INTRODUCTION TO GENETICS

BI 341 and 341R
MWF 10:15-11:20AM
SRTC 247

INSTRUCTOR	COURSE DESCRIPTION
Justin Courcelle 725-3866 justc@pdx.edu	A study of the mechanism of biological inheritance. Includes one 2-hour recitation period.

Prerequisites: BI 251, 252, & 253 or equivalent

Textbook: Hartl and Jones. Essential Genetics: A Genomic Perspective Any Edition. Jones and Bartlett Publishers, (20XX) Sudbury MA.

Websites: Course homepage http://web.pdx.edu/~justc/courses/

TA: Kayla Terlecki kterleck@pdx.edu Office Hrs: Thurs 1:00-3:00PM SRTC Room B2-10

My Office Hours: Mon 2:00-4:00 SRTC Room B2-04, in person or virtual, or anytime by appointment
Zoom Link: https://pdx.zoom.us/j/88221230764 Meeting ID: 882 2123 0764

Problem sets: problem sets will be assigned each Monday in class and can be downloaded from the course website. These should be done each week as they are assigned, but need to be handed in on each exam date. Homework will not be graded, but will be checked for completeness. Points will be deducted based on their level of completeness, or if they are handed in late.

Recitations: W 1:00-2:50 SRTC 247
W 4:30-6:20 SRTC 201
F 12:00-1:50 Park Mill-201

This time period is designed to answer student questions, discuss the chapter problems, and explore student interests in the topics covered.

Exams: Exams will be in the form of short answer and multiple choice questions looking to determine your understanding of the material as well as your ability to interpret data.

Final: The final will be based on new material, as well as building on concepts from previous exams.

Grading:

Exam I	10%	100-90% guaranteed A- or better
Exam II	20%	89-80% guaranteed B- or better
Exam III	25%	79-70% guaranteed C- or better
Final	30%	69-60% guaranteed D- or better
Problem Sets	15%	

There are NO makeup exams. You must take all exams or you cannot earn a passing grade. If you believe you have a valid excuse for not being able to take an exam, you should see me immediately to reschedule.

Academic Honesty: Acts of academic dishonesty will result a grade of zero for the assignment and may be reported to student affairs.

Students with accommodations approved through the Disability Resource Center (DRC) are responsible for contacting me prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through the DRC should contact the DRC immediately. It is the student's responsibility to make sure that their exams and finals at the DRC are scheduled to begin before class finishes on each exam day. If the student cannot schedule their exam before this time, they should see me about arranging for alternative accommodations.

As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals at https://www.pdx.edu/sexual-assault/get-help. For more information about Title IX please complete the required student module "Creating a Safe Campus" in your D2L.

Learning Objectives and Skills development:

1. To understand the language and basic concepts of genetics.
2. To understand how traits are inherited and to use this understanding in analyses (to solve problems and complete pedigrees)
3. To understand probability concepts and use these concepts to solve problems (including basic statistical problems)
4. To understand how genetic problems may lead to disease or lethality
5. To understand the molecular basis of genetics (including such topics as replication, transcription, translation, and mutation)
6. To understand the workings and importance of major genetics techniques such as PCR
7. To understand current issues regarding genetics (e.g., cloning, use of transgenic organisms)
8. To understand the workings and uses of population genetics, variation, and quantitative techniques

Schedule

Week	Date	Topic	Ch
1	Sept 30	Genes Proteins and Variation	1
	Oct 02	Replication, DNA Manipulation	6
	Oct 04	Replication, DNA Manipulation	8
2	Oct 07	Applying Molecular Techniques	6
	Oct 09	Transcription Translation	3.1-
	Oct 11	Chromosome Structure	-3.5
3	Oct 14	**Exam I**	2
	Oct 16	Asexual/Sexual Cell Cycles	2
	Oct 18	Basic Inheritance	
4	Oct 21	Basic Inheritance	2
	Oct 23	Pedigree Analysis	3.6-
	Oct 25	Sex Chromosomes	3.7
5	Oct 28	Chi-Square test of Progeny	4
	Oct 30	Gene Linkage	4
	Nov 01	**Exam II**	4
6	Nov 04	Recombination Analysis	4
	Nov 06	Gene Mapping	5
	Nov 08	Chromosome aberrations	5
7	Nov 11	**Veterans Day (no class)*	5
	Nov 13	Chromosome aberrations	7
	Nov 15	Genetics of Bacteria	
8	Nov 18	Genetics of Bacteria	7
	Nov 20	Population Genetics Allelic Variation	14
	Nov 22	Population Genetics Allelic Variation	14
9	Nov 25	**Exam III**	15
	Nov 27	Variation and Divergence	15
	Nov 29	**Thanksgiving break (no class)*	
10	Dec 02	Variation and Divergence	12
	Dec 04	Mutations and DNA Repair	12
	Dec 06	The Biology of Cancer	13
*Wed	Dec 11	**FINAL 10:15-12:05**	