Quantitative Biology and Bioinformatics
Course Information and Policies

Course: 01:447:302
Credits: 3
Semester: Spring 2018
Classroom: Nelson B125
Meeting Times: Mondays and Thursdays, 10:20-1:00
Course URL: https://sakai.rutgers.edu
Course Director: Dr. Tara Matise
matise@dls.rutgers.edu 848-445-3125
Office hours: by appt. Nelson C205

Teaching Assistant: Mr. Will Hansen
wah49@scarletmail.rutgers.edu
Office hours: TBD

Student Assistant: TBD

Instructors: Dr. Tara Matise, Dr. Linda Brzustowicz, Dr. Kevin Chen,
Dr. Vikas Nanda, Dr. Wilma Olsen

Course Description: Quantitative Biology and Bioinformatics is a computer-based laboratory
course that introduces students to the use of computers in biological research. Instruction is
given in introductory computer programming while developing applications and analyses for
problems in genetics and molecular biology. Classes consist of a mixture of lecture and
computer-based exercises, as well as time for students to work on assignments. The course
provides the introductory skills needed to conduct basic computational research in the life
sciences, including many aspects of computer programming and data analysis. This course is
particularly aimed at students who plan to pursue research careers, attend graduate or medical
school, or enter the biomedical/research workforce. The course fulfills the laboratory
requirement for the Genetics major.

Credit cannot be received for both 01:447:203 and 01:447:302

Course Goals: The Goals of Quantitative Biology and Bioinformatics reflect the learning Goals
of the Department of Genetics, and include 1) knowledge specific goals: know the terms,
concepts and theories in genetics; 2) integrate the material from multiple courses and research.

Core Curriculum Learning Goals Met by this Course

Information Technology and Research [ITR] goals y:
• Goal y: Employ current technologies to access information, to
  conduct research, and to communicate findings.
**Course Materials:** The computer lab has Windows 8 computers. Class materials and files should be uploaded after each class to a portable USB flash drive (Windows formatted) or cloud box to continue working at home. No textbook is required as most of the needed material is made available during class. Useful resources are:


**Contacting the Instructors:** The best way to contact the instructors is by email. **NOTE:** we get scores of email each day. To ensure your email is noticed, **be sure to put “Quant Bio 2017” in your email subject header.** We try to respond within 24 hours M-F.

**Attendance:** Attendance is expected at all classes; in-class demos and exercises are an integral part of this class. Most classes build upon the material from a previous class, so it is difficult to make-up work when class is missed. We also have unannounced quizzes. If you must miss a class, please use the University absence reporting website [https://sims.rutgers.edu/ssra/](https://sims.rutgers.edu/ssra/) to indicate the date and reason for your absence. An email is automatically sent to me. However, absence from class does not excuse you from homework assignments.

**On-time completion of all assignments is required, including assignments given on days you are absent.**

**Assignments, Due Dates, and Course Announcements:** You are responsible for being aware of all assignment due dates, which are included with each assignment. Changes to due dates or lecture topics are made in class and/or will be posted on the class Sakai website. There are no late submissions. Most assignments are handed in via the Sakai site, so even if a class must be missed when an assignment is due, assignments can be uploaded to the Sakai site early. Arrangements can be made if serious illness keeps you from completing homework, however, in this case, you must contact me **BEFORE THE HOMEWORK DUE DATE. There is no extra credit or make-up work available for this class.**

**Computer Use:** A username and password is assigned to use on the computers in the computer lab for the duration of the course. These student accounts provide individual space for class work. The lab computers are Windows computers. Work can be done outside of the computer lab, but everything used in class would need to be installed and setup to mirror the classroom environment as the computer lab accounts and installed programs are not accessible outside the computer lab. Many Rutgers lab computers have software installation restrictions, so personal computers are recommended for work done outside of the computer lab. Some of the programs used in class may need special instructions to be able to run on Mac computers.

**Laptop Policy:** Laptop computers are welcome in class if preferred. There is wireless access to the Rutgers network from the classroom (RUWireless-DLS). Instructors are not responsible for ensuring that class programs will run on student laptops although we will try to help you.

**At the End of Class, Before Leaving:** Backup your entire scratch space folder to a USB Flash Drive or cloud storage account. Shutdown your computer and turn off the monitor.

**Classroom Time:** Computers are for work in Quantitative Biology and Bioinformatics. Please do not do other work, email, or web browse, etc. during class.
Performance Expectations and Evaluation: The course is graded on the basis of weekly assignments, in-class quizzes, and the Final Exam. The Final Exam is an in-class cumulative exam that accounts for 20% of the final grade. All assignments will be turned in via the Sakai website, following instructions provided by the instructor or the TA.

Grades will be calculated based on overall course performance. The following grading scale will be used: 90% A  87% B+  80% B  77% C+  70% C

D and F grades will be determined based on the final score distribution at the end of the course.

Academic Integrity: We expect the honesty and integrity of every student in this course. Students are encouraged to interact with other students while doing assignments in class, and in some cases may be required to work with one another. However assignments that are turned in for grading must represent each student’s individual work – they may not be copied from another person’s work.

Scientists and doctors and all professionals must be intellectually honest. The most unforgivable thing that any scientist can do is to fake his/her data. Scientists who fabricate data lose their grants and jobs. Doctors who fake lab results or are dishonest in other ways not only lose their jobs and licenses but might also go to jail.

Plagiarism, a form of cheating, is quite easy to do. If you “cut and paste” from any source and then try to change a few words, this is still plagiarism. Never use terms unless you know the meaning of them. If I suspect plagiarism I will ask you to come in and explain your answers or writing.

The official Rutgers policy on cheating can be found here: http://academicintegrity.rutgers.edu/

There are at least 5 categories of violations: cheating, fabrication, plagiarism, denying others access to information or material, and facilitating Violations of Academic Integrity. Students who violate the Rutgers Integrity policies will be reported to the Office of Student Conduct. Sanctions will be determined by the Office of Student Conduct according to the procedures described in the University Policy on Academic Integrity.

Student-Wellness Services:

Just In Case Web App http://codu.co/cee05e
Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)
(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ rhscaps.rutgers.edu/
CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.
Violence Prevention & Victim Assistance (VPVA)
(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / vpva.rutgers.edu/
The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services
(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / https://ods.rutgers.edu/
The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

Scarlet Listeners
(732) 247-5555 / http://www.scarletlisteners.com/
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

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