COURSE OUTLINE – 2014-2015 **G**

Course: PSYCH. 2020 6.0**G** - Statistical Methods I and II

Instructor: **Dr. James V.P. Check** E-MAIL: check@yorku.ca
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Lecture: Tuesdays 2:30 - 4:30 in Rm. Vari Hall 1152A
Tutorials: Thursdays 2:30 - 4:30 in Rm. Vari Hall 1152A

Text: Hurlburt, R. T. (2012). Comprehending Behavioral Statistics. (Fifth Edition) –**DON'T GET THE FOURTH EDITION! –** Dubuque, Indiana: Kendall Hunt.

Prerequisite: PSYCH. 1010 6.0 with a minimum grade of C

General Description: This course is designed to provide the student with the statistical skills necessary to analyse 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 (e.g. tests on correlations and mean differences). You should have a reasonably good working knowledge of high school algebra, but there will be NO calculus or matrix algebra in this course.

Tutorials: Students will be required to attend a weekly tutorial. The purpose of the tutorial is to review important topics discussed in the lecture and text, occasionally introduce new material, conduct review sessions for upcoming tests, take up assignments and tests, and provide an opportunity for students to ask questions.

Office Hours: The learning of statistics is an additive process. That is to say, concepts introduced in the course will continually be reappearing, expanded upon, and related to new material. For this reason, it is critical that students obtain a clear understanding of the topics as they are presented in the course. If you are having difficulty grasping any of the concepts discussed in the course, you are strongly advised to drop by the T.A.'s office during her/his office hours.

Grading: The learning of statistics tends to be facilitated by (a) frequent testing (both for diagnostic purposes and to increase frequency of studying) and (b) practising the material. Therefore, 80% of the final grade will be determined by four tests (worth 20% each). As well, there will be 4 practice assignments during each term (due dates TBA), totalling 20% of the final grade. While these practice assignments are not worth a large proportion of the final grade, they are VERY IMPORTANT. They are excellent for diagnosing problems early in the course (before you get too far behind), and the practice they provide can mean the difference between a good and poor grade. Note: Because of the high enrolment in this class, it will be necessary to do the assignments in groups of 3 or 4 people (in order to avoid overloading the teaching assistant with work). Therefore, find 2 or 3 other people to work with and let us know who they are (SOON). Each group will hand in ONE group assignment, and all of the group will receive the same grade. Note: As soon as your groups are formed make a list of everyone's name, email address, and phone number, and hand it in to the T.A. (You should also circulate this list amongst your group members.)

Missed Tests and Late Assignments

There have been increasing problems with missed tests in the past (particularly with respect to the misuse of the right to write makeup tests), so please read this section carefully. Normally, a student who misses a test or hands in an assignment late will be scored 0 unless the student produces valid medical documentation that she or he was medically unable to write the test. IT IS IMPORTANT TO NOTE THAT THE ATTENDING PHYSICIAN MUST FILL OUT THE YORK UNIVERSITY "ATTENDING PHYSICIAN'S STATEMENT" AND BE WILLING TO STATE THAT THE STUDENT WAS MEDICALLY UNABLE TO WRITE THE TEST. THE STUDENT MUST PRODUCE THE STATEMENT WITHIN 48 HOURS OF THE MISSED TEST AND TELEPHONE US AHEAD OF TIME IF HE/SHE KNOWS IN ADVANCE THAT THEY WILL BE TOO SICK TO WRITE. A simple doctor's note indicating that the student was in to see the doctor is not acceptable, and physician's statements which are produced weeks later will not be accepted.

All Physicians' Statements will be followed up and verified for authenticity.

NOTE: ALL MAKEUP TESTS WILL BE SCHEDULED IN ONE BIG MAKEUP SESSION AT THE END OF THE COURSE (IN APRIL).

Cheating (Academic Dishonesty). The penalties for cheating and other forms of academic dishonesty are severe. Don't risk your academic career. For more details, see the 2014-2015 York University Calendar under "Academic Dishonesty". ***Note that you cannot escape the penalty for cheating by dropping the course.***

Lecture Schedule and Topics to be Covered

Preamble: Since the textbook is generally a thorough, excellent one, the lecture material will follow the textbook closely. However, some additional topics not mentioned in the text will be discussed in class. It is strongly recommended that you read the material in the text before it is covered in class.

Tentative Lecture & Test Schedule (Note: The Drop Date Deadline is February 6!)

NOTE: EXCEPT FOR TESTS, THE DATES BELOW ARE **APPROXIMATE** AND MAY CHANGE

Week of:	Topics:	Chapters to Read:
Sept. 8-12	Introduction, Mathematical Concepts	1 & 2
Sept 15-19	Frequency Distributions	3
Sept. 22-26	Measures of Central Tendency	4
Sept. 29 – Oct. 3	Measures of Variation	5
Oct. 6-10	Using Frequency Distributions	6
Oct. 14	**Test #1** **(Covering Chapters 1 through 6)**	
Oct. 20-24	Samples and Sampling Distributions	7
Oct. 28	Sampling Distributions, Parameter Estimation	7, 8
Oct. 30	NO TUTORIAL (Co-Curricular Day)	
Nov. 3-7	Parameter Estimation	
Nov. 10-14	Parameter Estimation, Evaluating Hypotheses	8, 9
Nov. 17-21	Evaluating Hypotheses, Single-Sample Mean Inferences	9, 10
Nov. 25	Single-Sample Mean Inferences	10
Nov. 27	**Test #2** **(Covering Chapters 7 through 10)**	

WINTER TERM:

Jan. 5-9	Inferences about 2 Independent Means	11
Jan. 12-16	Inferences about 2 Dependent Means	12
Jan. 19-23	Statistical Power	13 (but SKIP 13.3)
Jan. 26-30	One-way Analysis of Variance (ANOVA)	14
Feb. 2-6	ANOVA, Multiple Comparisons (Post Hoc Tests only)	14, 15(Sect.15.1 only)
Feb. 9-13	Multiple Comparisons	
Feb. 16-20	**READING WEEK – NO CLASSES**	
Feb. 24	Review	
Feb. 26	**Test #3** (Covering Chapters 11 through Section 15.1 of Chapter 15)	
Mar. 2-6	Two-way Analysis of Variance	15 (but SKIP 15.3)
Mar. 9-13	Two-way Analysis of Variance, Correlation	16
Mar. 16-20	Correlation, Linear Regression	17
Mar. 23-27	Linear Regression	17
Mar. 31	Linear Regression, Final Review	17
Apr. 2	**Test #4** (Covering Chapters 15 through 17 and Lecture Notes)	