

# PCB 3063, GENETICS, Spring 2023, SECTION 2C92

**Instructor:** Dr. W. Brad Barbazuk, Department of Biology and the UF Genetics Institute  
Office hours: Tues 3-4, Th 3-4, Room 222 Bartram Hall or by appointment (273-8624)  
[bbarbazuk@ufl.edu](mailto:bbarbazuk@ufl.edu)

Course website: UF e-learning

**Text:** Klug et al. 2018 Concepts of Genetics, 12th ed. Pearson, New York.

Schedule: T,R, periods 9 and 10 (4:05 - 6:00), ROG0106

## **Course Description:**

PCB 3063 is an introduction to genetics course covering topics from Mendelian genetics to molecular biology and genomics. The class will provide students with a solid foundation in genetics either as a stand-alone course or as a prerequisite to other life sciences courses offered on campus. The course emphasis is on problem solving and conceptual synthesis. Course performance will be measured by three exams and a class project (details in class).

## **Course Objectives:**

Upon completion of this course students will have built core knowledge of the field of genetics, including both mendelian and molecular genetics. Students will be able to use this core knowledge to analyze scientific literature and make connections within and between other life-sciences coursework.

## **Email Policy:**

All email correspondence must be from your ufl.edu account, have your full name in the body of the email, and contain your course and section number in the subject line. Emails not meeting these requirements may not be recognized by my email filters, and thus may not be answered.

## **Grading:**

20% Exam I; 15% Exam II; 15% Exam III, 25% Class Project and 25% Exam IV (or cumulative). Practice problems will be assigned, but not graded.

Grades are based either on the average of 4 stand-alone exams + project, **or** on the average of exam I, exam II, exam III, project and cumulative exam. If you write the cumulative exam and your score on the cumulative exam is higher than your averaged score (Average of (Exam 1 + Exam2 + Exam3 + Project + Cumulative)), the score on the cumulative exam can substitute for your average score for your course grade.

- Regrades must be requested in writing and be taken within 7 days of return of exam.

- **No make-up exams will be given without prior permission or documentation of illness.** 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). **Make up exams may be given in an essay format.**

- Attendance in class is not required, but material covered only in lecture may appear on exams.
- Grading will be on a per cent scale.

93 – 100%	A
90 – 92.9%	A-
87 - 89.9%	B+
83 – 86.9%	B
80 – 82.9%	B-
77 – 79.9%	C+
73 – 76.9%	C
70 – 72.9%	C-
67 – 69.9%	D+
63 – 66.9%	D
60 – 62.9%	D-
<60	E

A curve **may** be applied at the instructor's discretion. The curve can only raise your grade, not decrease it. Please see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> for UF's policy for assigning grade points.

### **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:

<http://www.dso.ufl.edu/judicial/procedures/academicguide.html>.

### **Accommodations for Students with Disabilities:**

Students with disabilities who require accommodations should first seek assistance at the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). The Dean of Students Office of Disability Resources will work with the instructor to accommodate the student. Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drp/services/>.

### **Counseling Center:**

Many students experience test anxiety and other stress related problems. "A Self Help Guide for Students" is available through the Counseling Center (301 Peabody Hall, 392-1575) and at their website: <http://www.counsel.ufl.edu/>

### **Other Information:**

Please do not request individual special treatment at the end of the semester; we do not adjust grades for individuals for any reason. Plan to do well on all exams from the beginning of the semester.

### **Covid-19 Statement:**

In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit [one.ufl.edu](http://one.ufl.edu) for screening / testing and vaccination opportunities
- As with any excused absence, you will be given a reasonable amount of time to make up missed work.
- Continue to regularly visit [coronavirus.UFHealth.org](http://coronavirus.UFHealth.org) and [coronavirus.ufl.edu](http://coronavirus.ufl.edu) for up-to-date information about COVID-19 and vaccination.

### **In-Class Recording:**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered

published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

**Syllabus is subject to change.** While it is very likely that the posted exam and poster session dates will be adhered to, these should be considered tentative ONLY!! Date changes will be announced well in advance.

**Genetics Syllabus, Spring 2023**

Week	Topic	Read:	Suggested Problems	Subtopics
1 1/10 1/13	Transmission Genetics I	CH 2/3	TBA	Genetics Introduction; mitosis & meiosis; Mendelian genetics: Punnett squares & probability
2 1/17	Transmission Genetics I	CH 3	TBA	Mendelian genetics: Punnett squares & probability,
1/20	Transmission Genetics II	CH 4		Extensions of Mendelian genetics.
3 1/24	Transmission Genetics II	CH4/5	TBA	Extensions of Mendelian Genetics; Linkage mapping
1/27	Transmission Genetics II	CH 5		Linkage & mapping in eukaryotes
4 1/31	Transmission Genetics II	CH 5/6	TBA	Linkage & mapping in eukaryotes/ Microbial Genetics
2/2	Transmission Genetics II	CH 6		Microbial Genetics
5 2/7	<b>Exam I</b>		TBA	<b>EXAM I 2/9</b>
2/9	Sex Determination	CH 7		Sex Determination
6 2/14	Chromosomes	CH 8	TBA	Chromosome Variation
2/16	Molecular Genetics I	CH 10-11		DNA: the genetic material; replication & recombination; chromatin structure
7 2/21	Molecular Genetics II	CH 12	TBA	Chromatin structure
2/23		CH 13		RNA/Transcription
8 2/28	Molecular Genetics II	CH 14	TBA	Translation
3/3	<b>Exam II</b>			<b>Exam II 3/3</b>
9 3/7	Molecular Genetics IV	CH 15	TBA	DNA Repair

3/9		CH 16		Regulation of Gene Expression: Prokaryotes
10		Spring Break 03/13-03/17		
11			TBA	
3/21	Molecular Genetics IV	CH 17		Regulation of Gene expression: Eukaryotes
3/23	Molecular Genetics V	CH 18		Post Transcriptional Regulation
11 3/28	Molecular Genetics VI	CH 19	TBA	Epigenetics
3/30	<b>EXAM III</b>			<b>EXAM III 3/30</b>
12 4/4	Genomics	CH 20-22	TBA	Biotechnology/Genomics
4/6	Genomics	CH 20-22		Biotechnology/Genomics
13 4/11	Molecular Genetics VII	CH 23	TBA	Developmental Genetics
4/13	Transmission Genetics IV	CH 24		Cancer Genetics
14 4/16	Transmission Genetics IV	CH 25	TBA	Quantitative Genetics
4/18	Transmission Genetics IV	CH 26		Pop. And Evol. Genetics
15 4/25	Class Project Presentation			<b>Student Presentations 4/25</b>

Final Exam: 5/04/2023 @ 8:00 PM - 10:00 PM ROG0106