

GENETICS: PCB 3063
SECTIONS 4334

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Course Description: PCB 3063 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.

Class: Monday and Wednesday, Periods 10-11 (6:15-8:10pm) in 1001 NPB.

Textbook: *Essentials of Genetics* by Klug, 9th edition, which is published by Pearson-Benjamin Cummings. This class also requires access to MasteringGenetics (MG) for the problem sets. In order to assist synchronization of MG and allow you online access to the text, the text and MG is bundled and is to be purchased as a UF All Access package. This results in savings on the text: <http://news.hr.ufl.edu/2017/02/uf-all-access-textbook-program-an-effective-way-to-save-students-money/>. Instructions to purchase the text are found in Canvas. Access to the solutions manual that accompanies this text is helpful when you get stuck working problems.

The text is bundled with MG. This text is online, however, if you want loose-leaf pages, this can be purchased from the UF bookstore separately.

This text is a shortened version of the full-length text. Some supplemental PDF will be added to enrich your learning experience and increase your knowledge of important genetics concepts.

Grading	Points
Exam I	120 (23%)
Exam II	100 (19%)
Exam III	100 (19%)
13 Collaborative Quizzes (drop one)	90 (17%)
17 Problem Sets (drop one)	<u>120 (23%)</u>
Total	520

One of the best ways to learn genetics is to work in study groups—I encourage you to study for exams together and work together on genetics problems. Chat and discussion functions are available online to facilitate this. Be sure to attempt to solve the problems at the end of each chapter. These are excellent preparation for the exams. I encourage you to solve all of these

problems. If you get stuck and need a hint ask your study partner, TA, instructor, or check the solutions manual.

For quizzes and PS, the following grading scale will be used:

91-100 A	88-90.9 A-	
85-87.9 B+	81-84.9 B	78-80.9 B-
75-77.9 C+	68-74.9 C	
65-67.9 D+	61-64.9 D	Below 60 is failing.

Exam scores rarely conform to this scale. To circumvent this problem, a grade rubric will be distributed in class when each exam is returned.

General Policies

- * You are responsible what is covered in class even if you cannot attend! Check the course calendar frequently for updates to test and assignment dates.
- * Makeup exams will not be given.
- * Bring a calculator to exams—Graphing calculators CANNOT be used unless students demonstrate that the memory is cleared prior to the exam.
- * Academic dishonesty will not be tolerated. If cheating or plagiarism is suspected, all persons involved will receive a zero on the affected problem set or exam, and will be reported to the Dean of Students Office.

Collaborative Quizzes

- * These quizzes permit discussion among group members, but each student will submit their own answers. In fact, discussion among students is encouraged to students to solve problems. The expectation is that the problems are sufficiently difficult to encourage peer learning. You can also use class notes, but not the textbook or internet searches are not allowed.
- * These quizzes will be given at the end of class on Wednesdays.

University Support Services

Resources are available on campus to help students meet academic goals and solve personal problems, which interfere with their academic performance. Resources include:

1. UF Counseling and Wellness Center, 3190 Radio Road, 352 392-1575, personal and career counseling.
2. Student Mental Health, Student Health Care Center, 392-1171.
3. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling. <https://www.crc.ufl.edu/>

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help

connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Disability Notice: Students with disabilities enrolled in this course and who may need disability-related classroom accommodations are encouraged to make an appointment to see me before the end of the second week of the term. All discussions will remain confidential, although the Student Accessibility Services office may be consulted to discuss appropriate implementation of any accommodation requested.

TOPICS COVERED AND EXAM SCHEDULE

(CHECK THE COURSE CALENDAR FOR UPDATES)

Topic	Reading
Course policies and Introduction	CH 1
Mitosis, Meiosis, and Recombination	CH 2
Probability	CH 3
Mendelian Genetics	CH 3
Mendelian Extensions	CH 4
Sex Determination	CH 5
Linkage and Mapping in Eukaryotes	CH 7
Exam 1	Oct. 2
DNA: the genetic material	CH 9
DNA Replication	CH 10
Transcription	CH 12
Translation	CH 13
Mutation and DNA repair	CH 14
Chromosomal Changes	CH 6
Regulation of gene expression:	CH 15
Exam 2	Nov. 6
Quantitative Genetics	CH 21
Population and Evolutionary Genetics	CH 22
Conservation Genetics	PDF
Cancer Genetics (time permitting)	CH 16
Exam 3	Dec. 6