

YORK UNIVERSITY
Faculty of Health, Department of Psychology

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

Term: Fall 2013 Winter 2014
Location: VH 1152A

Course Instructor: Heather Jenkin, Ph. D.

Office: 254 BS

Tel: 416 736 2100 x22542

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

Office Hours: TR 1:15 - 2:15 and by appointment

Email contact: hjenkin@yorku.ca

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Secretary: Ms. Barbara Thurston

Office: 283 BS

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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 χ^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 page 38 of the Department of Psychology handbook 2013-14.

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

Additional readings: May be required

Website: Make sure that you sign up for a Moodle account as soon as possible. Online go to 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 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).

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>

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| Part 1 | Introduction and Mathematical Review; Frequency distribution and Graphing; Central Tendency; Variability; z-Score |
| Readings | Chapters 1, 2, 3, 4, 5 and Appendix A |
| TEST 1 | October 11th 2013 worth 13% |
| Part 2 | Probability; Sampling and Distributions; Hypothesis Testing and Power |
| Readings | Chapters 6, 7, and 8 |
| TEST 2 | November 22nd 2013 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 17th 2014 worth 13% |
| Part 4 | ANOVA; Repeated measures ANOVA; Factorial ANOVA; Ordinal tests (Appendix E) |
| Readings | Chapters 12, 13, 14, Supplement |
| TEST 4 | March 7th 2014 worth 13% |
| Part 5 | Correlation and Regression Analysis; Chi-Square tests; Ordinals (supplement) |
| Readings | Chapters 15, 16, 17 and 19 |
| TEST 5 | April 4th 2014 worth 13% |
| CUMULATIVE FINAL | Scheduled in the Winter Exam period (TBA) Cumulative worth 29% |

Important dates

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| September 13th | First lecture of PSYC2020 C |
| September 22nd | Last date to add a course without permission of instructor |
| October 25th | Last date to add a course with permission of instructor |
| Oct 30th - Nov 3 | Fall Co-curricular Days |
| Dec 10th - Dec 22nd | Fall examinations |

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| Feb 14th | Last date to drop courses without receiving a grade |
| Feb 17th - 21st | Winter Reading Week |
| March 31st | Last lecture in PSYC 2020C |
| April 8th - April 22nd | Winter Examinations |

| Date | Topic | Readings |
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| Sept 13 | Introduction; Frequency Distributions | Chapter 1,2 Appendix A |
| Sept 20 | Central Tendency | Chapter 3 |
| Sept 27 | Variability | Chapter 4 |
| Oct 4 | z-Scores | Chapter 5 |
| Oct 11 | Test 1 | Worth 13% |
| Oct 18 | Probability | Chapter 6 |
| Oct 25 | Probability and Samples | Chapter 7 |
| Nov 1 | Co-curricular days - no class | |
| Nov 8 | Introduction to hypothesis testing | Chapter 8 |
| Nov 15 | Introduction to hypothesis testing | Chapter 8 |
| Nov 22 | Test 2 | Worth 13% |
| Nov 29 | Introduction to the t Statistic | Chapter 9 |
| Dec 6 | t Test for Two Independent Samples | Chapter 10 |
| Jan 10 | t Test for Two Dependent Samples | Chapter 11 |
| Jan 17 | Test 3 | Worth 13% |
| Jan 24 | Introduction to Analysis of Variance | Chapter 12 |
| Jan 31 | Introduction to Analysis of Variance | Chapter 12 |
| Feb 7 | Repeated-Measures Analysis of Variance | Chapter 13 |
| Feb 14 | Two-Factor Analysis of Variance (Independent measures) | Chapter 14 |
| Feb 21 | Reading Week - no class | |
| Feb 28 | Ordinals | Supplement |
| Mar 7 | Test 4 | Worth 13% |
| Mar 14 | Correlation | Chapter 15 |
| Mar 21 | Introduction to Regression | Chapter 16 |
| Mar 28 | The Chi-Square Statistic When to use what test | Chapter 17 Chapter 19 |
| Apr 4 | Test 5 | Worth 13% |
| April 8 - 22 | Cumulative final evaluation | Worth 29% |