

YORK UNIVERSITY  
Faculty of Health, Department of Psychology

**Course:** HH/SC PSYC 2020 6.0 E Statistical Methods I & II  
**Time:** Lecture Friday 11:30 - 14:30

**Term:** Fall 2014 Winter 2015  
**Location:** VH1152A

**Course Instructor:** Heather Jenkin, Ph. D.

**Office:** 254 BS

**Tel:** 416 736 2100 x22542

**Email etiquette:** Always put PSYC2020 E in Subject header, include your full name and student number in the body of the message.

**Office Hours:** R 12:30 - 1:30 and by appointment

**Email contact:** [hjenkin@yorku.ca](mailto:hjenkin@yorku.ca)

**Teaching Assistant:** Debra Soh

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**Office:** Sherman 1009

**Office:** 283 BS

**Course Description:** This course is designed to provide the student with the statistical skills necessary to analyze and understand the data from psychological research. Topics covered will include basic concepts of measurement, measures of central tendency, variability and relationship. As well, selected inferential statistics will be covered (for example t-tests, ANOVAs, correlation and regression), there will also be non-parametric test such as  $\chi^2$  and tests of ordinal data. Students should have a reasonably good working knowledge of high school mathematics.

**Course Learning Objectives:** The purpose of this course is to introduce students to the field of psychology statistical analysis. In addition it is hoped that students will develop appropriate study habits and critical thinking skills.

**Pre-requisite or co-requisite:** PSYC 1010 6.0 (with a minimum grade of C, when used as a pre-requisite)

**Course Credit Exclusion:** For exclusions see the Department of Psychology handbook 2014-15.

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

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

**Website:** Make sure that you sign up for a Moodle account as soon as possible. Online go to [moodle.yorku.ca](http://moodle.yorku.ca) and follow the instructions, you need to logon using your *yorku id* and *password*, once registered with Moodle you can then find all Moodle websites associated with the courses you are registered in.

**Evaluation:** There are three parts to how your grade is generated:

- (1) Five term tests non-cumulative term tests (multiple choice questions, short answers and calculations). These tests sum to 65% of your grade. Tests will begin at 11:30 on the Test day - I will go over the test immediately after. **You are also able to see your test with the TA up until the next Term test date.** You are encouraged to go over each test before the next test to make sure you understand where you may improve, statistics is a course that builds on knowledge from earlier in the course. Do not ignore material you do not understand - it will appear again!
- (2) There are 8 assignments that are done over the year worth 6% in total. We will count your best 6 of the eight assignments. The assignments and due dates will be posted on Moodle. Assignments are **due in class at 11:30 on the assigned date. No late assignments will be accepted**, no electronic submissions are allowed. Early submissions will be accepted if date and time stamped. You can hand them in to me in my office hours, or drop it off with Ms. Barb Thurston in 283 BS.
- (3) The last 29% is a **cumulative final** (short answers and calculations covering the entire course content)

#### 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). **All others will be confiscated and returned at the end of the test.**
- A handwritten "cheat sheet" that is no more than 3 inches by 5 inches will be permitted for term tests. For the final you can double this size to 6 inches by 5 inches. **Any sheet larger than specified will be confiscated and returned at the end of the test.**
- Statistical tables will be provided as needed. 1

**Missed Test:** If you miss a term test you will score a zero.

**Documentation for a missed test due to illness:** York University Attending Physician's Statement form must be completed by your healthcare provider (available on the course moodle site). This is the ONLY form of medical documentation acceptable in this course. A "doctor's note" is NOT sufficient.

**There are no make-ups for missed tests.** With appropriate documentation you can request a re-weighting onto the cumulative final. Note that when one term test is missed the final is then weighted 42%, two tests would result in a final worth 55%. If your health is so severely compromised that you miss more than one test you should consider dropping as you will probably be missing too much lecture time to do well in the course. If more than one term test is missed then be aware that you may not have a true understanding of your performance in the course before the drop deadline.

**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 Policies, Procedures and Regulations; Major Documents and Publications) - <http://www.yorku.ca/secretariat/index.html>

- 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

Information on cheating and Plagiarism is available

- At a comprehensive website on Academic Integrity for students  
<http://www.yorku.ca/academicintegrity/students/index.htm>
- In the Psychology Supplemental Calendar
- At the Senate Policy on Academic Honesty website  
<http://www.yorku.ca/secretariat/policies/document.php?document=69>

Part 1	Introduction and Mathematical Review; Frequency distribution and Graphing; Central Tendency; Variability
Readings	Chapters 1, 2, 3, 4, 5 and Appendix A
TEST 1	October 10th 2014 worth 13%
Part 2	z-score; Probability; Sampling and Distributions; Hypothesis Testing and Power
Readings	Chapters 6, 7, and 8
TEST 2	November 21st 2014 worth 13%
Part 3	Single sample t-tests; Independent measures t-tests; Dependent measures t-tests: Confidence intervals (supplement)
Readings	Chapters 9, 10, and 11, (supplement)
TEST 3	Jan 16th 2015 worth 13%
Part 4	ANOVA; Repeated measures ANOVA; Factorial ANOVA; Ordinal tests (Appendix E)
Readings	Chapters 12, 13, 14, and Supplemental chapter
TEST 4	March 6th 2015 worth 13%
Part 5	Correlation and Regression Analysis; Chi-Square tests; Ordinals (supplement)
Readings	Chapters 15, 16, 17 and 19
TEST 5	Monday April 6th 2015 worth 13%
CUMULATIVE FINAL	Scheduled in the Winter Exam period (TBA) Cumulative worth 29%

**Important dates**

September 22nd	Last date to add a course without permission of instructor
Oct 13th	Thanksgiving - no classes
October 14th	Last date to add a course with permission of instructor
Oct 29th - Nov 2	Fall Co-curricular Days
Dec 9th - Dec 22nd	Fall examinations

Feb 6th	Last date to drop courses without receiving a grade
Feb 14th - 20th	Winter Reading Week
April 6th	Last lecture in PSYC 2020E - this is a Monday
April 8th - April 24th	Winter Examinations

Date	Topic	Readings
Sept 12	Introduction, Frequency Distributions	Chapter 1,2 Appendix A
Sept 19	Central Tendancy	Chapter 3
Sept 26	Variability	Chapter 4
Oct 3	z-Scores	Chapter 5
Oct 10	Test 1	Worth 13%
Oct 17	Probability	Chapter 6
Oct 24	Probability and Samples	Chapter 7
Oct 31	Co-curricular days - no class	
Nov 7	Introduction to hypothesis testing	Chapter 8
Nov 14	Introduction to hypothesis testing	Chapter 8
Nov 21	Test 2	Worth 13%
Nov 28	Introduction to the t Statistic	Chapter 9
Dec 5	t Test for Two Independent Samples	Chapter 10
Jan 9	t Test for Two Dependent Samples	Chapter 11
Jan 16	Test 3	Worth 13%
Jan 23	Introduction to Analysis of Variance	Chapter 12
Jan 30	Introduction to Analysis of Variance	Chapter 12
Feb 6	Repeated-Measures Analysis of Variance	Chapter 13
Feb 13	Two-Factor Analysis of Variance (Independent measures)	Chapter 14
Feb 20	Reading week - no class	
Feb 27	Ordinals	Supplement
Mar 6	Test 4	Worth 13%
Mar 13	Correlation	Chapter 15
Mar 20	Introduction to Regression	Chapter 16
Mar 27	The Chi-Squre Statistic When to use what test	Chapter 17 Chapter 19
April 6	Test 5 - This s a Monday	Worth 13%
April 8 - 24	Cumulative final evaluation	Worth 29%