Fall 2018
Honors Genetics I Syllabus

Your instructor

Dr. Sharon Thomas and Mr. Robert Miller
Room: LC110
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Main Goals of the course

1. To provide you with the core principles of genetics and molecular biology.
2. To gain higher level thinking skills that are necessary for scientists.
3. To excite you about genetics and its applications.

Expectations

This is NOT a class for passive learners. You are expected to be actively engaged in this course through class discussions, class activities and laboratory experiments.

Textbook and Additional Readings

There is no textbook for this course. Readings will be assigned that include primary literature, classic papers and current articles relevant to the lecture topics. Part of a lecture each week will be devoted to discussing this material. Your participation in these discussions will be part of your final grade. In addition, all students need a copy of *The Immortal Life of Henrietta Lacks* by Rebecca Sloot.

Lab Fees

Please consider donating $10.00 for the purchase of lab materials.

Class Attendance

Students are expected to attend and participate in class. You are responsible **for all material and announcements made in class**. If you are excessively absent, your class participation grade will reflect those absences.

Grading

Your grade for this course will be determined as follows:

Midterm Exam (15%)
Final exam (15%)
Labs and activities (55%)
Quizzes (10%)
Class participation (5%)

THE TEACHER RESERVES THE RIGHT TO MAKE CHANGES TO THE SYLLABUS, INCLUDING LECTURE TOPICS AND TEST DATES. THESE CHANGES WILL BE ANNOUNCED AS EARLY AS POSSIBLE.

Week	Topic
7/30	History of DNA timeline
8/6	Intro to genetics, DNA Model and Isolation, DNA Model
8/13	Transcription and Translation, Model Organisms, Intro to Drosophila
8/20	ADH fly experiment, Meiosis
8/27	Mendelian Genetics and Pedigrees
9/4	Punnett Squares, Virtual Fly cross
9/10	*Immortal Life of Henrietta Lacks*, mitosis
9/17	Direct to Consumer Marketing
9/24	Start Fruit fly cross, cancer vs. normal cells
10/15	Chi square, Cervical cancer and HPV
10/22	Eugenics, Karyotypes, Cancer treatments
10/29	DNA damage and repair, Variability
11/5	History of Evolution, Adaptations
11/12	Natural Selection and Speciation
11/19	Phylogenic Trees
11/26	Hardy-Weinberg Principle
12/3	Co-evolution of Genes and Culture
12/10	Human evolution
12/17	Final Exam