PSYC 802: Multivariate and Multivariable Statistics
Winter 2025

Course Instructor: Jill A. Jacobson, Ph.D.

Email: jill.jacobson@queensu.ca

Student Hours: After class/labs and by appointment.

I have a few times I know in advance that I'll be available each week that you can sign up for without having to email me first. Just click on "Sample Service" at the link below to schedule a meeting.

- https://jill-jacobson.setmore.com

If none of those times work, you don't need to send a separate email asking if we can meet. The answ is always yes. Just send me some days/times when you are free (including any evening or weekend ti if you are open to meeting outside of typical business hours), and I will set up a meeting for a mutually agreeable time.

Teaching Assistant: Lily Martin
Email: lwm3@queensu.ca

Course Materials

Copyright of Course Material

Course materials created by the course instructor, Jill A. Jacobson, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It a departure from academic integrity to distribute, publicly post, sell, or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale, or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse lega consequences for infringement of intellectual property rights.

Required

Flora, D. B. (2018)Statistical Methods for the Social & 912 0 612 792 re W* n BT /F2 12 Tf 1 0 0 1 49.5

efficiently provide clarification and assist you with coding problems, etc. in person than via email. Your final lab assignment mark will be based on the best 9 out of 10 assignments, and you must complete at least 9 assignments to pass this course (i.e., if you do not, you will receive a failing mark for the class regardless of your performance on the other components of the course). The weekly lab assignments are due by 5 pm on Friday but see below under "Assignment Submission Policy" about the built-in 3-day grace period.

Final Project. You must complete the final project to pass this course (i.e., if you do not, you will receive a failing mark for the class regardless of your performance on the other components of the course). The final project will primarily involve conducting analyses that you learned in PSYC 802 and writing up a briefer version of an APA-style paper. Because learning is enhanced when an activity is relevant, you will need to use multivariate and/or multivariable data that you, your advisor, or your lab already has collected and that are appropriate for one of the statistical techniques covered in this course. If you do not have the necessary data or want to use data available in R or online, please contact me for approval before Tuesday, April 8th (i.e., 2 weeks before the final project is due) and provide the link to the data in your final project write up. You cannot use open data for which the code necessary for the final project is available as well. I can assist you in finding data if you do not have access to any. The final project must be submitted in electronic form

Statement of Academic Integrity

All written assignments in this course including the exam must be originally and individually written. If you are uncertain about what constitutes plagiarism, please review Queen's Graduate School policy on academic integrity at https://www.queensu.ca/academiccalendar/graduatestudies/academicintegrity-policy/ .

Generative Artificial Intelligence (AI) Tools

Students must submit their own work and cite work that is not theirs. Generative AI writing tools such as ChatGPT are only permissible when explicitly noted in the assignment instructions. In these cases, be sure to cite the material that they generate. Any other use constitutes a Departure from Academic Integrity.

Student Code of Conduct

As a Queen's student, you are bound by the Student Code of Conduct available for review at https://www.queensu.ca/secretariat/sites/uslcwww/files/uploaded_files/policies/board/StudentCodeOfConduct.pdf. The code is the foundation for the university's non-academic misconduct (NAM) system, which provides a process for identifying and addressing misconduct within the Queen's community, encouraging informal resolution of grievances while taking into account the well-being of each student and the safety and well-being of the community.

Turnitin Statement

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarized text in this course. Data from submissions is also collected and analyzed by Turnitin for detecting Artificial Intelligence (AI)-generated text. These results are not reported to your instructor at this time but could be in the future.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. The similarity report generated after an assignment file is submitted produces a similarity score for the assignment. A similarity score is the percentage of writing that is similar to content found on the internet or the Turnitin extensive database of content. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

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Evaluation

You are responsible for all lecture and laboratory material and all corresponding material on onQ. You must complete 9 of the 10 lab assignments, write the final exam, and complete the final project to pass this course. You also are expected to adhere to the indicated due dates (see the "Assignment Submission Policy" below for more details including the late policy). Exams and assignments due in other courses will not be sufficient grounds for excusal, and the PSYC 802 exam and assignment dates will not be changed to accommodate conflicts with your other courses' schedules. No extra credit opportunities will be offered.

PSYC 802 Course Outline Winter 2025

Week	Date	Topics	Reading*
1	January 7	Introduction and Review of Statistical Foundations	Flora 1
	January 8	Simple Regression	
	January 10	R Review	
2	January 14	Multiple Regression with Continuous Predictors	Flora 2
	January 15	Regression Diagnostics and Polynomial Regression	
	January 17	Lab 1: Multiple regression with continuous predictors	
3	January 21	Multiple Regression with Categorical Predictors	Flora 3
	January 22	ANCOVA and Regression Power Analysis	
	January 24	Lab 2: Multiple regression with categorical predictors	
4	January 28	Moderated Regression	Flora 4
	January 29	Moderated Regression in R	
	January 31	Lab 3: Moderated regression	
5	February 4	Logistic Regression	
	February 5	Logistic Regression in R	
	February 7	Lab 4: Logistic regression	
6	February 11	Simple Mediation	Flora 5 (up to p. 158)
	February 12	Simple Mediation in R	
	February 14	Lab 5: Mediation	
		Reading Week	
7	February 25	Multiple Mediators	Flora 9 (pp.