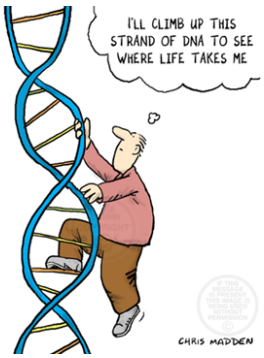
PCB3063 Genetics (Face-to-face)



I. Class Meetings Flint Classroom 50
Monday & Wednesday 10th & 11th Periods – 5:10 PM – 7:05 PM

II. Instructor:

Dr. Cherie Bond
Department of Biology
Office Hours: 522B Carr Hall
8:00 am-12:00 pm Tuesday, 6:30 pm-8:00 pm Thursday (EST)
E-mail: bondc@ufl.edu

Teaching Assistants:

Nathan Catlin
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III. 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 evolutionary genetics. The course emphasis will be on problem solving and conceptual synthesis.

Genetics is a reading-intensive course with many highly interconnected concepts. Keeping up with reading assignments in the text will assist students in learning the material and attaining greater understanding and higher grades. My recommended strategy for success is: 1) Read the textbook, 2) Do Mastering Genetics Dynamic study modules, if assigned, 3) Come to lectures for summary of important module concepts and practice, 4) work through Mastering Genetics homework assignments, 5) Take Mastering Genetics Quiz, 6) Prepare and participate in Discussion Assignments.

Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus. Not having read the information in this syllabus or in instructor announcements will not constitute an excuse for missing an assignment, exam, or other assessment.

IV. E-mail Communication

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 and section number in the subject line**. E-mails not meeting these requirements may not be recognized by our e-mail filters, and thus may not be answered.

V. Course Resources

A. Textbook – *Concepts of Genetics*, 12th Edition, William S. Klug, Pearson Education, Inc. (publisher), with *MasteringGenetics* online learning system.

B. 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 Pearson access code, which will be used to register from within Canvas
- https://www.bsd.ufl.edu/G1CO/lPay1f/start.aspx?TASK=INCLUDED (Links to an external site.)Links to an external site. Follow the UF All Access Student Instructions. 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. When setting up your account, **you must use your Gatorlink (@ufl.edu) e-mail address.** There will be loose-leaf texts available at the bookstore, but only the access code is required.
Next, register for Mastering Genetics using your access code.

1. Sign in to Canvas and enter your Canvas course.
2. Do one of the following: Select any Pearson link from any module.
   OR Select a MyLab and Mastering link in the Course Navigation.
3. Next, select OpenMyLab and Mastering or a content link.

Next, get access to your Pearson course content:

1. Enter your Pearson account username and password to Link Accounts.
   You have an account if you have ever used a MyLab or Mastering product.
   If you don't have a Pearson account, select Create and follow instructions.
2. Select an access option: Enter the access code that came with your textbook or that you purchased separately from the bookstore.

If available for your course,

- Buy access using a credit card or PayPal.
- Get temporary access.

From the You're Done page, select Go to My Courses.
Note: We recommend you always enter Mastering Genetics through Canvas.

For help with All Access registration, email: allaccess@bsd.ufl.edu

For help with the Pearson site, contact their Technical Support. Contact information and support hours will be posted on the Canvas webpage for the course.
https://help.pearsoncmg.com/integration/cg/canvas/student/en/content/get_started.htm

C. Learning Catalytics (Clickers): We will use the Learning Catalytics (LC) Classroom Response System (CRS) for quiz questions during class. LC allows students to use any web-enabled device, including laptops, smartphones, and tablets to participate in class. Follow the instructions in the "LearningCatalytics_Instruction" PowerPoint presentation found in the Files section on the course's Canvas website. For information on LC, visit:
http://help.pearsoncmg.com/learning_catalytics/student/en/Topics/lc_looking_for_help.htm

If you have problems with LC, visit https://www.pearsonhighered.com/support/for-students.html

D. Course Website (e-Learning) - Class material including the syllabus, discussions, problem sets, exam results, lecture slides and other assignments and information related to the course will be posted on the course e-Learning site http://elearning.ufl.edu/ (Links to an external site.)
The course is found under "e-Learning in Canvas". You are responsible for **all** announcements whether made by email or Canvas inbox and/or posted on the course website for this class. So, please be sure to check into the online course often.
For help with e-Learning, call the UF Computing Help Desk at 352-392-4357, or visit the e-Learning support website: http://helpdesk.ufl.edu/ (Links to an external site.)

VI. Online Assignment Information

As part of PCB 3063, you are required to complete online assignments. If at any time you have questions about these assignments, please contact the Instructor. Due dates are posted within the individual Modules on Canvas. **All assignments must be completed by the stated due date and time for credit. Extensions will NOT be given because of technical or personal issues that occur within 24 hours of the assignment deadline, so be sure to complete assignments early. Deadlines are final times to hit the submit button and work should be completed well before the deadlines.** Make sure you have time to devote to assignments before you begin. Even when assignments do not have stated time limits, Canvas will time them out after several hours.

You are encouraged to work together and help each other with all assignments, except for quizzes & exams! ☺ Note that all due dates for assignments are clearly posted on the course website and reflect the most up-to-date information.

To broaden your understanding of ethical, technological, & societal issues in genetics, discussion topic assignments will be posted within each module in **Canvas**. Each week there will be a discussion assignment due. Please remember that some issues may be difficult or emotionally-charged, so be courteous, respectful, and considerate of others cultures & opinions. Bullying, harassment, and uncivil behavior will not be tolerated and will result in a 0% for the discussion assignment.

Any questions regarding the lecture material or the assignments should be asked in or after class, by ufl email, or during Office hours. Don't be shy about asking questions in class; after all, if you are confused about the material, there will almost certainly be other students with the same questions.

Communication with Your Instructor

When you have a question about the assignments, check the following sources first to see if it is already answered, **before** e-mailing your Instructor:

- Course Syllabus
- Start here
- Prulu

If you still cannot find the answer to your questions:

- If it is a question that others might find useful to know the answer to as well, post it in Prulu.
- If it is a question specific to you (e.g. account or grade specific), e-mail your instructor. Barring unusual circumstances, expect a reply with 24 hours. E-mails and Prulu posts are checked at least once per day, but sometimes not more than that.
- If it is a question about the scoring of a specific assignment, please contact the instructor/TA who did the scoring of that assignment.

Grading of Online Exercises:
There are several different types of assignments that students will complete. For all assignment types other than exams, you will receive scores based on the grading rubric provided with the instructions. There are no make-ups available for online assignments. Once assigned, assignments are available online at all times up until the deadlines. Because they are assigned well ahead of time, documentation of illness or a personal matter must be provided for at least

five of the seven days of the week of the assignment's deadline for accommodations to be made. It is especially important not to wait until just before the deadlines to complete assignments. A computer problem happening just before the deadline is not a valid excuse for not completing the assignment. If there is a technical problem with accessing the website or a particular assignment within *CANVAS*, you must contact ***eLearning*** **technical support and the instructor** at least 48 hours prior to the deadline, so appropriate steps can be taken to fix the issue and appropriate extensions can be given if necessary. (Thus, check early that you can access the assignments. You will not be granted an extension for technical problems, if you do not contact the instructor well before the deadline.)

Repeated for emphasis: technical problems must be reported to the instructor at least 48 hours prior to the submission deadline, no exceptions! It is in your best interest to plan to submit all online assignments well ahead of the posted deadlines so that you have time to deal with technical problems should they arise.

VII. Assessments and Grading

A. Exams – 30% of grade in course - There will be three "unit" exams (10% each), but no cumulative "final" exam. Each exam will cover material from powerpoint lectures, chapter quizzes, learning activities & discussions, and the assigned reading in the textbook. All exams will be multiple-choice, matching, identify, and/or short-answer questions and problems.

If necessary, exams **MAY** be curved using the following approach: The top 3% of the scores will be averaged, and the difference from 100 percentage points will be added to each exam score. Exams will be available for review by appointment for one week after the exam date. Exams will **not** be available for review after the semester has ended.

*Bring a calculator to exams – graphing calculators CANNOT be used unless the student demonstrates to the proctor that the memory has been cleared.

***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 (refer to **section VIII**).

B. Mastering Genetics Quizzes – 15% of grade in course - Each module will contain an online comprehension quiz in Mastering Genetics worth 1% of the grade (Module 12 has two). You will be graded based on the number of questions answered correctly out of the total number of questions on the quiz. All quizzes include extra credit questions, usually particularly difficult questions or those that are time-consuming.

C. Learning Activities – 45% of grade in course - Each module will contain learning activities, usually 1 discussion and 2 other assignments, from Mastering Genetics website and/or handouts or question/problem sets on Canvas. Some of these activities may require a file upload of some sort and will be turned in as an assignment in CANVAS. Other assignments, such as Dynamic Study modules, will be completed in Mastering Genetics. These assignments, unless otherwise stated, will be graded based on the specific rubric or assignment of points indicated. Most Mastering Genetics assignments include extra credit questions, usually particularly difficult questions or those that are time-consuming. Discussion assignments will require a short post (<100 words) to the Discussion forum in Canvas to get credit for the assignment. Please take care to avoid plagiarism in your posts and, as always, maintain a collegial and courteous tone.

D. **Special Topics Project –** 10% of grade in course - Working in groups, students will perform independent research on a special topic in genetics and present their findings as a poster. Students may choose to investigate one of the 6 special topics, or an application of genetic engineering presented in the textbook, or other aspects of modern genetics that spark their interests, such as: designer babies, "RePet" services that clone family pets, ancestry tracing through mitochondrial, Y chromosome, or nuclear DNA, tracking human evolution, bioethics issues, specific genetic diseases, clinical trials for pharmacogenetics treatments, etc. The group must reach a consensus on a single cohesive topic, though individuals may work on different parts of the project independently. This is meant to be a collaborative exercise, with all members of the group contributing their skills and knowledge. Students will self-assess their contributions, as well as their peer contributions, to their group's effort. A grading rubric will be available with detailed instructions to ensure success.

E. Grading Summary

Assignment	**Points**	**Point Totals**	**% of Grade**	**% Totals**
Discussions	10 each	150	1% each	15%
Assignments	10 each	300	1% each	30%
Weekly Quizzes	10 each	150	1% each	15%
Special Topics	100	100	10%	10%
Exam I	100	100	10%	10%
Exam II	100	100	10%	10%
Exam III	100	100	10%	10%
Course total		**1000**		**100%**

May be subject to minor changes at the discretion of the instructor.

All grades will be posted on e-Learning, and it is the responsibility of the student to check their grades on e-Learning to make sure they are accurate. If there is a discrepancy you must let us know within ONE week of the grade being posted on eLearning.

Minimum grade cutoffs are listed below. Because each exam may be curved individually (see section VII-A, above) & many assignments & quizzes have built-in extra credit, the scores for the course as a whole will not be curved (i.e. these grade cutoffs will not be lowered) except under extremely rare circumstances (i.e., unless we tell you otherwise these cutoffs will not be lowered, so do not ask). However, 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. Final scores will NOT be rounded (i.e., 89.99% is not 90%).

Point Range	Letter Grade	Point Range	Letter Grade
≥ 90.00	A	≥ 70	C
≥ 86.66	A–	≥ 66.66	C–
≥ 83.33	B+	≥ 63.33	D+
≥ 80.00	B	≥ 60	D
≥ 76.66	B–	≥ 56.66	D–
≥ 73.33	C+	< 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 (Links to an external site.)Links to an external site..

E. Computing Requirements - It is the sole responsibility of the student to maintain a functioning and compatible computing system, proper software and a reliable internet connection. Computing/internet connectivity issues will NOT be acceptable excuses for missed deadlines, unless they are brought to the attention of the instructor **at least 48 hours prior to the deadline** and accompanied by the ticket number from technical support. See Resources for Technical Support contact information. Microsoft Office programs are required for many of the assignments; it can be accessed by current UF students through GatorCloud. (Links to an external site.)Links to an external site.

F. Special Treatment - 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 your instructors know *before* the exams rather than after.

VIII. 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). You are expected to review and abide by the University of Florida Academic Honesty Guidelines at: https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty (Links to an external site.)Links to an external site..

Cheating, including plagiarism will result in consequences which many range from a 0 on the assignment to a failing grade for the entire course.

IX. Attendance

Students are expected to attend all lectures and to check the course website regularly for announcements, assignment due dates, and other course related information. Lectures are not a simple recapitulation of the textbook; they are designed to synthesize and embellish the most important concepts to reinforce and provide a logical structure to the material. Students are strongly encouraged to read the assigned chapters before coming to class or attempting any of the assignments, as this will make it easier to comprehend the material.

X. Time Commitment

The UF College of Liberal Arts and Sciences assumes that each student will devote 3-4 hours per week per credit-hour to each course, including time in lectures and labs. Because PCB 3063 is 4 credits, each student should therefore expect to devote 12-16 hours per week to this course during a regular semester, or 16-21 hours per week during Summer C. A recommended time allocation is below.

Activity	Hours per Week
Lectures/Videos	2-3
Online Exercises & Assignments	5-6
Textbook Readings	2-3
Review and Study	3-4

If you find yourself spending more than the recommended number of hours per week on average on these activities, discuss this with your course instructor to see if you can refine your study habits. If you find yourself spending less than the recommended number of hours per week on average, you should recognize that you may have difficulty learning and comprehending the material in this time, and this will probably be reflected in poor performance on the various assessments.

XI. Conduct in Class

Please be courteous and do not chat, surf the web, listen to music, or text during lecture. This can be distracting to other students and the instructor. Numerous studies have shown that students who are distracted or attempting to multitask during class, generally have significantly lower performance and grades in the course.

Use of electronic devices in class to take notes or otherwise participate in classroom activities is approved. Approved electronic devices are laptop computers, cell phones, smart phones, tablets, and voice recording devices. Other uses of these devices or the use of unapproved devices will be considered disruptive and students will be asked to discontinue use of such devices immediately. Unapproved electronic devices include video recorders, digital cameras and MP3 players. Students who disrupt the learning environment may be asked to leave the classroom. Multiple disruptions will be considered grounds for the assignment of a failing grade.

XII. Accommodations for Students with Disabilities

Students who will require an 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/ (Links to an external site.)Links to an external site.. 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.

XIII. Counseling Center

Many students experience test anxiety and other stress related problems. "A Self Help Guide for Students (Links to an external site.)Links to an external site." as well as a diverse array of

support systems are available through the UF Counseling and Wellness Center (3190 Radio Road, 392-1575, http://www.counsel.ufl.edu/ (Links to an external site.)Links to an external site.).

XIV. Course Evaluation

To improve the teaching and learning of this important course, students are required to submit a teaching evaluation for each instructor electronically via this website: https://evaluations.ufl.edu/evals/ (Links to an external site.)Links to an external site.
Evaluations are stored and reported in a completely anonymous manner. Authentication for evaluation submission is only to ensure that only one evaluation is submitted per student per instructor. If >75% of the class submits an evaluation, the whole class will be awarded 1 point extra credit on the final grade.

XV. Course Schedule

This is a tentative schedule; the dates and coverage of topics are subject to change.

Week	Date	Lecture Topics	Text	Assignments Due this Week
0	08/22	Introduction, Syllabus, Mastering Genetics	1	Orientation & Syllabus Quiz Mastering Genetics (MG) Practice MG Intro Dynamic Study Modules (DSM)
1	08/27 08/29	Mitosis – Meiosis Intro to Mendelian Genetics	2	MG DSM Homework Chap 2 Draw It to Know it Worksheet MG Quiz Chap 2 Exploring Genomics: PubMed
2	09/03 09/05	NO CLASS – Labor Day Mendelian Genetics	3	MG DSM Homework Chap 3 Genetics Problems Worksheet MG Quiz Chap 3 Exploring Genomics: OMIM
3	09/10 09/12	Extensions to Mendel Sex-linkage	4	MG DSM Homework Chap 4 Genetics Problems Worksheet MG Quiz Chap 4 Hemophilia Case Study
4	09/17 09/19	Chromosome Mapping Sex Determination	5 7	MG DSM Homework Chap 5 MG Gene Mapping Homework MG Quiz Chaps 5&7 Ethics & Society: Sex selection
5	09/24 09/26	Chromosome Mutations Extranuclear Inheritance	8 9	MG Chromo Mutation Homework Exploring Genomics: Chromo Database MG Quiz Chaps 8&9 Ethics & Society: 3-parent Babies
6	10/01 10/03	**Exam I (Chaps 1-5,7-9)** DNA Structure & Analysis	10	MG DNA Structure Homework Critical Reading: Franklin/Watson MG Quiz Chap 10 Exploring Genomics: BLAST

7	10/08	DNA Replication	11	MG DSM Homework Chap 12
	10/10	DNA Organization	12	Critical Reading: Meselson & Stahl Replication Fork Worksheet MG Quiz Chaps 11&12 Exploring Genomics: Variant Database
8	10/15	Transcription	13	MG DSM Homework Chap 13
	10/17	Translation & Proteins	14	MG DSM Homework Chap 14 MG Quiz Chaps 13&14 Ethics & Society: Gene Therapy
9	10/22	Gene Mutation & Repair	15	MG DSM Homework Chap 15
	10/24	Prokaryote Expression	16	Critical Reading: Bundo et al MG Quiz Chap 15 Create a Mutant Homework
10	10/29	Eukaryote Expressio/Review	17	MG DSM Homework Chap 16
	10/31	**Exam II (Chapters 10-17)**		MG Regulation Homework MG Quiz Chap 16 Ethics & Society: Quorum Sensing
11	11/05	Epigenetic Regulation	19	MG Chap 19 Homework
	11/07	Developmental Genetics	23	MG Chap 23 Homework MG Quiz Chap 19 Exploring Genomics: IHEC
12	11/12	NO CLASS		MG Chap 24 Homework
	11/14	Cancer & Cell Cycle	24	MG Quiz Chap 23 MG Quiz Chap 24 Ethics & Society: Stem Cells
13	11/19	Quantitative & Multifactor	25	MG Chap 25 Homework
	11/21	NO CLASS - Thanksgiving		Skin Color Genetics Homework MG Quiz Chap 25 Ethics & Society: GMO Rice
14	11/26	Population & Evolutionary	26	MG Chap 26 Homework Population
	11/28	Population & Evolutionary		MG Chap 26 Homework Evolution MG Quiz Chap 26 Ethics & Society: Human Origins
15	12/03	Special Topics Projects		Group Project Poster
	12/05	**Exam III (Chap 19, 23-26)**		Self/Peer Evaluation Course Evaluation