GENE/BIOL 3200—GENETICS

Lectures: 9:30 - 10:45AM Tues/Thurs Room 120 Pharmacy
OR
12:30 PM – 1:45 PM Tues/Thur, Room 430 Chemistry

Discussion/Help Session: Tuesday 6:30 - 7:30 PM in Davison Life Sciences C127
Students should work on the assigned problems prior to discussion sessions and come to the discussion session prepared to ask questions about the problem sets or material covered in class.

Attendance Policy: Students are expected to attend the lectures and one discussion session per week. The discussion sessions will focus on problem solving using question and answer.

Questions? Faculty will be available after each class session and during office hours to answer questions. The teaching assistants for the course will be available after class and during their scheduled discussion sessions. If you are unable to meet with us at those times, please contact us. Questions about missing an exam due to illness or family emergency should be addressed directly to Dr. Bennetzen at his e-mail address below.

Instructors:	**Office**	**Phone**	**Email**	**Office Hours**
Dr. Brian Condie	270A Coverdell Center	542-1431	bcondie@uga.edu	after class OR by appointment
Dr. Jeff Bennetzen	B104 Life Sciences		maize@uga.edu	after class or by appointment on any day except exam days
Dr. Robert Ivarie	C104 Life Sciences	542-1424	ivarie@uga.edu	by appointment, Wednesdays 2-4
Dr. Jan Westpheling	C426 Life Sciences			before and after class, during help sessions when I'm teaching, and by appointment

Dr. Bennetzen will handle all administrative matters for the course. Dr. Bennetzen can be contacted at gene3200@uga.edu.

Please use the course email address (gene3200@uga.edu) to address course issues. Please do not contact individual instructors using their emails.

Teaching Assistants: available at the Tuesday Discussion/Help Session and by appointment
Alex Mihala, Eleanor Kuntz, Louisa Carter, Ashley Currier

All academic work must meet the standards contained in "A Culture of Honesty." Each student is responsible to inform themselves about those standards before performing any academic work.

ALL STUDENTS MUST DOWNLOAD AND READ THE POLICY STATEMENT FOR GENE/BIOL 3200 FOUND ON eLC WEBSITE

Course Materials: Required textbooks:
Genetics: From Genes to Genomes; by Hartwell, Hood, Goldberg, Reynolds, Silver, and Veres; 3rd Edition, McGraw Hill
Study Guide/Solutions Manual, by Nero, McGraw Hill

Course Syllabus: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Exams I through V are 90 minutes long.
Exams I through Exam V and will be given in MLC 101 or 102.
Each of you will assigned to one of these rooms for Exams I - V

Date	Instructor	Topic	Chapter	Assigned Problems
Th, Jan 7	Condie	- Introduction - Mendelian Genetics Human Genetics - Extensions to Mendel	Ch 1 (not in lecture) Ch 2 Ch 3 p45-52	Chap 2 - 1, 4, 5, 7, 10, 17, 29, 32, 34, 36a
Tu, Jan 12	Condie	Extensions to Mendel	Ch 3 Ch 8 p287-289	Chap 3 - 1, 2, 7, 8, 10, 18, 22, 23, 25, 26a, 27, 28, 31, 38.
Th, Jan 14	Condie	Chromosome Theory of Inheritance	Ch 4	Chap 4 - 1, 2, 9, 10, 14, 19, 22, 26, 27, 29, 33, 34, 37, 40
Tu, Jan 19	Condie	Chromosome Theory of Inheritance Recombination	Ch 4 Ch 5 pp124 - 136	Chap 5 - 8, 18, 19
Th, Jan 21	Condie	REVIEW		
Tu, Jan 26	Condie	Recombination	Ch 5	Chap 5 - solved problem III, 1, 2, 9, 20, 24, 30a, 30 ab
Tue, Jan 26	**6:30-8:00**	**EXAM I**		
Th, Jan 28	Condie	Population Genetics	Ch 21	Chap 21 - 1, 2, 3, 5, 17, 20
Tu, Feb 2	Condie	Quantitative Genetics	Ch 21	Chap 21 - 22, 23, 25, 26
Th, Feb 4	Bennetzen	DNA	Ch 6	Chap 6 - 1 - 3, 5, 7 - 10, 11, 13, 16 - 19, 21 - 24, 27, 28
Tu, Feb 9	Bennetzen	Anatomy and Function of a Gene	Ch 7	Ch. 7: 1, 2, 5, 7, 8, 10, 11, 13, 15 - 17, 20, 21, 23, 28 – 31
Th, Feb 11	Bennetzen	Gene Expression	Ch 8	Ch. 8: 1, 2, 6, 7, 9, 11 - 13, 15, 17 - 19, 21, 22, 26, 29, 31, 33, 36, 37, 42
Tu, Feb 16	Ivarie	Recombinant DNA and cloning	Ch 9	Ch. 9: 1-3, 8, 9, 13, 15, 20, 21, 25, 29, 30, 31, 32
Tu, Feb 16	**6:30-8:00**	**EXAM II**		
Th, Feb 18	Ivarie	Analysis of genomes	Ch 9, 10	
Tu, Feb 23	Ivarie	Analysis of genomes	Ch 10	Ch. 10: 1, 3, 7, 8, 16, 18, 23, 27, 34
Th, Feb 25	Ivarie	Genome variation & dissection	Ch 10, 11	Ch. 11: 1, 4, 5, 7, 12, 13, 15, 21, 24, 27
Tu, Mar 2	Ivarie	Genome variation & dissection	Ch 11	
Tu, Mar 2	**6:30-8:00**	**EXAM III**		
Th, Mar 4	Ivarie	Systems biology	Ch 12	Ch. 12: 1, 2-7, 13, 16

Tu, Mar 9	--SPRING	BREAK--	NO CLASS	
Th, Mar 11	--SPRING	BREAK--	NO CLASS	
Tu, Mar 16	Westpheling	Eukaryotic Chromosome Structure	Ch 13	all
Th, Mar 18	Westpheling	Changes in Chromosome Number	Ch 14	all
Tu, Mar 23	Westpheling	Prokaryotic Genetics	Ch 15	all
Tu, Mar 23	**6:30-8:00**	**EXAM IV**		
Th, Mar 25	Westpheling	Prokaryotic Genetics	Ch 15	
Tu, Mar 30	Westpheling	Non-Mendelian Inheritance	Ch 16	all
Th, Apr 1	Westpheling	Non-Mendelian Inheritance	Ch 16	
Tu, Apr 6	Westpheling	Prokaryotic Gene Regulation	Ch 17	all
Th, Apr 8	Westpheling	Gene Regulation	Ch 17, 18	
Tu, Apr 13	Westpheling	Eukaryotic Gene Regulation	Ch 18	all
Tu, Apr 13	**6:30-8:00**	**EXAM V**		
Th, Apr 15	Westpheling	Genetics of Cancer	Ch 19	all
Tu, Apr 20	Bennetzen	Molecular Evolution	Ch 22	TBA
Th, Apr 22	Condie	Developmental Genetics	Ch 20	TBA
Tu, Apr 27	Condie	Stem Cell Genetics - Cell Reprogramming	Ch 20	TBA
Tu, May 4	**7:00-10:00 PM**	**EXAM VI and Comprehensive FINAL**		