

BIOL 3166 (CRN 11573)

Genetics

Fall 2022

Instructor Contact Information:

Dr. Andy Truman

Email: atruman1@uncc.edu

Website: www.Trumanlab.org

 @trumanlab

Office: Woodward Hall 486C



Course Meeting Time:

Online Only

Office Hours:

By appointment only

Course Objectives:

This course will provide up-to-date information about various principles of classical and molecular genetics at the level of molecules, cells, and multicellular organisms, including humans. Topics include Mendelian and non-Mendelian inheritance, structure and function of chromosomes and genomes, biological variation resulting from recombination, mutation, and selection, population genetics, and evolutionary genetics. The focus of the course is mainly on the genetics of eukaryotes, but prokaryotic system will also be introduced and contrasted with eukaryotic genetics.

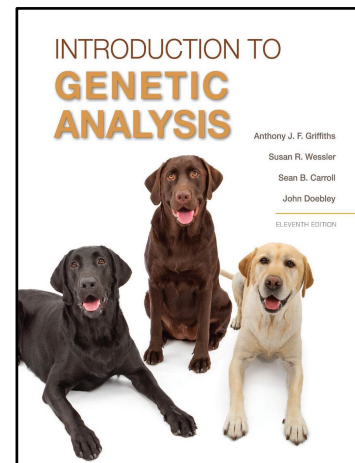
Required Textbooks:

AN INTRODUCTION TO GENETIC ANALYSIS

Edition: 11th (2015)

Authors: Anthony J.F. Griffiths, Susan R. Wessler,
Sean B. Carroll, John Doebley

ISBN-13: 9781464109485



Tentative Schedule and Topics:

Week Beginning	Topic	Book Chapters	Topic tested in Exam #
August 22	Introduction to Genetics	Chapter 1	1
-	DNA structure and replication	Chapter 7	1
August 29	Proteins and Protein Synthesis	Chapter 9	1
-	Model organisms (Dr. Van Oosten-Hawle)	-	1
September 5	Post-translational Modification of Proteins	Chapter 9	1
-	DNA damage repair and mutation	Chapter 16	1
September 12	Exam 1 will be released on Sep 16		
-	RNA transcription and processing in eukaryotes I	Chapter 8	2
September 19	RNA transcription and processing in eukaryotes II	Chapter 8	2
-	Gene Isolation and Manipulation	Chapter 10	2
September 26	Genomes and Genomics	Chapter 14	2
-	Exam 2 will be released on Sep 30		
October 3	Single-Gene Inheritance-1	Chapter 2	3
-	Single-Gene Inheritance-2	Chapter 2	3
October 10	Student Recess	-	-
-	Independent Assortment of Genes	Chapter 3	3
October 17	Chromosome Mapping	Chapter 4	3
-	Epigenetics	Chapter 12	3
October 24	Exam 3 will be released on Oct 28	-	
-	Gene Interactions-1	Chapter 6	4
October 31	Gene Interactions-2	Chapter 6	4
-	Genetic Control of Development	Chapter 13	4
November 7	The Dynamic Genome: Transposable Element	Chapter 15	4
-	Large Scale Chromosomal Changes	Chapter 17	4
November 14	Exam 4 will be released on Nov 18	-	
-	Population Genetics	Chapter 18	5
November 21	Thanksgiving break		-
-	Thanksgiving break		-
November 28	Evolution of Genes and Traits & Molecular Evolution	Chapter 20	5
-	No class-study for exam 5		
December 5	Exam 5 will be released on Dec 9th		Exam 5 covers all topics taught in the course

Exams and Grading

1. Letter grades will be assigned on a 5-point scale (90-100% = A; 80 ≤ B < 90%; 70 ≤ C < 79%; 60 ≤ D < 69% = D; < 60% = U).
2. Total points for this course are **500** from 1 syllabus quiz and 5 exams.
3. There is 1 mandatory online syllabus quiz worth **10 points** that will test the students knowledge of the syllabus.
4. There are **5 open book exams** in this course, Exam 1 will be worth **90 points**, and Exams 2, 3, 4, 5 will be worth **100 points**.
5. On the exam day, you will be given a **24-hour window** (12 am-11.59 pm) in which to start the exam. Once you start, you will have **90 minutes** to complete the exam. For example, if you start at 10am, you need to finish it by 11:30 am. **Note:** the exam **must be completed before 11.59 pm on the exam day**.
6. **Bonus points** will be given for 1) attending the review sessions with Justin Davis (TA for this course) OR 2) attending the Biological Sciences Friday Seminars (<https://biology.charlotte.edu/upcoming-events/friday-seminar-series>). For each TA session or seminar a student attends, they will receive **1 bonus point, up to a maximum of 25 points**. Please note: attendance and participation in the TA session will be recorded on Zoom. **Seminar attendance will be recorded on the day by the TA**. It is the student responsibility to check that their attendance was recorded.
7. Exams 1-4 will not be cumulative. To see which topics will be in which exam, please see the class schedule on the previous page.
8. Exam 5 will test on **ALL topics** of the course.
9. Make-up exams will be permitted **ONLY** for serious illness and mandatory UNC Charlotte policies. Please see "**Policy on missing exams due to emergency situations**" for more details.
10. **Instructors/TAs will not negotiate with students about any exam results, in class or outside of class**. The student will have a chance to review their exam if needed. If the student thinks there may have been an error and would like to argue for points on an exam, they must send the instructor an e-mail with an explanation within **7 days** of the exams. The instructor may decide in a student's favor or against, based on their judgment of the student's argument.

Course Policies

1. Please read the entire syllabus carefully before continuing in this course. These policies and expectations are intended to create a productive learning atmosphere for all students.
2. The standards and requirements set forth in this syllabus may be modified at any time by the course instructor/TA. Notice of such changes will be by an announcement on CANVAS or by email.
3. All of the assignments, exams, etc. for classes will be **completely online using Canvas**. **Lockdown browser is not required for the exams**.
4. The instructor/TA may modify the standards, requirements and dates set forth in this syllabus at any time. Notice of such changes will be by an announcement in class, or by written or email notice.
5. Please use only your official UNCC e-mail address for all our communications.

6. It is a student's responsibility to check their e-mail periodically in case there are some changes.
7. Copyright statement for the course materials: The images, artwork, videos, and text presented in class and contained within the Powerpoint Presentations on the BIOL 3166 course website will be used for teaching purposes in the context of this course. Students can only use this material for learning, and cannot disseminate these images, artwork, videos, or text in the Powerpoint Presentations for any other purpose. This is in keeping with the policy on responsible use of University computing and electronic communication resources found at <http://legal.uncc.edu/policies/up-307>
8. Grades from assignments and exams become **permanent 1 week** after the grade is issued.

Policy on missing exams due to emergency situations

If you miss an exam because of an emergency situation, a makeup exam **will only be permitted with valid documentation from The Office of Student Assistance and Support Services (SASS)**. SASS can provide notification to faculty of emergency situations, when a student is unable to do so and when the office has been made aware of such emergencies. In such situations, the SASS office may also be able to assist with verification of such emergencies, once a student is able to return to classes. The SASS office does not provide verification of absences for car trouble, weather issues, personal activities, work, weddings, vacations, or University-sponsored events.

Should a student need assistance from the SASS office in verifying an emergency situation, they can submit an online request form and attach supporting documentation. Please note that students are not required to go through the SASS office at any time regarding absence verification, and the SASS office does not have the authority to excuse absences, allow for make-up work, or provide other academic accommodations.

Code of Student Academic Integrity

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code and on the Student Accountability & Conflict Resolution website. The Code is available from the Dean of Students Office or online at legal.charlotte.edu/policies/up-407. Additional resources are available on the Student Accountability & Conflict Resolution website.

Student rights and responsibilities in obtaining disability qualifications

If you have a disability that qualifies you for academic accommodations, please provide a letter of accommodation from Disability Services in the beginning of the semester. For more information regarding accommodations, please contact the Office of Disability Services at 704-687-4355 or stop by their office in Fretwell 230 (<https://ds.charlotte.edu/>).

UNC Charlotte Sexual Harassment Policy

UNC Charlotte is committed to maintaining an environment conducive to learning for all students and a professional workplace for all employees. The University takes active measures to create or restore a respectful, safe, and inclusive environment for community members that is free from

discrimination, discriminatory harassment, and interpersonal violence. If you (or someone you know) has experienced any of these incidents, know that you are not alone. UNC Charlotte has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with civil protective orders, and more. Please be aware that all UNC Charlotte employees, including faculty members, are expected to relay any information or reports of discrimination, discriminatory harassment, or sexual and interpersonal misconduct they receive to the Office of Civil Rights and Title IX. This means that if you tell me about a situation involving these matters, I am expected to report the information. Although I am expected to report the situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can contact the following on-campus resources, who are not required to report the incident to the Office of Civil Rights and Title IX: (1) University Counseling Center (counselingcenter.charlotte.edu, 7-0311); or (2) Student Health Center (studenthealth.charlotte.edu, 7-7400). Additional information about your options is also available at civilrights.charlotte.edu under the “Students” tab.

Religious accommodations

Students will be provided reasonable accommodations for religious obligations in accordance with University Policy #409: Religious Accommodation for Students (<http://legal.uncc.edu/policies/up-409>). This policy (1) authorizes a minimum of two excused absences each academic year for religious observances as required by the faith of a student; and (2) provides students the opportunity to make up any missed work. Students are asked to submit their request for religious accommodation to faculty prior to the census date of each semester.

UNC Charlotte strives to create an academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity, which includes, but is not limited to, disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

Other Important Dates:

Aug 29	Last day to add, drop a course with no grade* @ 11:59 pm Payment Information
Oct 21	Unsatisfactory Mid-Term Grade notices emailed to students for Fall 2022
Oct 24	Last day to withdraw from course(s); grade subject to Withdrawal Policy* Policy Information