

**BIOL 305 Genetics
Spring 2018 Syllabus
65 Coming Street Room 102**

Instructor:	Dr. Jessica McCoy
Office:	65 Coming Street, Room 102
Office Hours:	Wednesdays 9am-10am, or by appointment
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Course Description: The basics of the science of heredity. The course encompasses Mendelian genetics, the molecular basis of inheritance, changes in chromosome number and structure, gene mapping, mutations and developmental genetics.

Learning Outcomes:

- To learn the basic principles, concepts, theories, and language that constitutes the discipline of genetics.
- To provide a framework for understanding how genetic information is organized, changes, and influences biological processes.
- To provide an understanding as to how genetics is used for addressing biological problems.

Course Objectives:

- Gaining familiarity with appropriate data, information and knowledge-gathering techniques and research skills in the discipline
- Using effective skills and strategies for working collaboratively
- Mastering a thorough understanding of the main concepts of genetics and how Mendelian genetics can be applied and expanded by an understanding of the mechanisms involved at the molecular level
- Developing critical and analytical skills through problem solving activities
- Relating genetics to other fields of biology

Prerequisites: BIOL 111/111L and BIOL 112/112L.

Co-requisites or prerequisites: BIOL 211 and 211D, MATH 250 or equivalent course in statistics or permission of instructor.

Course Policies:

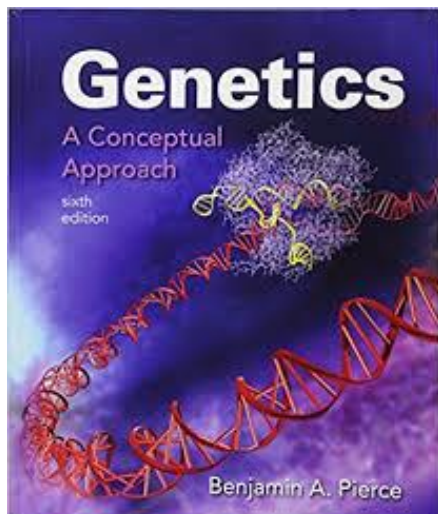
GRADING

Homework /Assignments/ Quizzes:	30%
Unit Exams:	50%
Final Exam:	20%

Final Grading Scale:

A (93.5-100), A- (90-93.49), B+ (88.5-89.9), B (83.5-88.49), B- (80-83.49), C+ (78.5-79.9), C (73.5-78.49), C- (70-73.49), D+ (68.5-69.9), D (63.5-68.49), D- (60-63.49), F (<60)

REQUIRED Materials:



Our Text Book: Genetics: A Conceptual Approach- Benjamin Pierce-6th Edition.

A subscription to **Sapling Plus** for Genetics is absolutely **REQUIRED** for this course. Your subscription to Sapling Plus includes access to the e-text book. If you prefer to have a hard copy of the text book, there is a package available at the bookstore that includes both Sapling Plus and the loose leaf version of the text book.

Please purchase your Sapling subscription by **01/16/2017**.

These two packages are available at our bookstore. Keep in mind that the only **REQUIRED** purchase is a subscription to Sampling Plus for Genetics (option 1, below)

(1) Sapling

- a. Sapling Plus for Genetics: A Conceptual Approach 6th Ed., Benjamin Pierce. (One-term homework with 24 months e-book access) ISBN-10: 1-319-10844-X ; ISBN-13: 978-1-319-10844-1

(2) Sapling + Loose Leaf Sheets

- a. Loose-leaf version for Genetics: A Conceptual Approach 6th Ed., Benjamin Pierce. ISBN-10: 1-319-12595-6; ISBN-13: 978-1-319-12595-0

Additional Instructions for Sapling Set up:

- Go to www.saplinglearning.com/login to log in or create an account.
- Under Enroll in a new course, you should see Courses at College of Charleston. Click to expand this list and see courses arranged by subject. Click on a subject to see the terms that courses are available.
- Click on the term to expand the menu further (note that Semester 1 refers to the first course in a sequence and not necessarily the first term of the school year).
- Once the menus are fully expanded, you'll see a link to a specific course. If this is indeed the course you'd like to register for, click the link.
- Review the [system requirements](#) and confirm that Flash is updated and enabled in your browser.

The following link includes more detailed instructions on how to register for your course: <https://community.macmillan.com/docs/DOC-5972-sapling-learning-registering-for-courses>.

Need Help? Our technical support team can be reached by phone or by webform via the Student Support Community. Here are their hours and contact information: <https://community.macmillan.com/docs/DOC-6915-students-still-need-help>.

Lectures: This class has been structured so that two-thirds of class time will be spent going through the traditional PowerPoint lectures. The remaining class time will be filled with class discussions/activities. Therefore, the PowerPoint material is meant to only to provide illustrations and outline topics but not to write out every idea. The PowerPoint material will be available on OAKS prior to lecture.

Homework/Assignments/Quizzes: You will complete a Sapling-based homework assignment for each Chapter that we cover. I have designed these assignments to emphasize the most critical information and to prepare you for exams. This course may include in-class assignments and quizzes. You will be given prior notification for all quizzes (no “pop” quizzes).

Exams: There will **four unit exams and one cumulative final exam**. Each of the exams will consist of multiple choice, true/false, fill in the blank, and **LOTS of problem-solving and short answer questions**. Test questions will be pulled from the textbook, PowerPoint lectures, in-class/homework activities, and class discussions. You will not pass this course simply by memorizing facts. If you are having difficulties with the online homework problems, seek help from your instructor.

Calculators, but **NOT** cell phones, are allowed at exams. Calculators cannot be shared.

If your **hand writing is illegible** you will receive **0 points** for that question.

NO MAKE-UP EXAMS will be given without prior permission. If a student misses a scheduled examination without prior permission, s/he will receive a grade of zero. Only medical conditions with a written note from a medical professional will be excused without prior permission. Requests to miss examinations must be made personally, not by note, voice mail, or email.

College Policies:

Center for Student Learning: I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies, speaking & writing strategies, and course content. They offer tutoring, Supplemental Instruction, study strategy appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843)953-5635.

Center for Disability Services: (<http://disabilityservices.cofc.edu/for-faculty/fags.php>)

- Any student eligible for and needing accommodations because of a disability is requested to speak with the professor during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged.
- The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed.
- This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services/SNAP, 843.953.1431 or me so that such accommodation may be arranged.

College of Charleston Honor Code and Academic Integrity:

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

It is important for students to remember that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. Students can find the complete Honor Code and all related processes in the Student Handbook at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

****Dates and Course content on this syllabus are subject to change****

General Course Outline:

Date	Lecture	Topic
T Jan 9	Class Orientation	Syllabus & Introduction
R Jan 11	Chapter 1	Model Organisms
T Jan 16	Chapter 2	Chromosomes and Cellular Reproduction
R Jan 18	Chapter 3, 4	Basic Principles of Heredity & Sex Determination
T Jan 23	Chapter 3, 4	Basic Principles of Heredity & Sex Determination
R Jan 25	Chapter 5	Exceptions to the Basics
T Jan 30	Flexible	Flexible
R Feb 1	Exam 1	Exam 1 – Covers Chs 1-5
T Feb 6	Chapter 7 (will refer to 8)	Linkage, Recombination and Gene Mapping
R Feb 8	Chapter 10	The Chemical Nature of the Gene
T Feb 13	Chapter 11	Chromosome Structure
R Feb 15	Chapter 12	DNA Replication
T Feb 20	Chapter 13 and 14	Transcription and RNA Processing
R Feb 22	Flexible	Flexible
T Feb 27	Exam 2	Exam 2- Covers Chs 7, 10-14
R Mar 1	Chapter 15	Genetic Code and Translation
T Mar 6	Chapter 16,17	Control of Gene Expression in Bacteria and Eukaryotes
R Mar 8	Chapter 16, 17	Control of Gene Expression in Bacteria and Eukaryotes
T Mar 13	Chapter 18	Gene Mutations and DNA Repair
R Mar 15	Exam 3	Exam 3- Covers Chs 15-18
T Mar 20	No Class	Spring Break
R Mar 22	No Class	Spring Break
T Mar 27	Chapter 25	Population Genetics
R Mar 29	Chapter 25/26	Population Genetics
T April 3	Chapter 21	Epigenetics
R April 5	Chapter 22	Developmental Genetics
T April 10	Chapter 22	Immunogenetics
R April 12	Chapter 23	Cancer Genetics

T April 17	<i>Flexible</i>	<i>Flexible</i>
R April 19	Exam 4	Exam 4- Covers Chs 21-23, 25
T April 24	No Class	Reading Day
MAY 1 st	FINAL EXAM	Cumulative Exam