Statistical Methods I and II
AS-AK-SC-HH/PSYC 2020D/H 6.0
Fall 2014-Winter 2015
Wed/Thu 11:30-2:30 in Founders 106

Instructor
Christopher D. Green (christo@yorku.ca, 286 BSB, ext. 66164)

Teaching Assistants
Arlie Belliveau (arlie@yorku.ca, BSB 059)
Daniel Lahham (dlahham@yorku.ca, BSB 059)
Office Hour: Wed/Thu 10:30-11:30
Course Moodle: https://moodle.yorku.ca/moodle/course/view.php?id=36485

Course Description:
An introduction to the analysis of data from psychological studies. Fundamental concepts and techniques of both descriptive and inferential statistics and their application to psychological research. Prerequisite or co-requisite: AK/AS/HH/SC/PSYC 1010 6.00 or AK/HH/PSYC 2410 6.00, with a minimum grade of C when used as a prerequisite.

Learning objectives: Students are expected to become familiar with the use of a range of statistical techniques that are commonly used in psychological research. They should be able to decide, upon receiving a data set and a research question, the kinds of statistical tests that are relevant to answering the question. They should be able to accurately compute the relevant statistical tests, and they should be able to clearly and correctly interpret the test's result in ordinary language. In addition, students should be able to discuss with facility a range of issues pertaining to the proper and improper use of statistics in psychological research that are covered in the lectures and/or in the textbook.

Required Text:
Howell, D. C. (2012). *Statistical methods for psychology* (8th ed.). Wadsworth.

Schedule

10-11 Sept.	Introduction & Arithmetic quiz.
17-18 Sept.	Chapters 1-2.5 (basic vocabulary, graphs)
24-25 Sept.	Chapter 2.6-end ($\sum$ notation, measures of location and variation)
1-2 Oct.	Chapter 3 (normal distribution)
8-9 Oct.	Chapter 4 (sampling distributions and hypothesis testing)
15-16 Oct.	overload/review
22-23 Oct.	**First Midterm test, 2 hrs. (20%)**
29-30 Oct. --------------- *Co-curricular Days* ------------------	
5-6 Nov.	Chapter 5 (probability)
12-13 Nov.	Chapter 6.1-6.6, 6.8, 6.11 (chi-square)
19-20 Nov.	Chapter 7 (hypothesis test with means: *z*-tests, *t*-tests)
26-27 Nov.	overload/review
3-4 Dec.	**Fall Term Test, 2 hrs. 50 min (20%)**

----------------------- **Winter Break** --------------------

7-8 Jan.	Welcome back, review Fall Term Test.
14-15 Jan.	Chapter 8 (power)
21-22 Jan.	Chapter 9 (correlation and regression)
27 Jan.	------------ *Last Day to Drop Course* --------------------
28-29 Jan.	Chapter 10 (alternative correlational techniques)
4-5 Feb.	Chapter 11 (simple analysis of variance)
11-12 Feb.	overload/review
18-19 Feb.	-------------- *Reading Week* ----------------------------
25-26 Feb.	**Second Midterm Test, 2 hrs. 50 min. (30%)**
4-5 Mar.	Chapter 12 (multiple comparisons in analysis of variance)
11-12 Mar.	Chapter 18.6-18.10 (non-parametric tests)
18-19 Mar.	Chapter 13.1-13.7 (factorial analysis of variance)
25-26Mar.	Chapter 14.1-14.4, 14.7 (repeated measures analysis of variance)
3-4 Apr.	overload/review

Date TBA: Final Examination, 3 hrs. (30%)

Final test and examination results will be converted from numerical marks to letter grades at the end of the course, according to the standard university plan (e.g., 90-100=A+, 80-90=A, 75-79=B+, 70-74=B, etc.). For a full description of the grading system see the York University Undergraduate Calendar: http://calendars.registrar.yorku.ca/2010-2011/academic/index.htm.

Assignments. At the end of each lecture, a selection of problems that appear at the end of each textbook chapter will be assigned. These are "practice" problems intended to help students to gain some facility with the statistical procedures that were the subject of reading and lecture during the previous week. Solutions to the assigned problems will be presented by the Teaching Assistant, normally at the start of the following class. They will **not** be marked for credit in the course. In order to acquire further statistical facility, students are **strongly encouraged** to do additional similar problems on their own either from the textbook, from other statistics textbooks, or made up on their own. There are a number of free, on-line statistical applications that will give the answers to problems created by users (e.g., http://vassarstats.net/)

Examination policy. All students are expected to write the three tests and one examination at the times and places specified. University policy is that the course instructor should be notified **within 24 hours** of missing a test or examination. Only **documented** excuses of illness or significant personal hardship will be accepted. Students who miss a test or examination without adequate documentation will receive a grade of 0. Students who miss the regular test time and have acceptable documentation will be assigned a time and place to write a make-up test or examination, normally within one week of the regular time. For the first three tests, students who are unable to attend at the make-up time due to further or continued **documented** illness or significant personal hardship may be excused from the test, and their final course grade will be pro-rated to reflect this. For the final examination, relevant university policies will be followed.

Academic Integrity. All students are expected to abide strictly by the university's policies on academic integrity. The relevant documents, along with an on-line quiz, can be found here: http://www.yorku.ca/academicintegrity/students/index.htm. Although not limited to the following four, any student found (1) looking at another student's examination (2) communicating with another student during the examination, (3) in possession of unauthorized documents (e.g., notes) in the

examination, or (4) receiving unauthorized communications from outside the examination room will be considered to be in violation of one or more of the university's academic integrity policies and appropriate disciplinary steps will be taken.

Disability Accommodation. Appropriate accommodation will be made in accordance with the policies of the university (http://www.yorku.ca/secretariat/policies/document.php?document=68). Students should consult with the university's accommodations office for relevant documentation.

Religious Accommodation. Appropriate accommodation will be made in accordance with the policies of the university. Please see the instructor at your earliest opportunity if you discover issues relating to your religious practices and the expectations of the course.