

PCB 3063 – Genetics – Summer 2020

Remote Instruction - Section B001 MTWR 1:00-2:50 pm

3 credit hours

*In Summer B, Genetics is an asynchronous remote instruction course. Lecture PowerPoints will be posted as narrated .mp4 files. Textbook readings and assignments are online at **Sapling Learning Genetics**. Exams and Workshops will be held during the scheduled class time MTWR 1:00-2:50 pm.*

Instructor: Dr. Cynthia Bayer

Communication: Webcourses *Inbox* or *Announcements*

Online Exams: Mon 1:00 pm

Zoom Workshop/Office Hour:

Tues Wed Thurs 1:00 pm

Undergraduate Teaching Assistant: Joanna

Chat Hour: Tues 10:00 am

Zoom Hour: Thurs 10:00 am

Course Description: This general Genetics course will cover the basic concepts of transmission (classical) genetics and molecular genetics. Transmission genetic principles include chromosome dynamics during cell division, disorders of chromosome segregation in humans, Mendelian and non-Mendelian inheritance of characters, sex determination, pedigree analysis, and eukaryotic gene mapping. Molecular genetic principles include DNA structure and replication, storage and expression of genetic information, regulation of gene expression, mutation and repair, epigenetics, and biotechnology.

Course Prerequisites: An upper division course for students who have completed two semesters of Chemistry (CHM 2045 and CHM 2046) and earned a grade of C or higher in Biology 1 (BSC 2010C).

Student Learning Outcomes: Successful Genetics students will demonstrate a broad understanding of the basic principles of Genetics, demonstrate an ability to use information in new situations to solve problems, and be able to draw connections between concepts. Students will be expected to:

- **Demonstrate** how the inheritance of alleles and characters correlates with chromosome dynamics during cell division.
- **Apply** the principles of Mendelian and non-Mendelian inheritance of characters to a variety of pedigrees and be able to distinguish between different modes of inheritance.
- **Calculate** the genetic distance between linked genes using the concepts underlying gene mapping in eukaryotes.
- **Define** an allele at the molecular level and as a unit of inheritance.
- **Deduce** connections and **distinguish** between the cellular processes of DNA replication, transcription and translation.
- **Compare** and **contrast** the control of gene expression in bacteria and eukaryotes.

Students will be evaluated on meeting these objectives via on-line homework, quizzes & 6 exams

Academic Activity - Course Expectations:

- To meet the registrar's requirement for documentation of your participation in this course, please complete the **Course Expectations/Syllabus Quiz**, found in our Webcourse Quiz section, by **5:00 pm Friday, June 26**. Failure to do so will result in a delay in the disbursement of your financial aid.
- All students will receive credit for completion of the Course Expectations/Syllabus Quiz.

Course website:

Access our course website at Webcourses@UCF via the myUCF portal using your NID and password. You will find links to the **Syllabus, Weekly Modules, Sapling Learning Homework & Quizzes, End-of-Chapter Problems, Web Resources, Grades, Online Exams, Zoom and Chat** tools. **Chapter PowerPoints** as well as narrated .mp4 files are posted.

Communication via *Inbox*:

- Please contact me via Webcourses *Inbox*. Emails sent to my UCF address will not be answered.
- Compose a clear and succinct email message, including your name and course.
- I will refer your question to the Syllabus or Announcement if it is already answered there.
- Because I have >300 students in two courses this session, I will carve out time once per weekday to answer emails and attempt to answer your message within 24 hours.

REQUIRED Textbook: Participation in the on-line course **Sapling Learning Genetics**, which contains graded quizzes, homework, and a link to the electronic textbook ***Pierce Genetics: A Conceptual Approach, 6th ed.*** Two options for purchasing access to this course and eBook are described in the **Introduction & Getting Started** page in Webcourses.

Course Grade: 80% = Best 5 out of 6 Exams (100 points/exam)
 20% = Sapling Learning: Homework & Quizzes

- Students are responsible for keeping track of their grades and identifying issues within 2 days of any grade posting in Webcourses.
- Letter grades for the semester will be awarded according to the scale below. Letter grades will adhere to this percentage range with no exceptions. There will be **no curving** of final grades.

A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = 59% and below

Online Exams: There will be 5 lecture exams plus an optional Comprehensive Final Exam, each worth 100 points. Exams are based on assigned readings, Sapling Learning assignments, End-of-Chapter Problems, and material covered in lecture Ppts. ***Exams will be held during scheduled class time, beginning at 1:00 pm. The lowest score of all exams will be dropped automatically.***

- **Lecture Exams** - will be held every Monday at 1:00 pm
- **Optional Final Exam** - COMPREHENSIVE (covering all material from the semester)
- will be held on the last day of the course, Thurs, July 30 at 1:00 pm.

Sapling Learning: Homework & Quizzes are assigned for each chapter, and together make up **20%** of your course grade. *Availability* and *due dates* are listed in the Sapling course. After the due date for any assignment has passed, you will not be able to get credit for that assignment. Homework (unlimited attempts, hints provided) and Quizzes (1 attempt, no hints) will be automatically graded and synched weekly to Webcourses gradebook. **BE SURE TO SELECT THE SUBMIT BUTTON AT THE END OF THE ASSIGNMENT TO SUBMIT ALL ANSWERS.** The lowest grade of all quizzes will be dropped automatically. The lowest grade of all homework assignments will be dropped automatically.

End-of-Chapter Problems are listed in Webcourses as recommended practice and review for each chapter. You will not submit answers or receive credit but are strongly encouraged to complete these problems for a better understanding and review of the concepts discussed in lecture.

Zoom Workshops and Office Hours: Because of the challenges inherent with a large Zoom meeting, please be sure to follow the *Zoom Best Practices* link on Webcourses. Zoom meetings will be recorded and posted in Webcourses.

- Find the scheduled meeting invitation at the Zoom tab in our Webcourse.
- Join the meeting on time. Participants will be placed in a waiting room and permitted entry only during the first few minutes to ensure security of the meeting.
- Keep your microphone muted unless asking or responding to a question.
- By joining a Zoom meeting you agree to be audio- and video-recorded.
- Practice patience.

- Anyone who violates UCF rules of conduct or fails to follow basic rules of courtesy will be removed from the meeting.

Taking Online Exams:

- All exams are held during the scheduled class time. 5 Lecture exams will be held every Monday at 1:00 pm. The Final Exam will be on the last day of the course, Thurs, July 30 at 1:00 pm.
 - Exam questions will be multiple choice.
 - Each exam is timed.
 - You are allowed 1 attempt to complete the exam.
 - You will see 1 question at a time and will not be able to change your answer once you move to the next question. You will not be permitted to view the previous question.
 - Each exam is available **ONLY** at the scheduled time.

Excused Missed Exams:

- If an exam is missed due to an official, documented, University-accepted absence, a makeup exam will be permitted. Excused absences include official UCF business at which your presence is required, U.S. Military-related business (e.g. Reserve Duty), legal obligation (e.g. jury duty).
 - You must provide to me documentation with your name and the date affected **1 week prior** to the scheduled exam date.
 - Because all testing is online and the summer session is only 6 weeks, any make-up exam will be given on the last day of class, **Thurs, July 30**, time TBD.
 - A make-up exam will include short answer questions in addition to multiple choice.

- A makeup exam **may** be permitted if any other legitimate* documented reason that circumstances beyond your control prevented you from taking the scheduled exam (including, but not limited to, major illness, death in the immediate family)
 - *Official documentation from an appropriate authority (doctor, police, judge, etc.) must be **provided within 24 hours of the missed exam**, *A doctor's note must be written on letterhead paper with a contact phone number and must indicate that a medical condition was treated.*
 - *If I approve your excuse, a make-up exam will be given on the last day of class, **Thurs, July 30**, time TBD.*

Unexcused Missed Exams: If a student misses an exam for an unexcused event (e.g. forgetting there was an exam, vacations, family gatherings) or *cannot provide acceptable documentation*, then they will receive a score of zero for that exam. The first zero score will be dropped as the lowest scoring exam. Any additional zero exam scores due to unexcused absences will count towards the final course grade.

Reviewing Exams: Your responses and correct answers will be available for viewing after all students, including students with SAS time extension accommodations, have completed their exams and the grades are posted.

Academic Integrity: As reflected in the UCF creed, integrity and scholarship are core values that should guide our conduct and decisions as members of the UCF community. Plagiarism and cheating contradict these values and are serious academic offenses. Students enrolled at UCF are expected to familiarize themselves and uphold the standards of academic behavior defined in the University's *Rules of Conduct* (Section UCF-5.008) in the Golden Rule handbook <http://goldenrule.sdes.ucf.edu>.

"Academic misconduct includes but is not limited to cheating, plagiarism, assisting another in cheating or plagiarism, and commercial use of academic materials." (Section UCF-5.015 The Golden Rule handbook) This includes using unauthorized materials during an online exam, copying from another student's exam or quiz, or in any way falsifying or misrepresenting your academic work. Violations of the UCF *Rules of Conduct* may result in a score of 0 on an assignment, an F in the course, or formal documentation through an Academic Misconduct Report submitted to the Office of Student Conduct <http://osc.sdes.ucf.edu> for disciplinary action. Possible sanctions include Disciplinary Suspension, a "Z Designation" placed on the student's official transcript indicating academic dishonesty, <http://goldenrule.sdes.ucf.edu/zgrade>, or Disciplinary Expulsion from UCF.

Course Accessibility: It is my goal that this class be an accessible and welcoming experience for all. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please contact me (with or without a Student Accessibility Services (SAS) accommodation letter) to discuss reasonable options or adjustments. You may also want to contact SAS <http://sas.sdes.ucf.edu> (Ferrell Commons 185; 407-823-2371) to talk about academic accommodations.

Help & SARC: Please ask for help if you need it! I am here to answer your questions. Additionally, help is available through SARC (Student Academic Resource Center, Howard Phillips Hall, Room 113: 407-823-5130; <http://sarc.sdes.ucf.edu>). SARC provides students with free individual and small-group tutoring for Genetics with Supplemental Instruction (SI). Students can also request a Learning Consultation with a Learning Skills Specialist or attend Academic Success Workshops to improve study skills & strategies.

UCF Cares: UCF and I care not only about your academic success, but also your overall well-being. Please visit UCFcares.com <http://cares.sdes.ucf.edu/> if you are seeking resources or support, or if you are worried about a friend or classmate. Free services and information are included for a variety of student concerns, including but not limited to alcohol use, bias incidents, mental health concerns, sexual harassment or assault, and financial challenges. You can also e-mail ucfcares@ucf.edu with questions or for additional assistance. You can reach a UCF Cares staff member Student Care Services, <http://scs.sdes.ucf.edu>, Ferrell Commons 142, between 8 a.m. and 5 p.m. by calling 407-823-5607.

If you are in immediate distress, please call Counseling and Psychological Services (CAPS), Counseling Center 101 <http://caps.sdes.ucf.edu> to speak directly with a counselor 24/7 at 407-823-2811, or call 911.

Academic Services and Resources: A list of available academic support and learning services is available at [UCF Student Services](#). Click on "Academic Support and Learning Services" on right-hand side to filter.

Non-Academic Services and Resources: A list of non-academic support and services is also available at [UCF Student Services](#). Click on "Support" on the right-hand side to filter.

Genetics – Summer 2020 Lecture Schedule

June 22: Introduction & *Chapter 1* Fundamental Concepts

June 23: *Chapter 2* Chromosomes & Cellular Reproduction

June 24: *Chapter 3* Basic Principles of Heredity

June 25: *Chapter 4* Sex Determination & Sex-linked Characteristics
Practice Exam 1:00 pm

Thurs, June 25: DROP deadline 11:59 pm
Fri, June 26: ADD deadline 11:59 pm

June 29: **EXAM 1 (Chapters 1, 2, 3, 4) 1:00 pm**

June 30: *Chapter 5* Extensions & Modifications of Basic Principles & *Chapter 6* Pedigree Analysis

July 01: *Chapter 7* Linkage, Recombination & Gene Mapping

July 02: *Chapter 8* Chromosome Variation

July 06: **EXAM 2 (Chapters 5, 6, 7, 8) 1:00 pm**

July 07: *Chapter 10* DNA: The Chemical Nature of the Gene

July 08: *Chapter 11* Chromosome Structure

July 09: *Chapter 12* DNA Replication

July 13: **EXAM 3 (Chapters 10, 11, 12) 1:00 pm**

July 14: *Chapter 13* Transcription

July 15: *Chapter 14* RNA Molecules & Processing

July 16: *Chapter 15* Genetic Code & Translation

Thurs, July 16: Withdrawal deadline 11:59 pm

July 20: **EXAM 4 (Chapters 13, 14, 15) 1:00 pm**

July 21: *Chapter 16* Control of Gene Expression in Bacteria

July 22: *Chapter 17* Control of Gene Expression in Eukaryotes

July 23: *Chapter 18* Gene Mutations & DNA Repair

July 27: **EXAM 5 (Chapters 16, 17, 18) 1:00 pm**

July 28: *Chapter 19* Molecular Genetic Analysis & Biotechnology

July 29: *Catch-up Day*

July 30: **FINAL EXAM Comprehensive 1:00 pm**

Note that the instructor reserves the right to make changes to the syllabus or other aspects of the course at any time. These changes will be announced in Webcourses.