

Department of Biology Course Outline

SC BIOL 2060 Cr=3.00, Statistics for Biologists
Fall 2019

Course Description

Official Calendar Course Description

Statistical problem solving for biologists. Basic theory for the analysis of parametric and non-parametric data. A project period is devoted to discussion and solving of statistical problems. Two lecture hours, one project period. One term. Three credits.

Prerequisites (strictly enforced)

Prerequisites from Calendar Course Description

Prerequisites: LE/CSE 1520 3.00, or LE/CSE 1530 3.00, or LE/CSE 1540 3.00, or LE/EECS 1520 3.00, or LE/EECS 1530 3.00, or LE/EECS 1540 3.00 ; SC/MATH 1014 3.00 or SC/MATH 1505 6.00 or both SC/MATH 1013 3.00 and SC/MATH 1025 3.00 or equivalents.

Course Credit Exclusions: SC/BIOL 3090 3.00, AP/ECON 2500 3.00, AP/ECON 3210 3.00, AP/ECON 3480 3.00, AP/ECON 3500 3.00, ES/ENVS 2010 6.00, AP/SC/GEOG 2420 3.00, HH/KINE 2050 3.00, HH/KINE 3150 3.00, SC/MATH 1131 3.00, SC/MATH 2560 3.00, SC/MATH 2565 3.00, SC/MATH 2570 3.00, AP/POLS 3300 6.00, HH/PSYC 2020 6.00, HH/PSYC 2021 3.00, AP/SOCI 3030 6.00.

Course Instructor(s) and Contact Information

Name and contact information of course director, lab director and other important people (e.g., TAs) associated with course administration. Office hours, any other related information.

Dr. Joel S. Shore
204 Lumbers building
email:shore@yorku.ca
office hours: see course website

Schedule

LECTURES: Tue. & Thu. 10:30am - 11:30 LOCATION: ACW 206

TUTORIALS: Fri. 2:30 - 5:30 LOCATION: ACW 206

Evaluation

Midterm 1 (20%)

Midterm 2 (30%)

Exam (50%) in exam period

Important Dates

Dates of Tests/Exams: See course website

Drop Deadline and Important Dates: Refer to the "Important Dates" section of the Registrar's Website:
<https://registrar.yorku.ca/enrol/dates/fw19>

Resources

Text: Whitlock and Schluter 2015. THE ANALYSIS OF BIOLOGICAL DATA, 2nd edition. Roberts and Company, Publishers.

Course Website: <http://www.yorku.ca/shore/Biol2060/biol2060.htm>

Learning Outcomes

Upon successful completion of this course, students should be able to:

- 1) Provide a summary of categorical and numeric data using graphical methods and statistics
- 2) Apply the most powerful hypothesis test(s) to data from a range of biological experiments involving categorical or numeric data.
- 3) Test the assumptions of various hypothesis tests
- 4) Interpret the results of the hypothesis tests carried out
- 5) Carry out the hypothesis tests both by "hand" and using the statistical program called SAS

Course Content

See course website

<http://www.yorku.ca/shore/Biol2060/biol2060.htm>

Experiential Education and E-Learning

This course uses the statistical computing software known as SAS.
It is accessible using WEBFAS.

Other Information

Any information you want in your outline that does not fall under the other categories, such as laboratory information, the expectations you have for your students, tips for success, role of tutorial, role of instructors, etc.

Course Policies

Value of missed midterms will be added to final exam value, provided students have legitimate documentation for medical issue. Students missing the final exam will be required to petition to write a deferred exam.

Lectures may be recorded.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - <http://www.yorku.ca/academicintegrity/>

Important A note from the Faculty of Science Committee on Examinations and Academic Standards: Numerous students in Faculty of Science courses have been charged with academic misconduct when materials they uploaded to third party repository sites (e.g. Course Hero, One Class, etc.) were taken and used by unknown students in later offerings of the course. The Faculty's Committee on Examinations and Academic Standards (CEAS) found in these cases that the burden of proof in a charge of aiding and abetting had been met, since the uploading students had been found in all cases to be wilfully blind to the reasonable likelihood of supporting plagiarism in this manner. Accordingly, to avoid this risk, students are urged not to upload their work to these sites. Whenever a student submits work obtained through Course Hero or One Class, the submitting student will be charged with plagiarism and the uploading student will be charged with aiding and abetting.

Note also that exams, tests, and other assignments are the copyrighted works of the professor assigning them, whether copyright is overtly claimed or not (i.e. whether the © is used or not). Scanning these documents constitutes copying, which is a breach of Canadian copyright law, and the breach is aggravated when scans are shared or uploaded to third party repository sites.

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching

and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services - <http://cds.info.yorku.ca/>

Counselling & Disability Services at Glendon - <https://www.glendon.yorku.ca/counselling/>

York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete and submit an [Examination Accommodation Form](#) at least 3 weeks before the exam period begins. The form can be obtained from Student Client Services, Student Services Centre or online at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/>