

June 23rd 2014
YORK UNIVERSITY
FACULTY OF HEALTH
DEPARTMENT OF PSYCHOLOGY

Course: HH/SC PSYC 2022 3.0 M – Statistical Methods II

Term: Summer S2 2014

Course Webpage: moodle.yorku.ca

Time and Location Lectures

Monday and Wednesday 19:00 - 21:00 CLH F

Course Instructor

Heather Jenkin 254 BS

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Office hours: Monday 17:00–18:00 and by appointment

Teaching Assistant

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Secretary

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Prerequisite: One of AK/AS/HH/SC/PSYC 2021 3.00, AK/HH/PSYC 2510 3.00, AS/ECON 2500 3.00, AS/HH/SC/KINE 2050 3.00, AK/AS/SC/MATH 2560 3.00.

Prerequisite or corequisite: AK/AS/HH/SC/PSYC 1010 6.00 or AK/HH/PSYC 2410 6.00, GL/PSYC 2510 6.00, with a minimum grade of C when used as a prerequisite.

Course credit exclusions: AK/AS/HH/SC/PSYC 2020 6.00, AK/PSYC 3110 3.00 (prior to Summer 2002), AK/ECON 3480 3.00, AS/ECON 3500 3.00, AS/HH/SC/KINE 3150 3.00, AK/AS/SC/MATH 2570 3.00, AS/POLS 3300 6.00, AS/SOCI 3030 6.00.

Note: SC/BIOL 2060 3.00, SC/BIOL 3090 3.00, or AS/SC/MATH 2500 3.00 may not be substituted for AK/AS/SCPSYC 2022 3.00 for major or minor credit in psychology.

Course Learning Objectives

This course is designed to provide the student with the statistical skills necessary to describe and understand the data from psychological research. It is a course that builds on knowledge acquired in Statistical Methods I (the study of fundamental concepts and techniques of descriptive and inferential statistics). Topics covered will include: hypothesis tests using t-tests (for independent and related measures); ANOVA (for both repeated and independent measures and two factors); correlation, linear regression analysis, non-parametric tests (such as Chi-Square, Mann-Whitney, Wilcoxon etc.) and the binomial test.

Organization of the Course -

The course involves formal lectures by the instructor on topics outlined below in the reading schedule. The required readings are central to the course. Class time will also include tutorial/Q&A time that will serve to enrich, clarify, and illustrate assigned topics with the completion of weekly problems in class. This is important as they provide useful experience with statistical tasks. Suggested problems will be posted on moodle. It is advisable that students complete these problems and then difficulties can be discussed on the appropriate day.

Course logistics

- Lectures will begin at 19:00.
- Question and Answers will be 45 minutes and will involve problem take-up time.
- Lecture information will be on Moodle. Make sure that you sign up for a Moodle account as soon as possible. <http://moodle.yorku.ca>

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Course Text / Readings

Text: Gravetter, F.J. & Wallnau, L. B. (2012) Statistics for the Behavioural Sciences. 9th Ed. Belmont CA: Thomson/Wadsworth

Additional readings: Supplemental package required "Chapter 20" (see York Bookstore)

Evaluation

The final grade for the course will be based on the following items weighted as indicated:*

Term Test 1	20%	non-cumulative in class July 2nd
Term Test 2	20%	non-cumulative in class July 23rd
Final Examination:	50%	cumulative scheduled in the exam period (Aug 6-18)

The non-cumulative term tests will cover material from lectures and readings preceding the test date. The final examination will be **cumulative**, covering all course material.

Two assignments will be completed before each Term Test.

Assignment 1	5%	due 19:00 in class June 30th
Assignment 2	5%	due 19:00 in class July 21st

ADDITIONAL TEST INFORMATION

• For tests you **must** bring York sessional and photo ID, writing tools, and a **basic non-programmable** calculator (+, -, x, ÷, and $\sqrt{\quad}$ only). Any calculator more sophisticated will be **confiscated** until the test is over. Your cell phone may NOT be used as a calculator.

• A one-sided *handwritten* "cheat sheet" NO larger than 3 inches by 5 inches may be brought to each term test. **Typed notes will be confiscated. Notes larger than 3 inches by 5 inches will be confiscated.**

• A two-sided *handwritten* "cheat sheet" NO larger than 3 inches by 5 inches may be brought into the final. **Typed notes will be confiscated. Notes larger than 3 inches by 5 inches will be confiscated.** (You may use a **one sided** handwritten cheat sheet that is **6 inches by 5 inches** if you prefer)

• Statistical tables will be provided as needed.

Missed Assignments: The percentage weighting of any late or missed assignment will be added to the subsequent term test (for example if you miss Assignment 1 then Term test 1 will be re-weighted as 25%)

Missed Tests: Students must contact the instructor within 24 hours of a missed test. Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation may request accommodation from the Course Instructor. The only Medical documentation accepted will be a Attending Physician's Statement, www.yorku.ca/grads/forms/.../attending_physician_statement.pdf

Accommodations **may be** permission to write a make-up test, but **could also** involve a re-weighting of subsequent course evaluations. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

IMPORTANT COURSE INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents) - http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

- York's Academic Honesty Policy and Procedures/Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation

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Date	Topic	Readings
June 23	Review of Basic Mathematics; hypothesis testing, effect size and power	8.3 - 8.6 Appendix A
June 25	Review of t tests and Confidence Intervals: Single sample; Independent t tests; dependent t tests	9.2 - 9.4; 10.2; 11
June 27	<i>Last date to add a course without permission</i>	
June 30	F-max; Non- parametric tests Wilcoxon and Mann-Whitney Problem Set 1 is due at the beginning of class	10.4; Appendix E Supplemental Ch 20 5%
July 2	Test 1	20%
July 4	<i>Last date to add a course with permission</i>	
July 7	Introduction to ANOVA	12.1 - 12.4
July 9	ANOVA effect size and Post Hoc tests	12.5 - 12.7
July 14	Repeated measures ANOVA	13
July 16	More Ordinal data hypothesis tests Kruskal-Wallis and Friedman	Appendix E Supplemental Ch 20
July 18	<i>Last date to drop without receiving a grade</i>	
July 21	Two factor ANOVA Problem Set 2 is dues at the beginning of class	14 5%
July 23	Test 2	20%
July 28	Hypothesis tests with Pearson correlation Linear regression equations and Analysis of Regression	15.2 - 15.4 16.1 - 16.2
July 30	The Binomial Test; Choosing the right statistics	18; 19
	<i>Final scheduled in the S2 exam period (August 6-18)</i>	50%