

PCB 3063, GENETICS
CLASS 17855, SPRING, 2019, 4 CREDITS

COURSE INSTRUCTOR

Dr. Michael M. Miyamoto, Professor, Department of Biology, miyamoto@ufl.edu, Office: Bartram 328, Phone: 392-3275, Office hours: MT, period 2 (8:30-9:20 am)

LIBRARIAN INSTRUCTOR

Dr. Joe Wu, Assistant University Librarian, Health Science Center Libraries (HSCL), zhuoxi.wu@ufl.edu

TEACHING ASSISTANTS

Galen Cobb, Graduate TA, gcobb@ufl.edu, Office: Bartram 420, Office hours: TBA on course website
Sarah Kurtis, Graduate TA, sarahkurtis@ufl.edu, Office: Bartram 617, Office hours: TBA on course website
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- All email correspondences must be from your “.ufl” account and have your full name in the body of the email. Otherwise, your message may not be recognized by our email filters, and thus, may not be answered.

CLASS MEETINGS

TR, periods 5 (11:45 am-12:35 pm) and 6 (12:50-1:40 pm); McCarty Hall A, Room G186

REQUIRED TEXTBOOK

Klug, WS, MR Cummings, CA Spencer, MA Palladino, and D Killian. 2019. Concepts of Genetics, 12th ed. Pearson, New York. [Your textbook is provided as an electronic text, which is accessible via Mastering Genetics on the Canvas website (please see below)].

COURSE WEBSITE:

Course website: E-Learning in Canvas website, <http://elearning.ufl.edu>
The E-Learning in Canvas website is where you will find basic information about the course (e.g., contact information and office hours for the instructors and teaching assistants), where the class syllabus, handouts and notes, and practice exams will be posted, along with any announcements, and where you will complete your three web-based assignments (i.e., web-based Parts A, B, and C) for our term project on human hereditary diseases. Please remember that you are responsible for all announcements posted on our course website and/or made in lecture.

E-Learning is also where you will connect to Mastering Genetics, and thereby, gain access to your electronic copy of Klug et al. (2019). In Mastering Genetics, you will also have access to online practice problems, videos, and other learning resources that accompany your electronic textbook.

LECTURES AND DISCUSSIONS

<i>Week</i>	<i>General Topics</i>	<i>Chapters</i>
January 7	Introduction to course and to genetics Mitosis and meiosis Mendelian inheritance	1 2 3
January 14	Statistics and probabilities Allele and gene interactions Sex, extranuclear, and autosomal linkage	3 4 7, 9
January 21	Problem-solving session I Crossover, recombination, and mapping	5
January 28	Required PubMed sessions at Health Science Center Libraries (HSCL)	

	Quantitative inheritance January 31 (R), no class in lieu of required PubMed sessions at HSCL	25
February 4	Problem-solving session II Exam I, February 7 (R)	
February 11	Nucleic acids, proteins, and chromosomes Bacterial and viral genetics	10, 12, 14 6
February 18	Replication, transcription, and translation Point mutations	11, 13, 14 15
February 25	Required NCBI sessions at HSCL Chromosomal mutations February 28 (R), no class in lieu of required NCBI sessions at HSCL	8
March 4	Spring Break (no classes)	
March 11	DNA repair and recombination “Prokaryotic” gene expression	11, 15 16
March 18	Eukaryotic gene expression Exam II, March 21 (R)	17-19
March 25	Developmental genetics Genetic engineering and biotechnology	23 20, 22, ST 1, ST 2, ST 4*
April 1	Genomics Transposable elements Medical genetics	21 15 24, ST 3, ST 5, ST 6*
April 8	Population genetics	26
April 15	Evolutionary genetics Poster presentations, April 18 (R)	26
April 22	Final Exam, April 23 (T)	

*”ST” refers to the six chapters on “Special Topics” in your textbook

EXAMS AND GRADING

<i>Assignment</i>	<i>Points</i>	<i>Dates</i>
Exam I	150	February 7 (R)
Exam II	150	March 21 (R)
Final exam	150	April 23 (T)
Research project	150	PubMed sessions: Week of January 28 NCBI sessions: Week of February 25 Part A: Due February 12 (T) Part B: Due February 21 (R) Part C: Due March 14 (R) Poster presentations: April 18 (R)
Total	600	

ATTENDANCE

Attendance during the scheduled exams is mandatory, except in the case of a documented medical and/or family emergency as detailed below. Furthermore, attendance at the two computer workshops and the final poster presentation is also mandatory. Please note that the computer workshops and poster presentation cannot be “made up” or rescheduled, because they involve the use of specific facilities and resources at the Health Science Center Libraries.

MINIMUM GRADE CUTOFFS

Minimum grade cutoffs are listed below. Importantly, final grades will be curved at the end of the semester.

<i>Point Range (%)</i>	<i>Letter Grade</i>
≥90%	A
≥87%	A-
≥83%	B+
≥80%	B
≥77%	B-
≥73%	C+
≥70%	C
≥65%	C-
≥55%	D
<55%	E

- In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). A C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

EXAMS

Exam I, Exam II, and the Final Exam will each consist of multiple choice questions, essay questions, and problems. None of these three will be cumulative.

- *Makeup exams:* No make-up exams will be given without formal documentation of illness or family emergency. Specifically, the student will need to have the Dean of Students Office (P202 Peabody Hall) send a formal accommodation email to the instructor stating that the student was unable to complete the exam on the scheduled date due to illness or family emergency. These notes from the Dean’s Office must be received by Dr. Miyamoto within 3 business days (i.e., by the announced due date) after the exam. Make-up exams are short answer and essay format (i.e., are not multiple choice). Please note that it remains the student’s responsibility to arrange for and to take their makeup, which will be offered only once.
- You will be responsible for bringing a “simple” hand calculator to use during Exam I and the Final Exam. By “simple,” we mean a hand calculator that is capable of basic math (i.e., addition, subtraction, multiplication, division, logs, and exponents/square roots). Graphing and/or analytical calculators, cell phones, laptops, and other such devices will not be allowed during the Exams.

RESEARCH PROJECT

Research project refers to your term poster project that you will conduct first by yourself and then collectively with three other students in the class. Each student will initially be assigned a different human genetic disease to complete Parts A, B, and C (see above). Then, students will be randomly organized into groups of four to research together the genetic, molecular, biochemical, and physiological bases of a specific human genetic disease. This collaborative research will be presented by the group as a professional scientific poster. The scientific posters will be displayed on Thursday, April 18 in the Health Science Center Libraries for review by the entire class and by faculty and student visitors to the Library. More information will be provided about this project, as well as about the three exams, in future lectures.

- *Late Part A, B, and/or C assignments:* Parts A, B, and C each consist of both an online assessment and paper (written) assessment. The online assessments are timed such that you have a set number of minutes to enter your answers. Thereafter, your online assessment will close and we will not be able to reset it. Thus, as will be emphasized in your computer workshops, it is strongly recommended that you first complete these online assessments on paper so that you only need to transfer answers when your assessment starts. Furthermore, you should work on a computer with a reliable internet connection as we will not be able to reset your assessment due to a “glitch” once you start or after the due date.

Your online assessments for Parts A, B, and C must be completed by the deadline (i.e., we will not be able to reset your online assessments after their due dates). Conversely, late paper assessments for Parts A, B, and C will be accepted after their deadlines, but only for only one business day beyond their due date. Late paper assessments for Parts A, B, and C will be penalized by 50%.

ACADEMIC HONESTY

All students registered at the University of Florida have agreed to comply with the following statement: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

In addition, on all work submitted for credit, the following pledge is either required or implied: “On my honor I have neither given nor received unauthorized aid in doing this assignment.”

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://www.dso.ufl.edu/scct/process/student-conduct-honor-code/>.

- Academic dishonesty cannot be tolerated. All persons involved in cheating or plagiarism will receive a zero on the affected assignment or exam, and will be reported to the Dean of Students Office.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students who require a classroom accommodation for a disability must contact the Disability Resource Center in 0020 Reid Hall (phone: 352-392-8565). Please see the University of Florida Disability Resource Center website for more information at: <https://www.dso.ufl.edu/drc>. Please note that the student must provide documentation of a requirement for accommodation by the second week of class. No accommodations are available to students who lack this documentation. If this documentation is provided later than the end of the second week, then we nor the Disability Resource Center can guarantee that these accommodations will be provided. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed.