to solve problems involving transmission genetics, predict offspring ratios, infer parental genotypes and phenotypes and understand the chromosome theory of inheritance. The student is expected to understand the molecular basis of inheritance and understand such processes as DNA replication, transcription of RNA and translation of protein. In addition the student should be able to explain how each process is regulated, how genes are controlled, and how gene frequencies change in populations, giving rise to continual evolutionary change.

General Requirements and Policies: Read text assignments before lectures so that you may better understand lectures and participate in class discussions. Questions and curiosity are important aspects of learning. Classroom attendance is important because quizzes and other assignments will be given at the beginning of class time and points will be awarded which will count toward your final grade. **Quizzes and bonus point exercises given at the start of class cannot be made up. If you are late you will not be allowed to take the quiz.** You must have Scantron Quizstrip (Form 815) to take the quizzes. Raise your hand and wait to be acknowledged for your questions or comments. The major instructional method for this class is the lecture format. Overhead transparencies and diagrams as well as sample problems placed on the board will be used.

Schedule of Exams: Unannounced quizzes and three scheduled examinations: two midterms and one final. The general nature of the exams will be announced. Exams and quizzes will include multiple choice, matching and/or true-false questions on lecture material and readings. Quizzes may be given either at the beginning or end of the regular class period. All scheduled examinations will be **comprehensive**. Course grades will be based on a curve made after the final exam, using the total number of points accumulated from all tests, quizzes and other assignments. The three scheduled exams must be taken at the scheduled time and place. Only notification **before** the test of a documented emergency, acceptable to the University, will be considered as a valid excuse for missing an exam. Outside work, field trips, sports, other classes and other obligations are not acceptable excuses. If you miss a scheduled exam with an acceptable excuse, and have notified the instructor **before the time of the test**, arrangements *may* be made for you to make up for the missed test. A 100 question Scantron (Form 882) and a #2 lead pencil may be required for each exam. The distribution of scores, will be posted after each exam on the board outside my office, room 8-129.

Grading: Grades will be based on the cumulative scores on Quizzes, Midterms and a Final Exam. The number of points on each will be determined during the quarter (The Table below is tentative). All exams and quizzes will focus on the topics most recently covered, but will include some questions on materials covered earlier.

Midterm I	50 points	17%
Midterm II	50 points	17%
Quizzes (10)	100 points	33%
Final Examination	100 points	33%
Total	300 points	100%

Classroom Manners: It is important that each person treat all others with respect. Entering the classroom late, leaving before class ends, and talking while other things are going on are disruptive. Please turn off all electronic communication devices prior to entering the classroom.

Cheating: Cheating and plagiarism are violations of University policy and are considered serious offenses. The Department of Biological Sciences takes all incidences of academic dishonesty quite seriously, and will act accordingly.

BIO 300: Genetics and Human Affairs, Section 01
Winter Quarter, 2002

Tentative Lecture Schedule

Dr. Glenn H. Kageyama
Office: 8-129; 869-5305

Date	D	Ch	Topic
6/19	T	1	The Role of Genetics in Medicine (Ch 1, 1-8)
6/21	Th	2	Structure and Behavior of Genes and Chromosomes (Ch 2, 9-22)
6/26	T	3	Mendelian Inheritance (Ch 3, 23-42)
6/28	Th	4	Population Genetics and Multifactorial Inheritance (Ch 4, 43-60)
7/3	T	5	Molecular Genetics: Gene Organization, Regulation and Manipulation (Ch 5, 61-89)
7/5	Th	6	Molecular Genetics of Human Disease: Hemoglobinopathies (Ch 6, 91-116)
7/10	T		Midterm I (50 points)
7/12	Th	7	Biochemical and Molecular Genetics of Human Disease (Ch 7, pp. 117-151)
7/17	T	8	Cytogenetics (Ch 8, pp. 153-194)
7/19	Th	9	Anatomy of the Human Genome: Gene Mapping, Linkage (Ch 9, pp. 195-230)
7/24	T	10	The Human Genome Project (Ch 10, pp. 231-243)
7/26	Th	11	Cancer Genetics (Ch 11, pp. 245-272)
7/31	T	12	Clinial Genetics (Ch 12, pp. 273-310)
8/2	Th		Midterm II
8/7	T	13	Gene Therapy (Ch 13, pp. 311-328)
8/9	Th	14	Ethical Considerations (Ch 14, pp. 329-339)
8/14	T		Student presentations
8/16	Th		Student presentations
8/21	T		Student presentations
8/23	Th		Student presentations

Week 11: Final Exams Week

8/30 T **Cumulative Final Exam** (100 pts; Rm 3-120; 11:30 - 1:30 p.m.)