Faculty of Health
Department of Psychology
PSYC 2021 3.0 C: STATISTICAL METHODS I
Thursdays, 8:30-11:30, Curtis Lecture Hall A
Fall 2018

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Course Prerequisite(s):

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

Course Credit Exclusions

Please refer to York Courses Website (https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm) for a listing of any course credit exclusions.

Course website: Moodle (moodle.yorku.ca)

Course Textbook:

Navarro, D. (2015). Learning statistics with R: A tutorial for psychology students and other beginners (version 0.5).

http://www.compcogscisydney.com/learning-statistics-with-r.html

* Note that the text can either be downloaded as a pdf or purchased in hard copy on the text website

Course Description

This is the first course in statistics that most psychology (and other) majors take in university. This class will introduce you to the basic principles underlying statistical analysis in psychology and prepare you for future classes in statistics which will focus on more advanced techniques. More specifically, this course will introduce you to the type of variables utilized in psychology, statistical and graphical methods for summarizing variable information, two-variable correlation, and comparing two independent or paired-sample means. Null hypothesis significance testing will be introduced, however the focus will be on understanding relationships among variables. Data analysis using statistical software will be carried out with the open-source software R (www.r-project.org).

Program Learning Outcomes

Upon completion of this course, students should be able to compute, interpret, report on, and distinguish between basic descriptive 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, χ^2 Goodness of Fit, χ^2 Test of Independence, One-sample t test, Two independent-samples t-test, Paired-samples t-test (Effect size is included as part of all inferential statistics covered in this course)

Course Requirements and Assessment:

Final grades will be comprised of marks earned on:

1) Class Tests (Test 1: 30%; Test 2: 20%; Test 3: 20%)

Each class test will include questions from the text and lecture notes, including both theory questions and questions which require you to interpret *R* input/output (you will not need to write out *R* code on tests). You are allowed to use a basic or scientific calculator during tests (phones, tablets, etc. cannot be used as calculators).

Test 1 (October 18, 2018): Intro to Statistics, Research Design, Descriptive Statistics, Correlation, Graphing Data, Probability

Test 2 (November 8, 2018): Sampling , Hypothesis Testing

Test 3 (November 29, 2018): Categorical Data Analysis, Comparing Means

If you miss a test, a make-up exam will only be scheduled if you have proper documentation. A Physician Statement can be found at: http://myacademicrecord.students.yorku.ca/pdf/attending-physicians-statement.pdf. You must email your TA a copy of your documentation within 48 hours following the missed test in order to schedule a make-up test. The format of the make-up test may be different from the original test.

In addition to emailing your TA, for any missed test or late assignment, students MUST also complete the following online form which will be received and reviewed in the Psychology undergraduate office.

http://psychology.apps01.yorku.ca/machform/view.php?id=16179

Failure to complete the form within 48 hours of the original deadline will result in a grade of zero for the test/assignment

2) Assignments (2 X 15%)

There will be two assignments for the course that will require you to analyze data (including using R) and write up the results of the studies. You will be given the assignments one week before they are due.

Assignment Due Dates:

Assignment #1: October 25, 2018

Assignment #2: November 22, 2018

You will be deducted 10% (of the 15% allotted to each assignment; i.e., 1.5% of your final grade) for each day (not including weekends) that your assignment is late.

Grading as per Senate Policy

Percent	Letter Grade	Percent	Letter Grade
90 - 100	A+	60 - 64	C
80 - 89	A	55 - 59	D+
75 - 79	B+	50 - 54	D
70 - 74	B	40 - 49	E
65 - 60	C+	0 - 39	F

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 2018-19)](#)

Add/Drop Deadlines

For a list of all important dates please refer to: http://registrar.yorku.ca/enrol/dates/fw18

	FALL (F)
Last date to add a course **without permission** of instructor (also see Financial Deadlines)	Sept. 18
Last date to add a course **with permission** of instructor (also see Financial Deadlines)	Oct. 2
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 9
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	Nov. 10 - Dec. 4

*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.*

Academic Integrity for Students

York University takes academic integrity very seriously; please familiarize yourself with: http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/

It is recommended that you review Academic Integrity information at: https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/ These modules explain the basic 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 device 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 (http://accessibilityhub.info.yorku.ca/) is your online stop for accessibility on campus. The Accessibility Hub provides tools, assistance and resources. *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: http://secretariat-policies.info.yorku.ca/policies/academic-accommodation-for-students-with-disabilities-policy/

Course Materials Copyright Information

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http://copyright.info.yorku.ca/students-reuse-of-teaching-materials-from-york-courses/

Course Schedule

Rough Schedule of Topics (i.e., modifications may need to be made based on the rate at which we are able to cover the material).

Day	Topic	Readings	Notes
Sep. 6	Introduction	LSR - Ch. 1	Welcome!
Sep. 13	Research Design/Intro R	LSR - Ch. 2/3	
Sep. 20	Descriptive Statistics/ Correlation	LSR - Ch. 4/5	
Sep. 27	Graphing Data	LSR – Ch. 6/7/8.1	
Oct. 4	Probability	LSR – Ch. 9	
Oct. 11	**Reading Week**		**LSR – Ch. 1-7,9**
Oct. 18	Test 1		Assignment 1 Handed Out
Oct. 18	Sampling/Estimation 1	LSR – Ch. 10	
Oct. 25	Sampling/Estimation 2	LSR – Ch. 10	**Assignment 1 Due**
Nov. 1	Hypothesis Testing	LSR – Ch. 11	
Nov. 8	**Test 2**		**LSR – Ch. 10-11**
Nov. 8	Categorical Data Analysis 1	LSR – Ch. 12	
Nov. 15	Categorical Data Analysis 2	LSR – Ch. 12	Assignment 2 Handed Out
Nov. 22	Comparing Means	LSR – Ch. 13	**Assignment 2 Due**
Nov. 29	**Test 3**		**LSR – Ch. 12-13**