Course Information and Syllabus
Bi122: Introduction to Human Genetics
Spring 2013

Course Goals

In this course, we will explore topics in genetics, with an emphasis on human genetics, genetic diseases, and the relevance of genetics research and technology to modern society. All of the topics covered are likely to have a significant impact on our lives, as more and more of modern medicine and health decisions have a genetic basis.

For each specific topic, we will examine the underlying biology and explore how scientific reasoning and methods develop this understanding of human genetics. We will also discuss how these scientific principles are applied to human health. During this course you will learn not only the basics of genes, heredity, and variation, but also how this knowledge is gained through scientific inquiry, and how it translates into an understanding of human genetics.

Because scientific research on the topics covered in this course is expanding nearly every day, the lectures and reading material in the syllabus are designated as tentative. Most, perhaps all, of the topics and reading materials will remain as listed. However, if new research or discoveries arise related to the course topics, one or more of the lectures may be changed to incorporate the new material.

Course Overview

Topic I: DNA, Genes, and Inheritance

Lecture 1: The Cellular Basis of Life
Lecture 2: Mendelian Inheritance I
Lecture 3: Mendelian Inheritance II
Lecture 4: DNA & Genes I
Lecture 5: DNA & Genes II
Lecture 6: Gene Expression I
Lecture 7: Gene Expression II

Topic II: Genetic Diseases & Genetic Technology

Lecture 8: Genetic Diseases
Lecture 9: Genetic Testing I
Lecture 10: Genetic Testing II
Lecture 11: Gene Therapy I
Lecture 12: Gene Therapy II

Topic III: Topics in Genetics

Lecture 13: Genetics of Immunity I
Lecture 14: Genetics of Immunity II
Lecture 15: Genetics of Cancer I
Lecture 16: Genetics of Cancer II
Lecture 17: Genetics of Ancestry
Lecture 18: Topics in Genetics

General Course Information

Instructor	*email*	*office*	*office hours*
Liesl McCormick	lvanrysw@uoregon.edu	65 Klamath	T 10am-12pm and by appointment
GTFs			
Travis Carney	tcarney@uoregon.edu	TBD	by appointment
Javier Fierro	fierro@uoregon.edu	TBD	by appointment
David Walla	dwalla@uoregon.edu	TBD	by appointment

Email Etiquette

When emailing the instructor or GTFs, please include "Bi122" in the subject line. This helps ensure that we will not overlook your email by accident. We will try to answer your email in a timely manner, however, we do not always check our email in the late evening or on weekends.

Time and Location

Lecture:	177 Lawrence	T	8:30am - 9:50am
		Th	8:30am - 9:50am
Discussions:	130 Huestis	W	9:00am - 9:50am
			OR 10:00am - 10:50am
			OR 11:00am - 11:50am
			OR 12:00pm - 12:50pm
			OR 1:00pm - 1:50pm
			OR 2:00pm - 2:50pm
			OR 3:00pm - 3:50pm
			OR 4:00pm - 4:50pm

Inclement Weather

If there is an ice storm, it is possible that we will cancel classes, even if the University remains open. Cancellation notices will be posted on Blackboard.

Website

All class information will be posted on Blackboard.

Work Load

The standard expectation for a four-credit course is that you will receive four hours of instruction per week and put in at least eight hours outside of class per week doing the readings, preparing assignments, and studying for exams.

Required Supplies

iClicker (available in the Duck Store)

Textbook

Human Genetics: Concepts and Applications, by Ricki Lewis (8th or 9th edition) is *not* required, but is available on reserve in the Science Library as an additional resource. Relevant readings for each lecture are listed on Blackboard, and should serve as a supplement to the content emphasized during class.

Additional Readings

There is no perfect textbook for this course. The above text covers some of the material we investigate this term, but not all of it. Therefore, we will occasionally incorporate additional readings, outside of the textbook. These readings will be listed, and posted on Blackboard as PDFs.

Homework

There will be five problem sets assigned as homework throughout the term. Homework assignments are posted on Blackboard. The homework assignments should be downloaded, printed, and turned in to the course drop-box that corresponds to your discussion section. Completed homework will be due Wednesdays at 5pm.

Participation

We are using iClickers as a way to facilitate classroom participation and discussion. Please bring your iClicker to lecture, as you will receive credit for "clicking in" during class time - you will be scored on participation rather than correctness of answer. You will be allowed to miss two class periods without "clicking in" before we begin to deduct from your participation grade. You will need to register your iClicker on Blackboard at some point during the first few weeks of class to ensure that your participation is being scored.

Exams

There will be three exams: two midterms and one final. The final will essentially be a third midterm. Exam material is cumulative because concepts carry over from one topic to the next. However, each exam will primarily focus on the material covered within the specific section of the course preceding that exam. Exams will include material from the lectures, readings, and discussion sections. The exams will most likely be a combination of multiple choice and short answer questions. The schedule for the exams is listed on the last page of this syllabus.

Discussion Sections

Discussion sections are optional, and are designed for you to be able to seek help about the material in the course and on the problem sets.

Grading

20% Exam 1
20% Exam 2
25% Final Exam (Exam 3)
20% Problem Sets
15% Participation (iClickers)

General Policy on Missed Assignments

Assignments must be turned in on time, and there are no early exams or "make-up" exams. If you are ill, or have an emergency where you cannot attend class, or you miss an assignment or an exam due to illness or emergency, please contact the instructor. It is best if you can make contact *before* missing an assignment or exam - we can make the necessary arrangements so that you can receive credit.

Classroom Etiquette

Please arrive on time. Lectures and discussion sections begin promptly on the hour. Please do not leave early, as this is disruptive to everyone. If you have an unusual circumstance and must leave early, please sit near the exit so that you may leave quietly. Please be respectful of your fellow students.

Inclusiveness

The University of Oregon is working to create inclusive learning environments. Please notify the instructor if there are aspects of the instruction or design of this course that result in barriers to your participation. You may also wish to contact the Accessible Education Center in 164 Oregon Hall at 541.346.1155 or uoaec@uoregon.edu.

Plagiarism & Cheating

Plagiarism and cheating will not be tolerated. You are expected to do your own work on all homework, assignments, and exams. Using another student's iClicker during class constitutes cheating. You are encouraged to discuss ideas with other students and study together, but do not copy anyone else's work, and don't allow anyone else to copy your work. All students are expected to conform to the student conduct code (see URL below) - students not in compliance will be brought to the attention of the University.

Student Conduct Code
http://www.uoregon.edu/~stl/programs/student_judi_affairs/conduct-code.htm

Overview of Lectures, Discussions, and Exams

Week	Date	Meeting	Topic
1	Tues, April 2nd	lecture	The Cellular Basis of Life
1	Wed, April 3rd	discussion	
1	Thurs, April 4th	lecture	Mendelian Inheritance I
2	Tues, April 9th	lecture	Mendelian Inheritance II
2	Wed, April 10th	discussion	**problem set #1 due**
2	Thurs, April 11th	lecture	DNA & Genes I
3	Tues, April 16th	lecture	DNA & Genes II
3	Wed, April 17th	discussion	**problem set #2 due**
3	Thurs, April 18th	lecture	Gene Expression I
4	Tues, April 23rd	lecture	Gene Expression II
4	Wed, April 24th	discussion	exam review
4	Thurs, April 25th	lecture	**EXAM 1**
5	Tues, April 30th	lecture	Genetic Diseases
5	Wed, May 1st	discussion	exams handed back
5	Thurs, May 2nd	lecture	Genetic Testing I
6	Tues, May 7th	lecture	Genetic Testing II
6	Wed, May 8th	discussion	**problem set #3 due**
6	Thurs, May 9th	lecture	Gene Therapy I
7	Tues, May 14th	lecture	Gene Therapy II
7	Wed, May 15th	discussion	exam review
7	Thurs, May 16th	lecture	**EXAM 2**
8	Tues, May 21st	lecture	Genetics of Immunity I
8	Wed, May 22nd	discussion	exams handed back
8	Thurs, May 23rd	lecture	Genetics of Immunity II
9	Tues, May 28th	lecture	Genetics of Cancer I
9	Wed, May 29th	discussion	**problem set #4 due**
9	Thurs, May 30th	lecture	Genetics of Cancer II
10	Tues, June 4th	lecture	Genetics of Ancestry
10	Wed, June 5th	discussion	**problem set #5 due**
10	Thurs, June 6th	lecture	Topics in Genetics
11	Friday, June 14th	exam	**8am FINAL EXAM**