Faculty of Health
Department of Psychology
PSYC 3031 3.0 M: INTERMEDIATE STATISTICS LABORATORY
Tuesday/2:30pm-5:30pm/ <mark>Online via Zoom</mark>
Winter/2021

<mark>**IMPORTANT INFORMATION ABOUT COURSE DELIVERY:**</mark>
- We will **meet live on Zoom every Tuesday at 2:30pm for approximately 1h-1h30mins** with the teaching team (i.e., instructor and TA) where you will have the opportunity to ask any questions or may engage in class activities. In order to make this live session worthwhile you will be provided with a form in eClass where you can submit questions in advance of the class (I strongly recommend you send in questions in advance but we will take other questions as well). Please note this session should be treated like an official class and therefore you are expected to conduct yourself in a respectable manner (please see *"Online Conduct"* document on eClass).
- All lecture content will be provided to you before class and may appear in various forms such as pre-recorded lectures, readings, links to websites with various tasks. You will be expected to engage with these materials before our live session.

Instructor: Monique Herbert, PhD
Office Hours: By appointment only
Email: herbertm@yorku.ca (when sending an email please include PSYC3031M in the subject box and your full name and student number in the signature of the message)

T.A.	Mark Adkins
Email	madkins@yorku.ca
Office Hours	By appointment only (please email)

<mark>**Please note that it may take the instructor and TA up to 3 business days to respond to your emails. If you send us an email over the weekend please do not expect a response until the normal work week (Monday – Friday) unless otherwise stated by a member of the teaching team or it is an urgent matter.**</mark>

Course Prerequisite(s): Course prerequisites are strictly enforced

- HH/PSYC 1010 6.00 (Introduction to Psychology), with a minimum grade of C.
- HH/PSYC 2020 6.00 (Statistical Methods I and II) or substitute
- HH/PSYC 2030 3.00 (Introduction to Research Methods)
- Completed at least 54 earned credits

Course Credit Exclusions

Please refer to York Courses Website for a listing of any course credit exclusions.

Course website: eClass

All course materials will be available on the course eClass site, unless otherwise indicated by the instructor. The site will be your central access point for course materials. **Note: Please do not send the teaching team messages through the chat on eClass.**

Course Description

This course provides students with the opportunity to apply, consolidate, and extend their statistical analysis skills to realistic psychological data using methods such as regression analysis. An important component of the course is the use of a statistical software package such as R, SPSS or SAS to prepare students for independent thesis research.

Program Learning Outcomes

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

1. Analyse psychological data using advanced univariate statistics.
2. Use data analytic software for analysis of psychological data.

Specific Learning Objectives

- Demonstrate a deeper understanding of the statistical concepts reviewed and extended in this course.
- Identify appropriate statistical analysis(es) to address specific research question(s) and/or hypotheses.
- Identify and apply appropriate data management procedures to psychological data.
- Apply appropriate statistical analysis(es) to psychological data.
- Use statistical software for data management, exploration, and analysis of psychological data.
- Interpret and report the results of statistical analyses in APA format.

Required Text

There is no required text for this course, all course materials will be provided. However, there are some recommended texts/resources below that you can consult as we progress through the course.

Recommended Text/Resources

Text (Online and Hard copy)

Foster et al. (2018) - https://open.umn.edu/opentextbooks/textbooks/an-introduction-to-psychological-statistics

Navarro, D. J. (2016). *Learning statistics with R: A tutorial for psychology students and other beginners (Version 0.6)*. Retrieved from https://learningstatisticswithr.com/

Wickham's and Grolemund's R for Data Science https://r4ds.had.co.nz/

R Graphics Cookbook - http://www.cookbook-r.com/

Steve Nydick's *Introduction to R for Psychologists*

APA (2016). *Publication manual of the American Psychological Association*. Washington, DC: American Psychological Association.

Online APA resource:
https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/reference_list_books.html

Nicol, A. A. M., & Pexman, P. M. (2010). *Presenting your findings: A practical guide for creating tables.* Washington, DC: American Psychological Association.

Osborne, J. W. (2012). *Best practices in data cleaning.* Los Angeles, CA: Sage Publications Inc.

Online Resources

RStudio Cloud Primers - https://rstudio.cloud/learn/primers

RTips - http://pj.freefaculty.org/R/statsRus.html

Adventures in R (Course materials) - https://adventures-in-r.com/

R Cheatsheets - https://www.rstudio.com/resources/cheatsheets/

Interactive visualizations - https://rpsychologist.com/viz

Choosing appropriate plots and example R code - https://www.data-to-viz.com/

R graph gallery - https://www.r-graph-gallery.com/index.html

Quick R - http://www.statmethods.net/index.html

R bootcamp - https://www.jaredknowles.com/r-bootcamp/

Searching for R help made easy - https://www.rdocumentation.org/

Visualization and analyses with ggstatplot - https://github.com/IndrajeetPatil/ggstatsplot

Course Requirements and Assessment:

Assessment	Date of Evaluation (if known)	Weighting
Reflective Journal	As completed but final deadline is Apr 06	5%
Mini-activity	See course schedule below and on eClass	20%
Data visualization group project	March 09	30%
Assignment	April 12	45%
Total		**100%**

Description of Assignments

Reflective Learning Journal: A reflective learning journal is a document that you create and use to communicate how you think about and make meaning of the way you learn. By being reflective you are able to learn more effectively, organize your thoughts and feelings, and monitor and evaluate your goals/progress in the course. Students are expected to submit **5 reflective learning journal entries** worth up to 5% of your grade. Each journal

entry should be no longer than 1 page. **Please note that your journal entries will be graded on their quality not just quantity and submission**. See **"Reflective Learning Journal"** folder in eClass for more information.

Mini-activity: A mini-activity will focus on key material covered in a given week or weeks. The format of an activity will vary depending on the nature of the material covered prior to the submission of the activity. It is expected that you complete these activities individually. See **"Course Schedule"** below and **"Mini-Activities"** folder in eClass for due dates and more information. All mini-activity submissions should follow APA format where appropriate.

Data Visualization Group Project: Data visualization is one of the most important tools we can use to understand and tell a story about our data. In this project ==students will work in groups of 2-3==, choose a dataset of interest, formulate a question(s) about the data they wish to address with their visualization, and generate the visualization using R. More information about the group visualization project will be provided in the **"Group Project and Assignment"** folder on eClass. **You will receive information about your project well in advance of the due date. I strongly encourage you to start your project early.**

Assignment: The assignment will provide students with the opportunity to apply the statistical concepts to realistic psychological data. Students will use statistical software to manage, explore and analyse their data. Students will also interpret and report the findings of their analyses in APA format. The dataset wil be provided. ==It is expected that you complete your assignment individually==. More information about the assignment will be provided in the **"Group Project and Assignment"** folder on eClass. **You will receive information about your assignment well in advance of the due date. I strongly encourage you to start your assignment early.**

Class Format and Attendance Policy

Each week we will meet at 2:30pm to discuss any questions you may have and engage in various activities. Students are strongly encouraged to attend the class sessions as the material covered in the course in a given week build on the previous week's material and enhances your overall learning experience. These sessions will also help you to stay on track with the course material.

Grading as per Senate Policy

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 89, B+ = 75 to 79, etc.)

For a full description of York grading system see the York University Undergraduate Calendar - [Grading Scheme for 2020-21](#)

Missed Tests/Midterm Exams/Late Assignment:

Please note that you cannot subsitute one type of assessment for another. For example, a mini-activity cannot be used as a substitute for an assignment or vice versa.

For any missed or late class assessment students MUST contact the course instructor or TA within 48 hours of the missed assessment.

Failure to contact us within 48 hours of the original deadline will result in a grade of zero for any missed or late assessment. <mark>At this time, due to COVID-19 an Attending Physician's Statement (APS) is not required, however, a reason for a missed/late assessment in the course must be provided.</mark>

Add/Drop Deadlines

For a list of all important dates please refer to: [Fall/Winter 2020-21 Important Dates](#)

	Fall (F)	**Year (Y)**	**Winter (W)**
Last date to add a course **without permission** of instructor (also see Financial Deadlines)	Sept 22.	Sept 22.	Jan. 25
Last date to add a course **with permission** of instructor (also see Financial Deadlines)	Oct. 6	Oct. 27	Feb. 8
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 6	Feb. 5	March 12
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	Nov. 7-Dec. 8	Feb. 6 – April 12	March 13-April 12

Add and Drop Deadline Information

There are deadlines for adding and dropping courses, both academic and financial. Since, for the most part, the dates are **different**, be sure to read the information carefully so that you understand the differences between the sessional dates below and the [Refund Tables](#).

You are strongly advised to pay close attention to the "Last date to enrol without permission of course instructor" deadlines. These deadlines represent the last date students have unrestricted access to the registration and enrolment system.

After that date, you must contact the professor/department offering the course to arrange permission.

You can drop courses using the registration and enrolment system up until the last date to drop a course without receiving a grade (drop deadline).

You may [withdraw from a course](#) using the registration and enrolment system after the drop deadline until the last day of class for the term associated with the course. When you withdraw from a course, the course remains on your transcript without a grade and is

notated as 'W'. The withdrawal will not affect your grade point average or count towards the credits required for your degree.

Information on Plagiarism Detection

Turnitin will be used to detect any evidence of plagiarism.

Electronic Device Policy

This course will be delivered in an online format and therefore electronic devices (e.g., tablets, laptops) are permitted during class time for course-related purposes. It is expected that you would complete tests/exams in a manner that does not require consulting an unauthorised source during an examination unless the tests/exams are open-book.

Academic Integrity for Students

York University takes academic integrity very seriously; please familiarize yourself with Information about the Senate Policy on Academic Honesty.

It is recommended that you review Academic Integrity by completing the Academic Integrity Tutorial and Academic Honesty Quiz

Test Banks

The offering for sale of, buying of, and attempting to sell or buy test banks (banks of test questions and/or answers), or any course specific test questions/answers is not permitted in the Faculty of Health. Any student found to be doing this may be considered to have breached the Senate Policy on Academic Honesty. In particular, buying and attempting to sell banks of test questions and/or answers may be considered as "Cheating in an attempt to gain an improper advantage in an academic evaluation" (article 2.1.1 from the Senate Policy) and/or "encouraging, enabling or causing others" (article 2.1.10 from the Senate Policy) to cheat.

Academic Accommodation for Students with Disabilities

While all individuals are expected to satisfy the requirements of their program of study and to aspire to do so at a level of excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to do so. The university encourages students with disabilities to register with ***Student Accessibility Services (SAS)*** to discuss their accommodation needs as early as possible in the term to establish the recommended academic accommodations that will be communicated to Course Directors as necessary. **Please let me know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course.**

https://accessibility.students.yorku.ca/

Excerpt from Senate Policy on Academic Accommodation for Students with Disabilities:

1. Pursuant to its commitment to sustaining an inclusive, equitable community in which all members are treated with respect and dignity, and consistent with applicable accessibility legislation, York University shall make reasonable and appropriate accommodations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. This policy aims to eliminate systemic barriers to participation in academic activities by students with disabilities.

All students are expected to satisfy the essential learning outcomes of courses. Accommodations shall be consistent with, support and preserve the academic integrity of the curriculum and the academic standards of courses and programs. For further information please refer to: [York University Academic Accommodation for Students with Disabilities Policy.](#)

Course Materials Copyright Information

These course materials are designed for use as part of the **PSYC3031M** course at York University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law.

Copying this material for distribution (e.g. uploading material to a commercial third-party website) may lead to a violation of Copyright law. [Intellectual Property Rights Statement](#).

Course Schedule

Week	Date	Topic	Reminder
1	Jan 12	*Course Introduction* *Introduction to R and RStudio*	
2	Jan 19	*Setting up R project* *Programming Basics* *https://rstudio.cloud/learn/primers/1.2*	
3	Jan 26	*Working with Data* *Exploring Missing Data* https://rstudio.cloud/learn/primers/2 **Submit group membership for data visualization project**	**Mini-Activity 1** **Friday, Jan 29**
4	Feb 02	*Descriptive Statistics* *https://rstudio.cloud/learn/primers/1.1* https://rstudio.cloud/learn/primers/3 **Submit first part of data visualization project**	**Mini-Activity 2** **Friday, Feb 05**
5	Feb 09	*Review of key statistical concepts* *Choosing the right statistics* *Comparing two means (t-tests)*	
	Feb 16	**NO CLASS: WINTER READING WEEK**	
6	Feb 23	*One-way independent groups ANOVA (including posthoc)*	
7	Mar 02	*Two-way independent groups ANOVA (including posthoc)*	**Mini-Activity 3** **Friday, Mar 05**
8	Mar 09	**Data visualization project due (30%)**	
	Mar 12	**Last date to drop course without receving a grade**	
9	Mar 16	*One-way repeated measures ANOVA (including posthoc)*	**Mini-Activity 4** **Friday, Mar 19**
10	Mar 23	*Review of correlation* *Simple linear regression*	
11	Mar 30	*Mutiple linear regression*	**Mini-Activity 5** **Friday, Apr 02**
12	Apr 06	*Course wrap-up and Q&A* **Final date for reflective learning journal submissions**	
	Apr 12	**Assignment due (45%)**	