

Genetics [BIOL 3166]

Syllabus (Summer II 2015)

Type	Time	Days	Where	Date Range	Class Type
Class	(9:45am 11:45am)	MTWR	Woodward 125	Lectures: Jun 29 – Aug 03,2015	Lecture

Instructor: **Dr. Valery Grdzlishvili, Ph.D., Associate Professor**

Department of Biological Sciences (office: Woodward Hall 486B)

E-mail: vzgrzel@uncc.edu

Course URL: UNCC Moodle: <https://moodle2.uncc.edu/>

Instructor's URL: <http://clas-pages.uncc.edu/valery-grdzlishvili/>

OFFICE HOURS: MONDAYS 1:30-2:30PM, MONDAYS 4:15-5PM

Course objectives. This course will provide up-to-date information about various principles of classical and molecular genetics in eukaryotes and prokaryotes 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 on the genetics of eukaryotes, but prokaryotic system will also be introduced and contrasted with eukaryotic genetics.

REQUIRED TEXTBOOK:

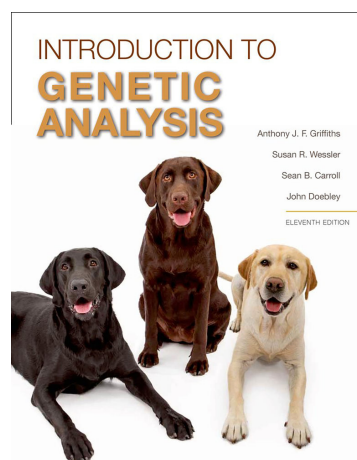
“AN INTRODUCTION TO GENETIC ANALYSIS”

Edition: 11st (2015)

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

ISBN-10: 1-4641-0948-6

ISBN-13: 978-1-4641-0948-5



While the 10th Edition of this textbook is also acceptable, it will be your responsibility to find matching chapters and material.

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. Attendance is strongly recommended. Please, do not schedule your “doctor appointments, interviews” etc. during class.
3. **You will have an exam every Thursday.** Make-up exams will be permitted **ONLY** for serious illness and mandatory UNC Charlotte policies. A physicians' note will be required for illness.

4. I will conduct this class in an atmosphere of mutual respect. I encourage your active participation in class discussions. However, I will exercise my responsibility to manage the discussions so that ideas and argument can proceed in an orderly fashion. Please, expect that if your conduct during class discussions seriously disrupts the atmosphere of mutual respect I expect in this class, you will not be permitted to participate further.
5. I may modify the standards, requirements and dates set forth in this syllabus at any time. Notice of such changes will be by announcement in class, or by written or email notice.
6. If I am late in arriving to class, you must wait a full 20 minutes after the start of class.
7. The use of cell phones, beepers, or other communication devices is disruptive, and is therefore prohibited during class.
8. No walking in/out during the class (unless an emergency).
9. **Students are permitted to use computers during class for note-taking and other class-related work only. Those using computers during class for work not related to that class must leave the classroom.**
10. Please, use only official UNCC e-mail address for all our communications.
11. It is your responsibility to check your e-mail periodically in case there are some changes

Code of Student Academic Integrity: *Students have the responsibility to know and observe the requirements of the UNC Charlotte Code of Student Academic Integrity. This code forbids cheating, fabrication or falsification of information, multiple submission of work, plagiarism, abuse of academic materials, and complicity in academic dishonesty.*
<http://legal.uncc.edu/policies/up-407>

Disability Resource: *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* <http://ds.uncc.edu/sitemap>

UNC Charlotte Sexual Harassment Policy: *All students are required to abide by the (<http://www.legal.uncc.edu/policies/ps-61.html>) and the policy on Responsible Use of University Computing and Electronic Communication Resources (<http://www.legal.uncc.edu/policies/ps-66.html>). Sexual harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.*

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.

Grading:

1. Letter grades will be assigned on a 5-point scale (90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; < 60% = U)
2. Your final grade will be the mean (average) of 5 midterm exams.
3. **If you missed your exam**, you will lose 7 points (per exam) from your final grade and your final grade will be calculated based on 4 other exams minus 7 points (per exam). Make-up exams will be permitted ONLY for serious illness and mandatory UNC Charlotte policies. A physicians' note will be required for illness.
4. **I will not negotiate with you about any exam results, in class or outside of class.** You will have a chance to review your exam. If I made a mistake and you would like to argue for points on an exam, you must send me an e-mail with an explanation the same week that I go over the exams. I may decide in your favor or against you, based on my judgment of your argument.

Topics:

<i>Date</i>	<i>Topic</i>	<i>Textbook Chapter</i>
WEEK 1		
June 29	Intro to Genetics. Revisiting Molecular biology	Chapter 1, 7, 8, 9
June 30	Single-Gene Inheritance, part 1	Chapter 2
July 1	Single-Gene Inheritance, part 2	Chapter 2
July 2	EXAM 1	
WEEK 2		
July 6	Independent Assortment of Genes	Chapter 3
July 7	Mapping Eukaryote Chromosomes by Recombination	Chapter 4
July 8	Gene Interactions	Chapter 6
July 9	EXAM 2	
WEEK 3		
July 13	Regulation of Gene Expression in Eukaryotes	Chapter 12
July 14	The Genetic Control of Development	Chapter 13
July 15	Gene isolation and Manipulation Genomes and Genomics	Chapter 10 Chapter 14
July 16	EXAM 3	
WEEK 4		
July 20	The Dynamic Genome: Transposable Elements Mutation, Repair and Recombination	Chapter 15 Chapter 16
July 21	Large-Scale Chromosomal Changes	Chapter 17
July 22	Population Genetics	Chapter 18
July 23	EXAM 4	
WEEK 5		
July 27	The Inheritance of Complex Traits	Chapter 19
July 28	Evolution of Genes and Traits	Chapter 20
July 29	Genetics of Bacteria and Their Viruses	Chapter 5, 11
July 30	EXAM 5	