**PSYCHOLOGY DEPARTMENT**

**Course:** HH/PSYC 2021 3.0A – Statistical Methods I  
**Course Webpage:** This course uses eClass  
**Term:** Summer Term S1 2022

**Prerequisite / 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 2510 3.00 (prior to Summer 2002), SC/Biol 2060 3.00, SC/Biol 2090 3.00 (prior to Summer 2000), AS/ECON 2500 3.00, AK/ECON 3470 3.00, AS/HH/SC/KINE 2050 3.00, AK/AS/SC/MATH 2500 3.00, AK/AS/SC/MATH 2560 3.00, AS/POLS 3300 6.00, AS/SOCI 3030 6.00, GL/PSYC 2530 3.00.

**Course Instructor & TA’s**  
**Instructor:** Ed Haltrecht  
haltrecht@yorku.ca  
Office hours, Phone number, Office location to be announced  
**TA:** John Kim  
johnk84@my.yorku.ca

**Time and Location**  
Lectures: Mon/Weds 7-10pm  
TA’s: by appointment

**Course Description**  
The fundamental concepts and application of descriptive statistics. An introduction to probability and inferential statistics, including hypothesis testing with the normal- and t-distributions. The following outline details each of the elements that are covered in the course.

**Program Learning Outcomes**  
Upon completion of this course, students should be able to:  

2. Interpret and report the results of descriptive statistics and inferential statistics.  
3. Distinguish between the role of descriptive statistics and inferential statistics.

**Organization of the Course**  
This course is now online synchronously and asynchronously lectures will be pre-recorded, and a review session will be held live and recorded for each class. The tests will be held on campus.

Classes are lecture style working on the board with limited visual aids. TA’s are available by appointment. The text receives very positive reviews by students and contains many practice problems. An accompanying text sponsored WEB site provides many more practice problems with automatic correction facilities. Copies of the lecture notes are not available.

While the content, and order of presentation is fixed, exact coverage on a class by class basis may be adjusted based upon progress and student feedback- check regularly with course instructor.
### May 9
- Introduction to course
- Broad overview - Descriptive Statistics - mode, median, mean

### May 11
- Broad overview continued - range, variance, standard deviation, rules of thumb, percentiles

### May 16
- (Section numbers refer to text - 10th edition of book)
  1.1 Populations and samples
  1.3 Variable and measurement, Discrete and continuous variables
  1.4 Statistical notation
  2.1-2.3 Frequency distributions - tables, graphs, shape
  2.4 Percentiles, percentile ranks
  3.1 – 3.6 Central tendency
  4.1 Range
  4.2 – 4.6 Standard deviation, variance

### May 18
- 5.1- 5.6 z-Scores
- 6.1 - 6.3 Probability

### May 25
- 7.1 – 7.4 The distribution of sample means

### May 30
- Test 1 (2¾ hours) worth 50% of final course grade - covering Chapters 1 - 7
  - 75% multiple choice (75 items)
  - 25% problems where student must show work (likely 5 items worth about 5 marks each - no choices)

### June 1
- 8.1 – 8.6 Hypothesis testing

### June 6
- 9.1 – 9.4 t-statistic
- 10.1 – 10.5 Hypothesis tests with two independent samples

### June 8
- 11.1 – 11.5 Hypothesis tests with related samples
  - Estimation

### June 13
- 15.1 – 15.4 Correlation

### June 15
- 17.1 – 17.4 Chi-Square statistic

### June 20
- Review in class (optional)

### June 22 - 24
- Exam 2 (3 hours) worth 50% of final course grade - covering all material since Test 1. Same format as Test 1. Check for new class room - Exact date during the final examination period to be determined by Registrar’s Office.

### COURSE MATERIALS REQUIRED (Book, MindTap online resource)

#### Four Course Text Options (PICK ONLY 1 OPTION).
- Below are the purchasing options for students. Options are available through the York bookstore. If an option you want is not available on the York site, try the Cengage site.

The text for the course is Gravetter & Wallnau’s *Statistics for the Behavioral Sciences* 10th edition. The text publisher also has available an online system called MindTap. It is an aid and contains many problems that you can work on. MindTap is not mandatory for the course. MindTap was designed to work with the same author’s text called the Essentials of Statistics. You do not want to buy the Essentials book, but MindTap associated with that book is really good. In a nutshell, your recommended options are to buy a **printed** copy of the 10th edition (available as a text or looseleaf edition) or an **electronic** edition of the 10th edition. You may also want to obtain an electronic version of the online Essentials MindTap resource. You can likely also do well in the course with the 9th edition if you can get it as a used text. While the lectures are based on the 10th edition, we will post on eClass the answers for the problems at the end of the chapters for both the 9th and 10th editions. The texts only give half of the answers at the back of the book.
OPTIONS:
(1) Bundle of the loose-leaf version of the big Gravetter 10\textsuperscript{th} edition Stats book with the MindTap for the Essentials version of Gravetter Stats
   ISBN: 9781337366229 $115.95

(2) Bundle of the printed (bound) version of the big Gravetter Stats book with the MindTap for the Essentials version of Gravetter Stats
   ISBN: 9781337600033 $170.95

(3) Bundle of the electronic version of the big Gravetter Stats book with the MindTap for the Essentials version of Gravetter Stats
   ISBN: 9781337280754 $112.45

(4) If students are re-taking the course again and already have access to the MindTap for Gravetter Essentials and just need the e-book for the Big Gravetter, here is the information:

The bookstore is full open and will also ship texts to students anywhere.

Bookstore web site: https://www.bookstore.yorku.ca/

Canada Wide Flat Rate Shipping for $2.99
Free in-person pickup by appointment
US shipping for $15.99
International shipping for $49.99

MindTap gives students access for three course attempts, which means that a student could withdraw from this course and take it again at a later date and still have access to MindTap. The courses don't have to be consecutive – students could take the course now, withdraw, and then take it again in January 2022.

Course Enrolment
Last date to enrol without permission of course instructor – May 13
Last date to enrol with permission of course instructor – May 20
Last date to drop courses without receiving a grade – June 6

The course instructor and TA’s do not get involved in enrolment issues - see department administration.

Evaluation
Two exams each worth 50%. See above schedule for dates.

Missed Classes and other matters
We do not take attendance, nor do we cover material in writing or by e-mail for missed classes. Students may wish to tag a fellow student for notes in case of absence. Please contact your TA for appointments in case you are having any difficulties in understanding the material.

Grading and Missed Tests
Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Tests will bear either a letter grade designation or a corresponding
number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)

Missed Tests: Students are expected to write each test on the dates specified. There will be **no make-up tests**, except under extraordinary documented circumstances. **If you miss a test for no documented reasons, you will receive a grade of zero.**

If you have a legitimate reason (e.g., death in the family, severe illness, etc.) for being excused from a test/exam, and have documentation to verify your absence (please see below), you may take a make-up test/exam in lieu of the missed test/exam. Please note that we are extremely strict about the conditions that will allow you to write a make-up examination – nonetheless, you should contact your TA regardless of your reason if you have or will miss an examination. You must contact your course TA, **at least one day in advance of the exam/test** and provide documentation in order to be permitted to take a make-up exam/test. In the case of an emergency, **contact your course TA, as soon as possible.** In this email, please (a) outline the reason for your absence, and (b) confirm that you have medical or other relevant documentation to support this reason. Again, be sure to note your course section and your full name and student number in the subject header of your email.

Please note that there will be **one set date for the make-up test/exam. If both exams are missed, students will have to retake the course unless they successfully petition.** Please also note that if you miss a test, regardless of your reason, you have waived the right to have a specific percentage of graded feedback available to you prior to the drop date.

Note also that deferred final exams are held on a single common date determined by the Department of Psychology. No individualized testing is available unless arranged formally through one of the offices at the University (e.g., Counselling and Disability Services (CDS)).

**Documentation when missing an exam/test**

If you produce a valid medical document, signed by a physician, **stating that you were medically unable to take the exam/test for a specific time period**, you will be able to take a makeup exam/test. If you miss an exam/test for non-medical reasons, you still must produce supporting documentation (e.g., death certificate, obituary notice, automobile accident report, airline ticket for emergency travel, etc.). Missing an exam/test for a vacation, etc., is not an acceptable reason. If you are ill or facing extreme personal circumstances and are unable to get the required documentation, we highly recommend that you consider dropping the course.

Once you have contacted your TA, you will need to have completed the attending physician’s statement found at [http://www.registrar.yorku.ca/exams/deferred/](http://www.registrar.yorku.ca/exams/deferred/). This should be brought to your TA’s mailbox or faxed to the psychology department (with Attention Ed Haltrecht) at 416-736-5814. You will need to receive confirmation of the make-up examination date from your TA; you should be back in touch within a few days with your TA if you have not heard back. It is your responsibility to find out the information about when the make up test/exam is and ensure that you are set to write the make-up test/exam.

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents) - [http://www.yorku.ca/secretariat/senate/committees/ascp/index-ascp.html](http://www.yorku.ca/secretariat/senate/committees/ascp/index-ascp.html)

- Senate Policy on Academic Honesty and the Academic Integrity Website
- 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