

Introductory Genetics Course Syllabus

BIOL 3350.003

Spring 2017

Instructor: Dr. Jamila Newton

Introduction to classical, molecular, and population genetics. Modern applications including genetic engineering and biotechnology will be discussed. 3 Units.

Prerequisites: *BIOL 1050, BIOL 1150, CHEM 1100, CHEM 1110, or equivalents, with C- or above.*

Course Textbook: Concepts of Genetics, 11th ed. Klug, et al. w/access to “Mastering Genetics”. Access codes are included in the cost of the text (new) or can be purchased alone or with an Ebook. Register for the Mastering Genetics program at <http://www.masteringgenetics.com>. Course name: BIOL3350_SP17_NEWTON. ID: BIOL3350SP17NEWTON

Course Materials: Students are expected to bring a simple calculator to class. Lecture slides will be posted online before or after lecture. In addition to the textbook, computer and internet access are required for this class. For students who do not otherwise have access to a computer or the internet, computers may be available at several campus locations including the main reading room in the library.

Tests: For exams and quizzes, you will not be allowed to leave the room once the test has started. Calculations will be simple so you will not be allowed to use a calculator. Tests will be based on any and all of the following: What is discussed in lecture, information on the lecture slides, textbook reading, Mastering Genetics homework, and videos posted on iLearn. At the end of the semester, your lowest exam score (not the Final) and your two lowest quiz scores will be dropped. Everyone must take the Final Exam.

Grades: The total grade will be based out of 400 points.

Mastering Genetics	5 - 10 pts each	All	50 pts
Assignments	5 - 20 pts each	All	70 pts
Quizzes	10 pts each	Best 8 of 10	80 pts
Exams	50 pts each	Best 3 of 4	150 pts
Final Exam	50 pts	Mandatory	50 pts
Total			400 points

A	A-	B+	B	B-	C+	C	C-	D+	D	F
> 93%	93 - 90	90 - 87	87 - 82	82 - 79	79 - 76	76 - 72	72 - 69	69 - 66	66 - 60	< 60%

Attendance, Absences, and Make-Ups:

- Daily attendance to lecture is **crucial**. Though attendance is not an official part of your grade, there will be graded, **unannounced (pop) quizzes throughout the semester**. These quizzes may be given at any time during the class.
- If you know in advance that you will be absent, you may be able to arrange taking an exam before it is given in class. This is only true for exams, and does not apply for quizzes. Assignments may always be turned in early.
- Unless otherwise noted, **all assignments are due by the beginning of class**. Turning in an assignment ahead of time is highly recommended.
 - Assignments will lose 10% of their grade for each day turned in late (if turned in 15 minutes after the start of class, it is considered a day late).
 - If you are absent, you may email an electronic copy/clear image of the assignment before the start of class to the instructor. The email must be received in the instructor's inbox before the start of class. Remember that sending an email does not guarantee that it will be received in time, and last-minute “technical difficulties” are not a valid excuse. You will be expected to provide the original, hard copy of the assignment when you return to class.
 - Athletes who will be absent due to an event are expected to take any exams and turn in any assignments **prior** to their athletic event. They are also responsible for reminding the instructor of an upcoming absence, and providing documentation of the event dates. Failure to do so in a timely fashion may result in a zero.
- If you arrive late to a test (an exam or quiz), you will not be given any extra time. If you miss a test, you will receive a zero.

- **Make-ups tests (after-the-fact) are only allowed in dire circumstances, as explicitly describe below.** Make-ups may be different versions of what was originally given in class.
 - **Death or imminent hospitalization** of an immediate family member or dependent on the day of the test. This requires proper documentation.
 - Students who experience an **incapacitating illness or accident** on the day of the test. This requires a note from the student's physician (not a family member) or from the University Health Services. The documentation must explicitly show or state that the illness, injury, or incident occurred during the time of the class, or directly prevented the student from taking the test. The documentation must be provided within 7 days of the missed test.
 - It is not uncommon for students to experience bouts of being **emotionally overwhelmed and extremely stressed** during their college career. If these feelings become incapacitating, the student is advised to seek help from a health professional. Make-ups will be allowed if the student provides a signed note from a physician or licensed clinical therapist. The note must explicitly list date range of incapacitation (past and/or future) and detail the limitations to the student's academic activities (i.e. cannot physically attend class, is incapable of completing mentally challenging tasks, etc). Your mental health is your business, so the note should not disclose any diagnoses or confidential information.

Contacting the instructor:

- **For emails**, please include "Bio 3350" in the subject line. Emails can be sent to jnewton4@csustan.edu. I often only check my email twice a day during the week and sometimes not at all during the weekends. Please take this into account when expecting a reply. Not all emails will receive a response, particularly if the concern has already been or will soon be addressed.
- **Office hours** are Fridays 11 to noon in N 202. Students from multiple courses may attend. Additional office hours can easily be made with Dr. Newton by appointment. Please specify if you'd like the meeting to be one-on-one, or open for other students to attend. Unless otherwise noted, please assume additional office hours will be in N 202.
- Course-specific **"discussion sections"** will be set up later in the semester, during which the instructor will go over a specific topic or assignment. Time and place to be announced.

Cheating: Cheating is absolutely forbidden.

- Any of the following are considered cheating:
 - **Plagiarism** is defined as using another person's words without quotation marks and/or reference. Although in preparing problem sets you may paraphrase written information from texts or articles, you must use your own words, clearly cite the source and identify the text that was paraphrased, and demonstrate that you understand that information. If you quote directly or nearly directly from a source, you must indicate this with the use quotation marks and cite the source of information.
 - **Copying** wording, answers, and materials from another source (i.e. not a product of your own work and/or not in your own wording). This includes assignments and tests, whether it be from current or previous classmates, or from another source altogether.
 - **Using devices, resources, or other material** that have not been explicitly allowed during tests is prohibited. Cheating includes using notes, searching the internet, or consulting resources during any test, such as an in-class exam, or an online quiz outside of class.
 - **Altering answers** on a graded problem set or exam, then trying to have the grade changed is considered cheating.
 - **False representation** of you as someone else in this course is a gravely serious offense. Signing in, taking quizzes, or completing any course material for another student is considered cheating.
 - **Forging or altering a grade** change form is also a gravely serious offense. The Registrar's Office is wise to this; they carefully check signatures and send copies of all grade change requests to the faculty member.
- A person cheating receives a 0 for that assignment/test; their name and a description of the offense may sent to the Dean of Students. Cheating offenses are punished by disciplinary probation, suspension, or expulsion. These actions may be noted on your transcript!
- If you think a fellow student is cheating we urge you to discretely tell us about it. We will maintain your anonymity.

Introductory Genetics
Course Schedule, Spring 2017

BIOL 3350.003

Tu, Th 8:00 – 9:15 a

Dr. Jamila Newton

Assignments, due dates, and additional readings will be posted online with sufficient notice. This schedule is tentative and is subject to changes.

Course Schedule:

Date	Topic	Chp.
Unit 1		
Th Jan 26	Intro to Genetics	1
Tu Jan 31	Mitosis and Meiosis	2
Th Feb 2	Mendelian Genetics	3
Tu Feb 7	Extension of Mendelian Genetics	4
Th Feb 9	Sex Determination and Sex Chromosomes	7
Tu Feb 14	Review	
Th Feb 16	Exam 1	
Unit 2		
Tu Feb 21	Chromosome Mapping	5
Th Feb 23	Chromosome Mutations	8
Tu Feb 28	Extranuclear Inheritance	9
Th Mar 2	DNA Structure and Analysis	10
Tu Mar 7	DNA Replication and Repair	11
Th Mar 9	Review	
Tu Mar 14	Exam 2	
Unit 3		
Th Mar 16	DNA Organization in Chromosomes; Epigenetics	12; ST 1
	<i>Spring Break: March 20 - 24</i>	
Tu Mar 28	The Genetic Code and Transcription	13
Th Mar 30	Translation and Proteins; Roles of RNA	14; ST 2
Tu Apr 4	Gene Mutation, DNA Repair, and Transposition	15
Th Apr 6	Regulation of Gene Expression	16-17
Tu Apr 11	Review	
Th Apr 13	Exam 3	
Unit 4		
Tu Apr 18	Recombinant DNA Technology	20
Th Apr 20	Genetic Engineering and Biotechnology; DNA Forensics	22; ST 3
Tu Apr 25	<i>Special Topic: Stem Cells, Gene Therapy, and Personalized Medicine</i>	
Th Apr 27	Population and Evolutionary Genetics	25
Tu May 2	<i>Special Topic: Human Evolution and Migration</i>	
Th May 4	Review	
Tu May 9	Exam 4	
Th May 11	Projects	
Tu May 16	Comprehensive Review	
Th May 18	FINAL EXAM 8:30 – 10:30 a	