Faculty of Health
Department of Psychology
HH/PSYC 2020 6.0 Section D
STATISTICAL METHODS I AND II
Fall/Winter 2020-2021; Wednesdays 11:30-2:30 via eClass & Zoom

---

This course will be delivered via a combination of both asynchronous and synchronous components. Specifically, pre-recorded lectures will be posted to the course eClass site for viewing at your convenience (the asynchronous component) and tutorials, question & answer sessions, and demonstrations will be delivered live (Wednesdays 11:30-2:30) via Zoom (the synchronous components). Please note that the synchronous components will rarely, if ever, take up the entire 3 hour time slot. More often than not they will run for approximately 1 to 1.5 hours (Wednesdays 11:30-1:00).

Instructor and T.A. Information

Instructor: Alistair P. Mapp
Office Hours: See eClass
Email: amapp@yorku.ca

T.A.	Jonathan Bridekirk
Email	jbride@yorku.ca
Office Hours	See eClass

Course Prerequisite: Course prerequisites are strictly enforced

- HH/PSYC 1010 6.00 (Introduction to Psychology), with a minimum grade of C.

Course Credit Exclusions

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

Course website: eClass

The course eClass site will be your central access point for course materials.

Course Description

This course provides an introduction to the analyses of data from psychological studies. Fundamental concepts and techniques of both descriptive and inferential statistics and their application to psychological research are discussed.
Course content is delivered via weekly pre-recorded lectures and live tutorials. Additionally, problem sets and demonstrations provide the opportunity to gain hands-on experience with course content and enhance experiential learning of course concepts.

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.
4. Compute inferential statistics for univariate linear models (ANOVA, regression).
5. Interpret and report the results of inferential statistics for univariate linear models.
6. Recognize the limits of 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
- χ^2 Goodness of Fit
- χ^2 Test of Independence
- One-sample t-test
- Independent samples t-test
- Dependent samples t-test
- One-way Independent Groups ANOVA (with contrasts)
- Two-way Independent Groups ANOVA (with interaction and contrasts)
- One-way Repeated Measures ANOVA (with contrasts)
- Correlation (including partial correlation)
- Simple Regression
- Multiple Regression
- **Effect size is included as part of all inferential statistics covered in this course.*

Required Text

- Gravetter, F. J., & Wallnau, L. B. (2017). Statistics for the Behavioral Sciences (10th ed.). Boston, MA: Cengage Learning.
- MindTap is required for this course.

Course Requirements and Assessment:

Assessment	Date of Evaluation	Weighting
MindTap Assignments	Weekly. See MindTap website for specific deadlines.	20%
Test 1	October 21, 2020	20%
Test 2	December 2, 2020	20%
Test 3	February 24, 2021	20%
Test 4	April 7, 2021	20%
*R Tutorials & Feedback Surveys**	*December 8, 2020*	*bonus 4%*
Total		**100%**

Description of Tests and Assignments

There are **four tests** in this course, each one of which is worth 20% of your final grade. The format of each test is multiple choice and data analysis/interpretation questions. The tests are noncumulative and are based on materials covered both in class and in the readings. Additionally, there are **weekly MindTap assignments**. The average (mean) of your best 11 out of 14 assignments is worth 20% of your final grade. **You are expected to work on these assignments independently**. It is your responsibility to access MindTap and complete assignments by the posted deadlines. The assignment deadlines are hard deadlines, which means no extensions are possible and missed assignments will receive a grade of zero.

*** *R Tutorials & Feedback Surveys (bonus 4%)***

Students will have the opportunity to complete a series of online tutorials introducing them to the statistical software, R and some related feedback surveys for bonus participation points. These tutorials will build on skills and knowledge acquired in this course and prepare students for skills they will use in future courses. Bonus participation points will be awarded for completion. More information on how to access the tutorials and earn 4 bonus marks toward your final grade will be posted on eClass.

Attendance Policy

Although students are not graded on attendance it is in their best interest to view all pre-recorded lectures and to attend all live tutorials and question & answer sessions.

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 the York grading system see the York University Undergraduate Calendar - Grading Scheme for 2020-21

Missed Tests

If you miss a test you will be given **one** chance to write a make-up test if, and only if, you complete the HH PSYC: Missed Tests/Exams Form, which will be received and reviewed in the Psychology undergraduate office. Failure to complete the form within 48 hours of the original test date will result in a grade of zero for the missed test. At this time, due to COVID-19 an Attending Physician's Statement (APS) is not required, however, a reason for missing a test in the course must be provided. For more detailed instructions, please refer to the *Rules Governing Missed Tests* link on the eClass.

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.

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, however, that you will not consult any unauthorised sources when completing tests.

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 HH/PSYC 2020 6.0D 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

Date		Topic	Reading
September	9	Orientation	
	16	Introduction & Math Review	Chapter 1 & Appendix
	23	Frequency Distributions	Chapter 2
	30	Central Tendency & Variability	Chapters 3 & 4
October	7	Standardized Distributions	Chapter 5
	14	*Reading Week (No Class)*	
	21	**Test 1 (20%)**	
	28	Probability	Chapter 6
November	4	Sampling Distributions	Chapter 7
	11	Hypothesis Testing	Chapter 8
	18	One Sample t-Test	Chapter 9
	25	Pre-Test Q & A	
December	**2**	**Test 2 (20%)**	
		HAPPY HOLIDAYS	
January	13	Two Independent Samples t-Test	Chapter 10
	20	Two Related Samples t-Test	Chapter 11
	27	Confidence Intervals	See Book Index
February	3	Introduction to ANOVA	Chapter 12
	5	*Last day to drop full year courses without academic penalty*	
	10	Repeated-Measures ANOVA	Chapter 13
	17	*Reading Week (No Class)*	
	24	**Test 3 (20%)**	
March	3	Two-Factor ANOVA	Chapter 14
	10	Correlation	Chapters 15
	17	Regression	Chapter 16
	24	Chi-Square Test	Chapter 17
	31	Pre-Test Q & A	
April	**7**	**Test 4 (20%)**	