

PCB 3063-GENETICS
SECTION 4462, SPRING 2018, 4 CREDITS

Course Instructor

Dr. Michelle Mijeong Yoo, Department of Biology, ymj@ufl.edu, office hours: Tue, period 6 (12:50 - 1:40 pm) at Carr 221 or by appointment

Librarian Instructor

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

Teaching Assistant

Natya Hans, Graduate TA (nhans@ufl.edu), office hours: Wed, period 5 (11:45 – 12: 35 pm) at Carr 217
Sarah Kurtis, Graduate TA (sarahkurtis@ufl.edu), office hours: Thurs, period 8 (3 – 3:50 pm) at Carr 619
Megan Hertel and Laurel Tanke, Undergraduate Student TAs, office: Bartram 310, office hours: Available on course website

Class Meetings: Tuesday and Thursday, Periods 3 – 4 (9:35 am – 11:30 am) in McCarty C 0100

Course Description:

PCB3063 is a challenging and stimulating course covering genetics from Mendel to the present. The class provides a solid foundation in genetics as a stand-alone course as well as a prerequisite to other genetics classes offered on campus. Topics to be covered include transmission, molecular, and population genetics. The course emphasis is on problem solving and conceptual synthesis.

Email Policy:

All e-mail correspondence to course instructors must **originate from your ufl.edu account, have your full name in the body of the e-mail, and contain your course in the subject line.** E-mails not meeting these requirements may not be recognized by my e-mail filters, and thus may not be answered.

Textbook:

Concepts of Genetics by Klug et al., 11th edition, 2015, Pearson
Bundled package includes textbook: *Concepts of Genetics* ALC and Student's Handbook and Solutions manual

Online Resources and Electronic Textbook:

This course will be participating in the UF All Access program. Login at the following website and Opt-In to receive your required *MasteringGenetics* access code, which will be used to register within Canvas. - <https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED>- Codes can also be purchased at the bookstore, but at a higher cost. Any code obtained outside of UF All Access will not work for the course. There will be discounted loose-leaf texts available in the bookstore, but only the access code is required.

Step-by-step instructions will be posted in Canvas for registering the access code.

Classroom Response System

We will use *Learning Catalytics* for in class questions. This requires a smartphone, tablet, or laptop to participate in class. *Learning Catalytics* is included with your *Mastering Genetics* with e-book purchase.

Course website:

Class material including the syllabus, exam results, some lecture slides, and other information related to the course will be posted on the course e-Learning website (<http://elearning.ufl.edu/>). The course is found under "e-Learning in Canvas". You are responsible for all announcements made in lecture and/or posted on the course website for this class. For help with e-Learning, call the UF Computing Help Desk at 352-392-4357, or visit <http://helpdesk.ufl.edu/>.

General Policies:

Attendance is not required, but students are expected to attend all classes and are responsible for all material covered during the lecture, including announcements. Students are strongly encouraged to read the assigned chapters before coming to class as this will make it easier to comprehend the lecture material. If you miss class, visit the e-Learning site for any lecture notes and course announcements. Please do NOT request individual special treatment regarding grading at the end of the semester; we do not adjust grades for individuals for any reason. Plan to do well on all exams and other assessments from the beginning of the semester; if you are having difficulty in the class, please let me know BEFORE the exams rather than after.

Grading:

<i>Assignments</i>	<i>Points</i>	<i>Dates</i>
Exam I	120 (24%)	February 13 (T)
Exam II	100 (20%)	March 27 (T)
Exam III	100 (20%)	April 24 (T)
LearningCatalytics	30 (6%)	Every class
Online assignment	60 (12%)	A week after the assigned date
Research Project	90 (18%)	Part A: TBA Part B: TBA Part C: TBA Poster presentation: April 19 (R)
Total	600 (100%)	

- Regrades must be requested in writing, and be taken within 7 days of return of exam.
- Minimum grade cutoffs are listed below. These cutoffs will not be raised; in other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. A curve may be applied to individual exams or to the final scores, depending on the class average, and will be

communicated clearly. However, we will not adjust grades on an individual basis. Final scores will NOT be rounded (i.e., 89.99% is not 90%).

Point Range (%) [Ⓢ]	Letter Grade [Ⓢ]
≥ 90.00 [Ⓢ]	A [Ⓢ]
≥ 86.66 [Ⓢ]	A- [Ⓢ]
≥ 83.33 [Ⓢ]	B+ [Ⓢ]
≥ 80.00 [Ⓢ]	B [Ⓢ]
≥ 76.66 [Ⓢ]	B- [Ⓢ]
≥ 73.33 [Ⓢ]	C+ [Ⓢ]
≥ 70 [Ⓢ]	C [Ⓢ]
≥ 66.66 [Ⓢ]	C- [Ⓢ]
≥ 63.33 [Ⓢ]	D+ [Ⓢ]
≥ 60 [Ⓢ]	D [Ⓢ]
≥ 56.66 [Ⓢ]	D- [Ⓢ]
< 56.66 [Ⓢ]	E [Ⓢ]

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page: <https://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:* Make-up exams will only be considered in cases of medical and/or family emergencies as documented by an accompanying letter. In case of illness, a letter from your primary care provider is required. A personal matter requires a note from the Dean of Students (P202 Peabody Hall). The student is responsible for scheduling any make-ups with the Professor. Make-ups will be given only within one week after the regularly scheduled time and they will consist of essay questions and problems (no multiple choice questions).
- 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.

Online Assignment

Students will receive up to 12% of the total course points for participation in the online exercises, and for performance on online assessments using the *MasteringGenetics*. There will be 20% penalty per day after due, but you will get only 50% of earned credit after five days later. Once assigned, assignments are available online continuously until the semester ends.

Learning Catalytics

A total of 30 points will be awarded for *Learning Catalytics* (LC) quizzes. The points earned will reflect the proportion of LC questions answered correctly in class. Each question posed will be scored as 0.75 LC

points for a correct answer with an additional 0.25 LC points for participation. Students who achieve 75% of all points possible for LC will receive full course points. Students may not make up LC questions, regardless of the reason (e.g., absence, malfunctioning cell phone, forgot to register, etc.). It is the student's responsibility to regularly check (i.e., daily or weekly) their gradebook in LC to ensure that their submissions were correctly received, and to contact LC support to resolve any issues with submissions not being properly recorded in the LC gradebook in a timely manner.

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. 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 19 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.

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://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

Accommodations for Students with Disabilities:

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of classes**. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability

Resources will work with the instructor to accommodate the student.

Counseling and Wellness Center:

Many students experience test anxiety and other stress related problems. The University's Counseling and Wellness Center (<http://www.counseling.ufl.edu/cwc/Default.aspx> , 392-1575) offers a diverse array of support systems. In an emergency, students should contact the University Police Department: 392-1111 or 9-1-1.

Online Course Evaluations:

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

Lecture schedule:

NOTE: The following schedule is **tentative**; lecture topics and coverage may change. Updated schedule and specific reading assignments will be posted on the course website throughout the semester

	Week	Topic	Chapters
1	January 9	Introduction to course and Genetics	1
	January 11	Mitosis and meiosis	2
2	January 16	Mendelian Genetics	3
	January 18	Extensions of Mendelian Genetics	4
3	January 23	Problem-solving session I	5
	January 25	Chromosome Mapping in Eukaryotes	
4	January 30	Sex determination and Sex Chromosomes	7
	February 1	Extranuclear Inheritance	9
5	February 6	NCBI session I	
	February 8	Problem-solving session II	
6	February 13	EXAM I	10
	February 15	DNA Structure and Analysis	
7	February 20	DNA Replication and Recombination, Organization	11
	February 22	Transcription	13
8	February 27	Translation	14
	March 1	Regulation of Gene Expression in Prokaryotes	16
9	March 6	SPRING BREAK-NO CLASS	
	March 8		
10	March 13	Regulation of Gene Expression in Eukaryotes	17
	March 15	Chromosomal organization	8 & 12

11	March 20 March 22	NCBI session II Mutations (guest lecture by Sarah Kurtis)	15
12	March 27 March 29	EXAM II Developmental Genetics	18
13	April 3 April 5	Biotechnology Genomics and Proteomics (guest lecture by Natya Hans)	20 21
14	April 10 April 12	Quantitative Genetics Population Genetics	23 25
15	April 17 April 19	Evolutionary Genetics (guest lecture by Natya Hans) Poster Presentation	25
16	April 24	EXAM III	