Faculty of Health
Department of Psychology
PSYC 2021 3.0 D: STATISTICAL METHODS I
Tuesday/11:30am-2:30pm/ Lectures online via Zoom; Tests in-person, on campus
Fall/2024

- We will **meet live on Zoom every Tuesday from 11:30am-2:30pm**. Lectures will follow a synchronized lecture style. The online lecture for the week will be delivered live during the first half of the Zoom meeting by the instructor. The second half of the Zoom meeting will be dedicated to demonstrations and completing/reviewing practice problems to aid in your understanding of the concepts covered in the lecture. During the second half of the Zoom meeting, the teaching team (i.e., instructor and TAs) will address any questions and/or clarify any concepts.
- Please note that your tests will take place **in-person**, as this is an **ONCA course**. An ONCA (Online Campus) course is a course that is offered online **except** assessments which will occur in-person, on campus. **There is no option to write online tests in this course.** More information about your tests is provided below. There will be no lecture on the day a test is scheduled.

Instructor and T.A. Information

Instructor: Dr. Rachel Rabi
Office Hours: By appointment (Office: BSB 220)
Email: rrabi2@yorku.ca

	[Students with Last Name A - L]	**[Students with Last Name M - Z]**
T.A.	**Sarah Bjornson**	**Kev Zhou**
Email	bjornson@yorku.ca	kevnook@yorku.ca
Office Hours	By appointment	By appointment

**When sending emails to the teaching team please include PSYC 2021D in the subject line and your full name and student number in the email.

Course Prerequisite or corequisite(s):

- HH/PSYC 1010 6.00 (Introduction to Psychology)

Course Credit Exclusions

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

Course website:

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. <u>All communications from instructor to students will take place through eClass's Course Announcements.</u>

Note: Please do not send the teaching team messages through the chat on eClass.

Course Description

An introduction to the fundamental concepts and application of descriptive statistics. An introduction to probability and inferential statistics, including hypothesis testing with the normal- and t-distributions.

Program Learning Outcomes

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

1. Compute descriptive statistics and inferential statistics.
2. Interpret and report the results of descriptive statistics and inferential statistics.
3. Distinguish between the role of descriptive statistics and inferential statistics.

Topics Covered

- Defining Key Statistical Terms
- Frequency Distributions
- Central Tendency
- Variability
- z-Scores/Normal Distribution
- Probability
- Sampling Distribution
- Confidence Intervals
- Power
- Effect Size
- Hypothesis Testing
- Correlation (Pearson at minimum)
- χ^2 Goodness of Fit
- χ^2 Test of Independence
- One-sample t test
- Introduce independent and dependent designs

*Effect size is included as part of all inferential statistics covered in this course.

Specific Learning Objectives

1. Choose descriptive statistics such as measures of central tendency and variability that are appropriate for summarizing and organizing variables with different scales of measurement.

2. Demonstrate the ability to summarize, organize, and present the essential features of data numerically and graphically.
3. Identify the differences between descriptive and inferential statistics (e.g., summarize sample data vs use sample data to make inferences about the population).
4. Identify limitations of descriptive statistics (e.g., cannot be used to test hypotheses about the population under study).
5. Demonstrate the ability to generate statistical hypotheses (i.e., null and alternative) that are applicable to various research situations.
6. Demonstrate the ability to formulate and perform hypothesis tests that are applicable to various research situations (i.e., z test, t tests, correlations).
7. Use statistical software (jamovi) to conduct descriptive and inferential statistics.
8. Interpret and present results in APA.

Required Software

Students are **required** to download the "solid" version of jamovi (version 2.3.28) from www.jamovi.org. This software is required for students to complete activities and assignments in the course. Students are advised to download this software as soon as possible to be prepared for the start of the course.

Required Text

- Gravetter, F. J., & Wallnau, L. B. (2017). Statistics for the Behavioral Sciences (10th ed.). Boston, MA: Cengage Learning.
- MindTap is not required for this course (however students may find this resource helpful to review weekly statistical concepts)

Optional Text/Resources

If you use one of these books/resources, keep in mind that all Tests and Assignments will be evaluated based on the content delivered through lectures, not content of the texts (they are just there for additional optional support).

- Howell, D. C. (2016). Fundamental Statistics for the Behavioral Sciences (9th ed.). Wadsworth Publishing, Cengage Learning.
- https://open.umn.edu/opentextbooks/textbooks/an-introduction-to-psychological-statistics [FREE]
- Navarro, D. J., & Foxcroft, D. R. (2022). Learning Statistics with jamovi: A Tutorial for Psychology Students and Other Beginners. [FREE] https://www.learnstatswithjamovi.com/

Course Requirements and Assessment:

Assessment	Date of Evaluation (if known)	Weighting
Test 1 (in-person)	October 22	26%
Test 2 (in-person)	TBA - Final Exam Period (Dec. 5-20)	26%
Assignment 1	October 8	12%
Assignment 2	November 5	12%
Assignment 3	November 19	12%
Assignment 4	December 3	12%
Total		**100%**

Description of Assessments (see also "*Missed Tests and Late Assignments" below*)

Tests

Students will complete **two tests** in this course. Both tests will be **in-person** and **non-cumulative**. The tests will cover material from online lectures, readings, and class & assignment activities. The format of the tests may be a mix of multiple-choice and open-ended/short-answer questions. More information about the content, format, and length of the test will be provided prior to its administration.

*Note: Students will be provided with a formula sheet during tests. No additional aids (other than a non-programmable calculator) are permitted during tests.

Assignments

Students will complete four assignments in this course. The purpose of the assignments are to evaluate your conceptual understanding of the material covered in class, to demonstrate that you can perform the types of analyses covered in this course and that you can interpret/report the results. **Assignments will be completed outside the normal class time and students are expected to complete their assignments individually.** More information will be provided in the "Assignments" folder in eClass.

Class Format and Attendance Policy

Zoom class attendance is not mandatory but it is highly recommended for success in this course. Although lecture content will overlap with the textbook content, lectures will include examples and applications of these materials that are not covered in-depth in the textbook, and important information regarding the course and its assessments will be provided in class. I will also give students time to ask questions during the synchronized live Zoom lectures.

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 2024-25

Missed Tests & Late Assignments

Missed Test: For any missed test, students MUST complete the following online form which will be received and reviewed by the Psychology undergraduate office. Please include Dr. Rabi's email (rrabi2@yorku.ca) when filling out this form. At this time, due to COVID-19, an Attending Physician's Statement (APS) is not required, **however, a reason for missing an evaluated component in the course must be provided.**

HH PSYC: Missed Tests/Exams Form. Failure to complete the form within 48 hours of the original deadline will result in a grade of zero for the missed test. The make-up test details will be announced via eClass. **There is only <u>one</u> opportunity to write a make-up test**. **Please note that assignments <u>cannot</u> be used as a substitute for a missed test.**

Late Assignments: All assignments have a 3-day grace period (self-granted extensions) where students can submit after the deadline at no penalty. Assignments submitted beyond this 3-day grace period will receive a 10% per day penalty up to a total of 2 days (48 hours), after which no assignment will be accepted. To be clear, no assignments will be accepted 5 days beyond their original due date; assignments more than 5 days late will receive a grade of 0.

For ease of reference, here are the Assignment due dates & grace-periods:
Assignment 1: The deadline for Assignment 1 is Tuesday October 8th at 11:59pm. If additional time is needed (due to falling behind in the course, having a lot of deadlines around the assignment time, etc.), students can submit Assignment 1 with no late penalty until Friday October 11th at 11:59pm. Assignments submitted October 12th or October 13th will receive a 10% per day late penalty (e.g., 10%, 20%, respectively). If a student has not submitted Assignment 1 by October 13th at 11:59pm they will receive a grade of 0.

Assignment 2: The deadline for Assignment 2 is Tuesday November 5th at 11:59pm. If additional time is needed, students can utilize the 3-day grace period and submit Assignment 2 with no late penalty until Friday November 8th at 11:59pm. Assignments submitted November 9th or November 10th will receive a 10% per day late penalty (e.g., 10%, 20%, respectively). If a student has not submitted Assignment 2 by November 10th at 11:59pm they will receive a grade of 0.

Assignment 3: The deadline for Assignment 3 is Tuesday November 19th at 11:59pm. If additional time is needed, students can utilize the 3-day grace period and submit Assignment 3 with no late penalty until Friday November 22nd at 11:59pm. Assignments submitted November 23rd or November 24th will receive a 10% per day late penalty (e.g., 10%, 20%, respectively). If a student has not submitted Assignment 3 by November 24th at 11:59pm they will receive a grade of 0.

Assignment 4: The deadline for Assignment 4 is Tuesday December 3rd at 11:59pm. If additional time is needed, students can utilize the 3-day grace period and submit Assignment 4 with no late penalty until Friday December 6th at 11:59pm. Assignments submitted December 7th or December 8th will receive a 10% per day late penalty (e.g., 10%, 20%, respectively). If a student has not submitted Assignment 4 by December 8th at 11:59pm they will receive a grade of 0.

Instructor-granted extensions are only given in exceptional circumstances – should you think you have such a circumstance please email the instructor as soon as possible (**and prior to the assignment deadline**) to discuss.

Please note that a test cannot be used as a substitute for an assignment.

Add/Drop Deadlines

For a list of all important dates please refer to [Undergraduate Fall/Winter 2024-2025 Important Dates](#)

	Fall (Term F)	Year (Term Y)	Winter (Term W)
Last date to add a course **without permission** of instructor (also see Financial Deadlines)	September 18	September 18	January 20
Last date to add a course **with permission** of instructor (also see Financial Deadlines)	October 2	October 16	January 31
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	November 8	February 7	March 14
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	November 9 – December 3	February 8-April 4	March 15-April 4

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.

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. Since all tests will be in-person and not online, electronic mobile devices of any kind are not allowed during a test.

Students are required to turn off and secure any electronic mobile device in their bag which is to be placed under the chair while a test/exam is in progress. Any student observed with an electronic device during a test/exam may be reported to the Undergraduate Office for a potential breach of Academic Honesty.

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.

Calumet and Stong Colleges' Student Success Programming

Calumet and Stong Colleges aim to support the success of Faculty of Health students through a variety of **free programs** throughout their university career:

- Orientation helps new students transition into university, discover campus resources, and establish social and academic networks.
- Peer Mentoring connects well-trained upper-year students with first year and transfer students to help them transition into university.
- Course Representative Program supports the academic success and resourcefulness of students in core program courses through in-class announcements.
- Peer-Assisted Study Sessions (PASS) involve upper-level academically successful and well-trained students who facilitate study sessions in courses that are historically challenging.
- Peer Tutoring offers one-on-one academic support by well-trained Peer Tutors.
- Please connect with your Course Director about any specific academic resources for this class.
- Calumet and Stong Colleges also support students' Health & Wellness, leadership and professional skills development, student/community engagement and wellbeing, Career Exploration, Indigenous Circle, awards and recognition, and provide opportunities to students to work or volunteer.
- For additional resources/information about Calumet and Stong Colleges' Student Success Programs, please consult our websites (Calumet College; Stong College), email scchelp@yorku.ca, and/or follow us on Instagram (Calumet College; Stong College), Facebook (Calumet College; Stong College) and LinkedIn.
- Are you receiving our weekly email (Subject: "Calumet and Stong Colleges - Upcoming events")? If not, please check your Inbox and Junk folders, and if it's not there then please contact ccscadmn@yorku.ca, and request to be added to the listserv. Also, make sure to add your 'preferred email' to your Passport York personal profile to make sure you receive important news and information.

Course Materials Copyright Information

These course materials are designed for use as part of the **PSYC 2021D** 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 (Subject to Change)

Class	Live Meeting Date	Topic	Chapter Readings	Reminder
1	Sep 10	Course Overview eClass Orientation	Syllabus	Install jamovi on your computer
2	Sep 17	Introduction to Statistics	1 & Appendix A	
3	Sep 24	Examining Data: Tables & Figures	2 (exclude sections 2.4 & 2.5)	
4	Oct 01	Measures of Central Tendency & Variability	3 & 4	Assignment 1 posted
5	Oct 08	z-scores	5	**Assignment 1 due**
	Oct 15	**NO CLASS: READING WEEK**		
6	Oct 22	**TEST 1 (26%) - In-person; Covers Class 2,3,4,5 (Chapters 1, 2, 3, 4, 5)**		
7	Oct 29	Probability Probability and Sample: Distribution of Sample Means	6 (exclude sect. 6.4), 7	Assignment 2 posted
8	Nov 05	Introduction to Hypothesis Testing *Nov 08: Last date to drop a course without receiving a grade*	8	**Assignment 2 due**
9	Nov 12	One-Sample t-test	9	Assignment 3 posted
10	Nov 19	Correlation	15	**Assignment 3 due**
11	Nov 26	Chi-Square Statistic: Tests for Goodness of Fit & Independence	17	Assignment 4 posted
12	Dec 3	Mental Health Day	__	**Assignment 4 due**
TBA (Dec 5-20)		**TEST 2 (26%) - In-person; Covers Class 7, 8,9,10,11 (Chapters 6, 7, 8, 9, 15, 17)**		