

**YORK UNIVERSITY, FACULTY OF HEALTH
DEPARTMENT OF PSYCHOLOGY**

Course: *HH/SC PSYC 2022 3.0 M – Statistical Methods II* **Term:** Summer 2
2015

Course Webpage: moodle.yorku.ca

Time and Location *Lectures Monday and Wednesday 19:00 -22:00*
CLH E

Course Instructor

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Email etiquette: When emailing the course director OR teaching Assistants *Always put PSYC2022M in Subject header, and include your full name and student number in the body of the message.*

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 co-requisite: 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.

Required Course Text / Readings

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

(2) Supplemental package required "Chapter 20" (see York Bookstore)

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: power, hypothesis tests using

t-tests (for independent and related measures); ANOVA (for repeated measures, independent measures and two factors); correlation, linear regression analysis, and non-parametric tests (such as Mann-Whitney, Wilcoxon etc.). Students should be able to identify the correct statistical test to use, and use the test appropriately on simple datasets by the end of the course. Mathematical competency gained from PSYC2021 is expected.

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 Q&A time that will serve to enrich, clarify, and illustrate assigned topics with the completion of homework 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 homework problem take-up time.
- Gist lecture information will be available on Moodle. Make sure that you sign up for a Moodle account as soon as possible. <http://moodle.yorku.ca>

Evaluation

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

Term Test 1	25%	non-cumulative in class
Term Test 2	30%	non-cumulative in class
Final Examination:	45%	cumulative scheduled in the exam period (August 24-28)

The term test will cover material from lectures and readings preceding the test date. Please note that the course builds on knowledge and as such material from an earlier term test may be needed on a subsequent evaluation. The final examination will be **cumulative**, covering all course material.

ADDITIONAL TEST INFORMATION

- For tests you **must** bring York sessional and photo ID.
- You may bring writing tools, and a **basic** 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.
- **An equation sheet will be provided. No personal cheat sheet will be allowed.**
- Statistical tables will be provided as needed.

Missed Tests: the instructor **MUST** receive notification of inability to write a test **within 24 hours of the test date**. No "make-up" tests will be provided automatically. Tests missed without documentation of legitimate medical or other reasons will result in a grade of 0. Students with a documented reason for missing a course test, such as illness, compassionate grounds, religious accommodations etc. that is confirmed by supporting documentation (e.g., Attending Physician's Statement, police report, death certificate...) may request accommodation from the Course Instructor. Accommodations **may be** permission to write a make-up test within 7 days, or most likely in the

condensed summer course a re-weighting of 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

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://www.yorku.ca/secretariat/policies/document.php?document=69>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services – <http://www.yorku.ca/disabilityservices>
Counseling & Disability Services at Glendon - <http://www.glendon.yorku.ca/counselling>
York Accessibility Hub - <http://www.yorku.ca/accessibilityhub/index.htm>

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf(PDF)

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://www.yorku.ca/secretariat/policies/document.php?document=82>

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - <http://www.yorku.ca/academicintegrity>

Date	Topic	Readings
July 6	Review of Basic Mathematics; hypothesis testing with z, power, review of single sample t-tests and effect size	Appendix A 8.3 - 8.6, 9
July 8	Independent and dependent t-tests	10 and 11
July 10	Last date to add a course without permission	
July 13	F-max; Non- parametric tests Wilcoxon and Mann-Whitney	10.4; Appendix E, Supplement 20
July 15	Term Test 1	25%
July 20	ANOVA - Hypothesis test <i>Last date to add a course with permission</i>	12.1-12.4
July 21-24	Summer Break	
July 27	ANOVA effect size and Post Hoc tests	12.5 - 12.7
July 29	Repeated measures ANOVA, Ordinal tests: Kruskal- Wallis and Friedman	13, Appendix E, Supplement 20
Aug. 3	Simcoe Day - no class	
Aug 5	Term Test 2	30%
Aug 10	Two factor ANOVA <i>Last date to drop without receiving a grade</i>	14
Aug. 12	Hypothesis tests with Spearman and Pearson correlation	15
Aug. 17	Linear regression equations and Analysis of Regression	16.1 - 16.2
Aug 19	Choosing the right statistics	19
Aug. 24-28	Cumulative Final scheduled in the SU exam period	45%