

Medical Genetics [BIOL 4167/5167] Syllabus (Fall 2015)

Type	Time	Days	Where	Class Type
Class	3:30pm – 6:00pm	WEDNESDAY	Woodward 154	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/>

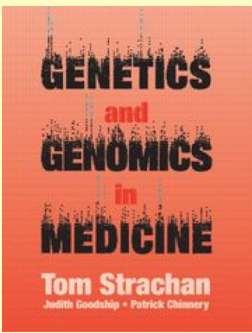
Instructor's URL: <http://clas-pages.uncc.edu/valery-grdzlishvili/>

OFFICE HOURS (Woodward Hall 486B): MONDAYS 1:30-2:30PM, MONDAYS 4:15-5PM

Prerequisites: BIOL 3111 and BIOL 3166.

Course objectives. This course will provide up-to-date information about various applications of genetics to human health, including studies of the inheritance of diseases in families, mapping of disease genes to specific locations on chromosomes, analyses of the molecular mechanisms through which genes cause disease, diagnosis and treatment of genetic disease, and genetic counseling, in which information regarding risks, prognoses, and treatments is communicated to patients and their families. This course will also cover the social implications of novel genetic technologies, the Human Genome Project, cloning, embryonic stem cell research, and more.

[BIOL 5167]: Each student will present one original paper in the field of "Medical Genetics". Graduate students will demonstrate their abilities to deliver professional scientific presentation as well as to show their in-depth understanding of how contemporary genetic experiments are designed, conducted, interpreted and reported.



REQUIRED TEXTBOOK:
GENETICS AND GENOMICS IN MEDICINE
Edition: 1st
Author(s): Tom Strachan, Judith Goodship, Patrick Chinnery
ISBN: 9780815344803
Format: Paperback

14 TOPICS (14 weeks):

<i>Date</i>	<i>Topic</i>	<i>Textbook Chapter/section</i>
Sep. 2	Fundamentals of DNA, Chromosomes and Cells	Ch. 1 (entire)
Sep. 9	Fundamentals of Gene Structure, Gene Expression and Regulation of Gene Expression	Ch. 2.1-2.2 Ch. 6.1
Sep. 16	Fundamentals of Human Genome Organization	Ch. 2.3-2.4
Sep. 23	Test 1 (1 hour) Principles Underlying Core DNA Technologies	Ch. 3 (entire)
Sep. 30	Principles of Genetic Variation Student Presentation 1 - Neth, Nicole L.	Ch. 4 (entire)
Oct. 7	Single Gene Disorders: Inheritance Patterns, Phenotype Variability and Allele Frequencies Student Presentation 2 - York, Joshua	Ch. 5 (entire)
Oct. 14	Test 2 (1 hour) Epigenetics	Ch. 6.2-6.3
Oct. 21	Genetic Variation Producing Disease-Causing Abnormalities in DNA and Chromosomes Student Presentation 3 - Winecoff, Bonnie B.	Ch. 7 (entire)
Oct. 28	Identifying Disease Genes and Genetic Susceptibility to Complex Disease, Part 1 Student Presentation 4 - Charyalu, Aditya	Ch. 8.1-8.2
Nov. 4	Identifying Disease Genes and Genetic Susceptibility to Complex Disease, Part 2 Student Presentation 5 - Ghosh, Anindita	Ch. 8.3-8.4
Nov. 11	Test 3 (1 hour) Genetic Approaches to Treating Disease	Ch. 9 (entire)
Nov. 18	Cancer Genetics and Genomics Student Presentation 6 - McLeod, Melissa M.	Ch. 10 (entire)
Nov. 25	Thanksgiving – NO CLASSES	
Dec 2	NO CLASS	
Dec. 9	Test 4 (1 hour) Genetic Testing From Genes to Genomes and the Ethics of Genetic Testing and Therapy Student Presentation 7 - Deem, Bradley A.	Ch. 11 (entire)
Dec. 16, 2-4:30PM	FINAL EXAM (EXACT DATE, PLACE, TIME - TBA)	

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. **BIOL4167 GRADING SCHEME** - the following will be used to determine your grade:
 - 4 mid-terms tests = 20% of final grade each (80% total contribution)
 - Final Exam = 20% of final grade

BIOL5167 GRADING SCHEME - the following will be used to determine your grade:

- 4 mid-terms tests = 17.5% of final grade each (70% total contribution)
 - original paper presentation = 10% of final grade
 - Final Exam = 20% of final grade
3. **If you missed your midterm test (make-up tests will be permitted ONLY for serious illness and mandatory UNC Charlotte policies. A detailed physicians' note will be required for illness),** you will lose 5 points (per each missed test) from your final grade and other tests and Final Exam will have higher contributions.
 4. **If you missed your Final Exam (make-up exams will be permitted ONLY for serious illness and mandatory UNC Charlotte policies. A detailed physicians' note will be required for illness),** you will lose 10 points from your final grade and your midterm tests will have higher contributions.
 5. **You will not be able to drop any test results.**

Course Policies

1. Attendance is required! Do not schedule your “doctor appointments, interviews” etc. during class.
2. Make-up exams will be permitted ONLY for serious illness and mandatory UNC Charlotte policies. A physicians' note will be required for illness.
3. **[BIOL 5167] Student - You should give your presentation on time!** Make-up presentations will be permitted **ONLY** for serious illness and mandatory UNC Charlotte policies. A physician’s note will be required for illness. **If you missed your presentation without a physician’s note, you will lose 10 points from your final grade and your tests and Final Exam will have higher contributions.**
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. **You can use only a standard calculator during your test or final exam. Cell phones or any other devises with a camera or Internet access will be PROHIBITED!**
11. Please, use only official UNCC e-mail address for all our communications.
12. 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.

Syllabus changes. *The standards and requirements set forth in this syllabus may be modified at any time by the course if such changes will be made by announcement in class, or by written or email notice, or by changes to this syllabus posted on the course moodle2 website.*