

HUMAN GENETICS - BIOLOGY 412
WINTER 2009 - Dr. Margaret Jefferson
TR 9:50 AM - 11:30 PM = BIOS 334 = SCHED. # 17624-01

1. COURSE DESCRIPTION:

This course is an upper division elective for biology majors. The course assumes you have already completed a course in general genetics. The history of human genetics has both negative and positive features. After a brief historical review of some of the negative history of human genetics, we will progress to more positive features but with an appreciation for some of the ethical dilemmas that arise from human genetic studies. With the explosion of new information from the Human Genome Project (and related projects such as the Human Epigenome Project and the Cancer Genome Anatomy Project), new disease genes and new features about the human genome are being identified at an extraordinary rate by laboratories around the world. Various media outlets have reported attempts to clone the first humans. The field of human genetics and its ethical implications have grown significantly. Human genetics used to be viewed as the discipline that studied rare disorders but now it has moved to all areas of medicine. This course will explore as many genetically based human traits & diseases as time permits by exploring human genetics from its major sub-discipline areas.

2. MAJOR LECTURE TOPICS: [We will cover as many of these topics as time permits].

- a. History of Human Genetics
- b. Chromosomes and Chromosomal Traits & Diseases
- c. Autosomal-Linked Genetic Traits & Diseases
- d. Sex-Linked Genetic Traits & Diseases
- e. Mitochondrial Traits & Diseases
- f. Multifactorial Traits & Diseases
- g. Cancer Genetics
- h. Genetics of the Immune System
- i. Human Population Genetics
- j. Human Cloning & Other Applications of Human Genome Project

3. TEXTBOOK: NONE

4. OFFICE AND PHONES:

Room #: Bios 210; **Office Phone #:** (323) 343-2059; **Biology Office #:** (323) 343-2050
Fax #: (323) 343-6451; **e-mail:** mjeffer@calstatela.edu

5. OFFICE HOURS:

Tuesdays:	3:00 PM – 5:30 PM
Wednesdays:	10:00 AM – 2:00 PM
Thursdays:	3:00 PM – 5:30 PM

Department of Biological Sciences (Room 143; 323/343-2050) schedules all of my appointments. Students with appointments have priority over walk-ins.

6. COURSE PREREQUISITES: Completion of Biology 340 (General Genetics) or equivalent.

7. COURSE REQUIREMENTS:

<u>Requirements</u>	<u>Total Points</u>
4 Team Case Studies (25 pts. each)	100
2 Exams (50 pts. each)	100
1 Team Oral PowerPoint Presentation	100
10 Evaluations (10 pts. each)	100
TOTAL	400

8. TEAM FORMATION:

Students will form their own teams in class on Tuesday, January 13, 2009. A total of ten teams with four members per team will be the maximum number of teams formed. Team membership will be posted on the course homepage. All team assignments will be completed by these teams.

9. TEAM CASE STUDIES:

Each team will be assigned 4 case studies to complete by specific dates in the quarter. The specific case studies will be posted on the course homepage along with a document covering the specific format instructions to prepare your written responses. A case study describes a family situation with a specific genetic condition and series of questions related to the information. You will need to investigate the genetic condition if you are not already familiar with it using *Online Mendelian Inheritance of Man* (OMIM) website, which is available via the course homepage. You may also use other library and on-line resources to prepare your team responses. Late submissions will NOT be accepted regardless of your reasons (or excuses).

10. EXAM FORMAT:

Each exam will consist of 50 multiple choice questions covering the material presented in lectures. The second exam is not comprehensive, since it covers only new material discussed in lecture after the prior exam date. **You must bring to the exam** your own standard size (50 questions each side) scantrons to the exams, and also bring a good eraser because you will have points deducted if you do not thoroughly erase your mistakes on the scantrons. Learn the terminology.

11. TEAM ORAL POWERPOINT PRESENTATIONS:

Each team will give a detailed oral presentation using *PowerPoint* on a genetic disease (not to be discussed in lecture by your instructor) during either the last two weeks of the quarter or on the day of the final exam. The day that your team presents will also be determined via a random draw on Tuesday, January 13, 2009, and each team will be assigned a team letter based on the order of presentations (**A through J**). See course homepage for more information about this assignment. Each student MUST BE IN CLASS on **all** dates that oral presentations are being presented. A minimum of 25 points will be deducted from your oral presentation for each of any other team oral presentation that you miss. You must arrive in class on time on the dates of the oral presentations because once one starts you will not gain entrance into the classroom until that presentation is completed, and this will count as a missed presentation with at least 25 points deducted. **All** teams must finish their final preparations of their PowerPoint slides and email them to me before the class starts on the date of the first presentations (March 5, 2009). See course homepage for specific instructions on the format of this email.

12. EVALUATIONS:

Each individual student will complete 10 evaluations. One evaluation covers the contributions of your other team members to both the case studies and to the preparation of the team oral PowerPoint presentation slides. This evaluation will be completed in class on March 3, 2009 after you complete the second exam. You must know how to correctly spell the first and last name of your team members and your assigned team letter to fully complete the form. The other nine evaluations will be done on the dates of the oral PowerPoint presentations for all teams that you are not a member of. A copy of this evaluation form will be available on the course homepage prior to the beginning of presentations. You must be able to justify and provide detailed comments for each evaluation. If you are easily distracted or not focused on the presentation, your evaluation will not reflect much thought. You must also be able to demonstrate your understanding of these presentations. Again if you are absent (this includes arriving late), you will not be permitted to complete that evaluation which comes with the severe penalty described in section 11 as well as lost evaluation points.

13. COURSE HOMEPAGE:

All lecture PowerPoint slides, team case studies, answers to exams, evaluation forms and handouts, course instructions for various assignments, and access to classroom performance and current grades will be available to students as soon as they **PROPERLY** establish the WebCT account for access to the course homepage. It is your responsibility to read all materials, and print them out if you want a copy. Only one copy of the lecture syllabus will be provided to you at the **first** class meeting. All other course materials must be obtained from WebCT 6.2 (also now known as Blackboard Learning System).

14. HOW TO SET UP ACCESS TO THE BIOL 412 COURSE HOMEPAGE VIA WEBCT 6.2:

- a) Open up your web browser and type in the following URL:
<http://www.calstatela.edu/academic/aa/ess/webct/>.
- b) Bookmark or Add to Favorites for future reference so you do not have to type the URL again on your computer.
- c) Click on "LOGIN to version 6.2."
- d) Click on the STUDENT button to view new messages, and general WebCT information.
- e) On this page you will see the following: *How to register and ADD courses to WebCT 6.2 just for Student use? Click here (so click on the words Click here)
- f) Follow the instructions that appear on the next page called "Student Self-Registration."
- g) BIOL 412 appears under the College of Natural & Social Sciences.
- h) In order to access WebCT 6.2, you must have your NIS username and password. If you do not know what your NIS username and password are, you must visit the ITS Help Desk in Library Palmer Wing Lobby or along main walkway during week 1 of the quarter.

15. STUDENT RESPONSIBILITY IN CLASSROOM:

All cell phones and pagers must be turned off during the class time, particularly during exams. Please arrive on time and participate in all components of the course. You will **not** be permitted to leave the classroom during an exam or Team Presentation. All books and materials must be stored at the front of the classroom during exams. The aisles must be left completely free of all materials. If you have questions during an exam, raise your hand and I will come to your desk. Do not leave your desk during an exam until you are ready to submit your scantrons.

16. IMPORTANT DATES:

<u>ITEM</u>	<u>DATE</u>
Team Assignments	Tuesday, January 13, 2009
No Class Meeting – Out of Town	Thursday, January 15, 2009
Team Case Study #1 – Due at start of class	Thursday, January 22, 2009
Team Case Study #2 – Due at start of class	Thursday, January 29, 2009
EXAM #1	Thursday, February 5, 2009
Team Case Study #3 – Due at start of class	Thursday, February 12, 2009
Team Case Study #4 – Due at start of class	Tuesday, February 24, 2009
EXAM #2 & Evaluation of Team Members	Tuesday, March 3, 2009
Team PowerPoint Oral Presentations and	Thursday, March 5, 2009 9:50 – 11:30 AM Tuesday, March 10, 2009 9:50 – 11:30 AM
Evaluations of Other Teams	Thursday, March 12, 2009 9:50 – 11:30 AM Thursday, March 19, 2009 8:00 – 10:30 AM

Note: No make-ups are given regardless of the reason for missing an exam.

17. UNIVERSITY INCOMPLETE GRADE POLICY:

In the 2007-2009 University Catalog (available online at the following URL: <http://catalog.calstatela.edu/> under Procedures and Regulations, the following wording is associated with the assignment of an incomplete: I, IC (Incomplete) An Incomplete grade is an interim grade designed for students who are passing but who through extenuating circumstances have not been able to complete part of the work of the course. An Incomplete grade is assigned at the discretion of the faculty member only when significant elements of the course requirements have not been met. An Incomplete will not be assigned when it is necessary for the student to attend a major portion of the class when it is next offered. Written documentation will be required to verify extenuating circumstances.

18. POLICY ON UNIVERSITY WITHDRAWAL FROM THE COURSE:

Within the first seven days of the quarter, students may withdraw from any course with no record of the individual course withdrawal on their permanent academic record. After the “no-record drop” deadline, students may withdraw with a W grade from any course, BUT only for serious and compelling reasons. Written documentation will be required to verify extenuating circumstances. Do not bring drop forms to class time since I will not sign them until after I verify your reasons and justification for dropping the class after the “no-record drop” deadline. To drop the course after the “no-record drop” deadline, you will need to see me during office hours or leave the detailed materials with office staff in BIOS 143. Since there are enrollment restrictions on all courses, you need to decide in week one whether or not you plan to complete the course since you will be preventing someone else from adding the course. Students who do not attend the first class meeting may be dropped from the course if written verification has not been received in advance of class meeting.

19. GRADING FORMAT: *only the following grades will be awarded based solely on total points indicated below*

A = 92% -100% [368-400]	C+ = 78% -79.9% [312-319]
A- = 90% -91.9% [360-367]	C = 65% -77.9% [260-311]
B+ = 88% -89.9% [352-359]	D = 55% -64.9% [220-259]
B = 82% -87.9% [328-351]	F = 0% -54.9% [0-219]
B- = 80% -81.9% [320-327]	