Faculty of Health
Department of Psychology
HH/PSYC 2020 6.0 Section H
STATISTICAL METHODS I AND II
Fall/Winter 2019-2020; Thursdays 11:30-2:30 in ACE 002

Instructor and T.A. Information

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Course Prerequisite(s) or corequisite: Course prerequisites are strictly enforced.

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

Course Credit Exclusions

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

Course website: Moodle

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, in-person lectures and tutorials. Additionally, online 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/Objectives

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
- Two independent samples t-test
- Paired 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:

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 **eight MindTap (online) assignments**. The average (mean) of your best seven 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.

Assessment	**Date of Evaluation**	**Weighting**
MindTap Assignments	Two assignments due before each test. See MindTap website for specific deadlines.	20%
Test 1	October 10, 2019	20%
Test 2	November 28, 2019	20%
Test 3	February 13, 2020	20%
Test 4	April 2, 2020	20%
Total		100%

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 2019-20

Missed Tests or Exams

Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., Attending Physician Statement) may request accommodation from the Course Instructor. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

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. For more detailed instructions, please refer to the *Rules Governing Missed Tests/Exams* link on the Moodle.

Add/Drop Deadlines

For a list of all important dates please refer to: Fall/Winter 2019-20 - Important Dates

	FALL (F)	YEAR (Y)	WINTER (W)
Last date to add a course **without permission** of instructor (also see Financial Deadlines)	Sept. 17	Sept. 17	Jan. 19
Last date to add a course **with permission** of instructor (also see Financial Deadlines)	Oct. 1	Oct. 22	Feb. 3
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 8	Feb. 3	March 13
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	Nov. 9 - Dec. 3	Feb. 4 - Apr. 5	March 14 - Apr. 5

***Note**: *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.*

Attendance Policy

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

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 information SPARK Academic Integrity modules. These modules explain principles of academic honesty.

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.

Electronic Devices During a Test/Examination

Electronic mobile devices of any kind are not allowed during a test or examination. 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 devise during a test/exam may be reported to the Undergraduate Office for a potential breach of Academic Honesty.

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 York University Accessibility Hub is your online stop for accessibility on campus. The Accessibility Hub provides tools, assistance and resources. Policy Statement.

Policy: York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder.

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 6.0H 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	**5**	**Orientation**	
	12	**Introduction & Math Review**	**Chapter 1 &**
	19	**Frequency Distributions**	**Chapter 2**
	26	**Central Tendency & Variability**	**Chapters 3 & 4**
October	**3**	**Standardized Distributions**	**Chapter 5**
	10	**Test 1 (20%)**	
	17	***Reading Week (No Class)***	
	24	**Probability**	**Chapter 6**
	31	**Sampling Distributions**	**Chapter 7**
November	**7**	**Hypothesis Testing**	**Chapter 8**
	14	**One Sample t-Test**	**Chapter 9**
	21	**Pre-Test Q & A**	
	28	**Test 2 (20%)**	
		HAPPY HOLIDAYS	
January	**9**	**Two Independent Samples t-Test**	**Chapter 10**
	16	**Two Related Samples t-Test**	**Chapter 11**
	23	**Confidence Intervals**	**See Book Index**
	30	**Introduction to ANOVA**	**Chapter 12**
February	***3***	***Last day to drop full year courses without academic***	
	6	**Repeated-Measures ANOVA**	**Chapter 13**
	13	**Test 3 (20%)**	
	20	***Reading Week (No Class)***	
	27	**Two-Factor ANOVA**	**Chapter 14**
March	**5**	**Correlation**	**Chapters 15**
	12	**Regression**	**Chapter 16**
	19	**Chi-Square Test**	**Chapter 17**
	27	**Pre-Test Q & A**	
April	**2**	**Test 4 (20%)**	