

Draft Jan1/16  
**YORK UNIVERSITY**  
**FACULTY OF HEALTH**  
**DEPARTMENT OF PSYCHOLOGY**

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

**Term:** W 2016

**Course Webpage:** moodle.yorku.ca

**Time and Location Lectures** Thursday 14:30 -17:30

CLH A

**Course Instructor**

Heather Jenkin 254 BS  
Office hours: Tuesday 13:00–14:00 and by appointment

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**Teaching Assistants:**

Paula Di Nota  
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**Secretary**

Barbara Thurston 283 BS Tel: (416) 736 2100 x 66253 Email: [bthurst@yorku.ca](mailto:bthurst@yorku.ca)

**Email etiquette:** When email ing the course director OR teaching Assistants *Always put PSY2022N 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.

**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 both repeated measures, independent measures and two factors); correlation, linear regression analysis, and non-parametric tests (such as Mann-Whitney, Wilcoxon etc.).*

**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 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 14:30.
- 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>

### Course Text / Readings

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

**Required Additional reading:** 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:*

<i>Mastery Online Quizzes</i>	<i>20%</i>	<i>ten quizzes as scheduled on moodle</i>
<i>Term Test 1</i>	<i>20%</i>	<i>non-cumulative in class Feb 12th</i>
<i>Term Test 2</i>	<i>25%</i>	<i>non-cumulative in class</i>
<i>Final Examination:</i>	<i>35%</i>	<i>cumulative scheduled in the exam period (April 6-20)</i>

Ten mastery Quizzes will be available for a specified time period. They MUST be completed by the due date. Multiple submissions are allowed to reach 80% mastery level before the due date. Highest grade will be used to reach Pass/Fail criteria. Pass is worth 2%, Fail is worth zero.

The term tests will cover material from lectures and readings preceding the test date. Please note that the course builds on knowledge and 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.
- Statistical tables will be provided as needed.

**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. **NOTE:** The only Medical documentation accepted will be a Attending Physician's Statement, [www.yorku.ca/grads/forms/.../attending\\_physician\\_statement.pdf](http://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 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](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>

Counselling & 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](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>

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Date	Topic	Readings
Jan 7	Review of Hypothesis testing with z (power) and t, confidence intervals and effect size	8 and 9 Appendix A
Jan 14	Dependent t test, confidence intervals and effect size	11
Jan 17	Last date to add a course without permission	
Jan 21	Independent t test, confidence intervals and effect size	10
Jan 28	Fmax and non-parametric Mann-Whitney and Wilcoxon	10; Appendix E, Supplement 20
Jan 29	Last date to add a course with permission	
Feb 4	Term Test 1	20%
Feb 11	ANOVA - Hypothesis test and effect size	12.1-12.5
Feb 18	Reading Week - no class	
Feb 25	ANOVA Post Hoc tests; Kruskal- Wallis	12.6 - 12.7 Appendix E, Supplement 20
Mar 3	Repeated measures ANOVA; Friedman	13, Appendix E, Supplement 20
Mar 4	Last date to drop without receiving a grade	
Mar 10	Two factor ANOVA	14
Mar 17	Term Test 2	20%
Mar 24	Hypothesis tests with Spearman and Pearson correlation	15
Mar 31	Linear regression equations and Analysis of Regression	16.1 - 16.2
April 6 - 20	Cumulative Final scheduled in the SU exam period	40%