

# Statistical methods I

HH/PSYC 2021 3.0 C  
Fall term 2019

- Instructor:** Richard Murray [rfm@yorku.ca](mailto:rfm@yorku.ca)
- Teaching assistants:** TBD
- Lectures:** Tuesday, 11:30 – 2:30, Curtis Lecture Hall F
- Office hours:** TBD
- Textbooks:** *Statistics in plain English, fourth edition* (Urden, 2016)  
*The humongous book of statistics problems* (Kelley & Donnelley, 2009)  
(both on two hour reserve at Scott Library)
- Website:** [www.yorku.ca/rfm/psyc2021](http://www.yorku.ca/rfm/psyc2021)
- Evaluation:** seven quizzes (10%); two tests (25% each); final exam (40%)
- Prerequisite:** PSYC 1010 6.0, with a minimum grade of C

**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.

**Midterm test and final exam.** The midterm tests and the final exam will cover the lectures and the assigned readings. The first midterm will cover weeks 1-4, the second midterm will cover weeks 5-8, and the final exam will cover the entire course.

**Quizzes.** To encourage you to read the assigned sections of the textbook before each lecture, there will be a short quiz at the beginning of each class, beginning September 24. The quizzes will cover the textbook readings assigned for the class.

**Meeting with the teaching assistants.** You can meet with the teaching assistants during the office hours. If you cannot meet during office hours, contact the teaching assistants to make alternate arrangements.

## LECTURE SCHEDULE

|    |        | topics   | Urdan chapters |
|----|--------|--|----------------|
| 1  | 10-Sep | introduction; statistical terms                  | 1              |
| 2  | 17-Sep | probability                                      |                |
| 3  | 24-Sep | mean; variance                                   | 2, 3           |
| 4  | 1-Oct  | normal distribution; z scores                    | 4, 5           |
| 5  | 8-Oct  | standard error; z test                           | 6, 7           |
|    | 15-Oct | fall reading week; no class                      |                |
| 6  | 22-Oct | effect size; confidence intervals; <u>test 1</u> | 7              |
| 7  | 29-Oct | statistical power; limits of significance        |                |
| 8  | 5-Nov  | one-sample t test                                | 8              |
| 9  | 12-Nov | correlation                                      | 12             |
| 10 | 19-Nov | independent and dependent designs; <u>test 2</u> | TBD            |
| 11 | 26-Nov | chi-square tests                                 | 14             |
| 12 | 3-Dec  | overflow and review                              |                |

**Policy on missed tests and quizzes.** For any missed quizzes or tests, you must complete the following online form which will be received and reviewed in the Psychology undergraduate office.

[HH PSYC: Missed Tests/Exams Form](#)

Failure to complete the form within 48 hours of the original deadline will result in a grade of zero for the missed quiz or test. In addition to the online form, you must submit official documentation (e.g. [Attending Physician Statement](#)) to support your reason for missing a quiz or test.

There will be no makeup tests or quizzes. If you provide suitable documentation for missing a test or quiz, you will have the weight of the missed test added to the weight of the final exam, and the weight of the missed quiz distributed amongst the remaining quizzes. Tests and quizzes missed without adequate documentation will be assigned a mark of zero.

**Drop date.** The last date to drop the course without receiving a grade is November 8, 2019.

## **Additional course information**

**Program learning outcomes.** Upon completion of this course, students should be able to compute descriptive statistics and inferential statistics; interpret and report the results of descriptive statistics and inferential statistics; and distinguish between the role of descriptive statistics and inferential statistics.

**Topics covered.** Defining key statistical terms; frequency distributions; central tendency; variability; z-scores; the normal distribution; probability; sampling distribution; confidence intervals; power; effect size; hypothesis testing; correlation;  $\chi^2$  goodness of fit test;  $\chi^2$  test of independence; one-sample t test; introduction to independent and dependent designs

**Plagiarism.** Evaluation in this course is completely based on in-class tests and quizzes, so questions regarding what constitutes plagiarism should not be difficult. Consult the Department of Psychology's undergraduate calendar for policy on plagiarism.

**Letter grades.** Final course marks will be converted to letter grades as follows.

|            |    |            |     |
|------------|----|------------|-----|
| 90 – 100   | A+ | 55 – 59.99 | D + |
| 80 – 89.99 | A  | 50 – 54.99 | D   |
| 75 – 79.99 | B+ | 45 – 49.99 | E   |
| 70 – 74.99 | B  | 0 – 44.99  | F   |
| 65 – 69.99 | C+ |            |     |
| 60 – 64.99 | C  |            |     |

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.). Quizzes and tests will show a numeric grade.

For a full description of York grading system see the York University Undergraduate Calendar, [Grading Scheme for 2019-20](#).

**Electronic devices during lectures.** You may use electronic devices (e.g., a laptop computer) in class. However, research indicates that you will do better in the course if you do not use electronic devices during the lecture. I recommend turning devices off and taking notes with pen and paper.

**Electronic devices during a quiz, test, or examination.** Electronic mobile devices of any kind are not allowed during a quiz, test, or examination. Students are required to turn off and secure any electronic mobile device in their bag which is to be placed under the chair. Any student observed with an electronic device during a quiz, test, or examination may be reported to the Undergraduate Office for a potential breach of Academic Honesty.

## Add/Drop Deadlines

For a list of all important dates please refer to: [Fall/Winter 2019-20 - Important Dates](#)

|   | <b>FALL<br/>(F)</b> | <b>YEAR<br/>(Y)</b> | <b>WINTER<br/>(W)</b> |
|---|---------------------|---------------------|-----------------------|
| Last date to add a course <b>without permission</b> of instructor (also see Financial Deadlines)            | Sept. 17            | Sept. 17            | Jan. 19               |
| Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)               | Oct. 1              | Oct. 22             | Feb. 3                |
| Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)          | Nov. 8              | Feb. 3              | March 13              |
| Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below) | Nov. 9 -<br>Dec. 3  | Feb. 4 -<br>Apr. 5  | March 14 -<br>Apr. 5  |

**Note:** *You may withdraw from a course using the registration and enrolment system after the drop deadline until the last day of class for the term associated with the course. When you withdraw from a course, the course remains on your transcript without a grade and is notated as "W". The withdrawal will not affect your grade point average or count towards the credits required for your degree.*

**Academic integrity for students.** York University takes academic integrity very seriously; please familiarize yourself with [Information about the Senate Policy on Academic Honesty](#). It is recommended that you review Academic Integrity information [SPARK Academic Integrity modules](#). These modules explain principles of academic honesty.

**Test banks.** The offering for sale of, buying of, and attempting to sell or buy test banks (banks of test questions and/or answers), or any course specific test questions/answers is not permitted in the Faculty of Health. Any student found to be doing this may be considered to have breached the Senate Policy on Academic Honesty. In particular, buying and attempting to sell banks of test questions and/or answers may be considered as "Cheating in an attempt to gain an improper advantage in an academic evaluation" (article 2.1.1 from the Senate Policy) and/or "encouraging, enabling or causing others" (article 2.1.10 from the Senate Policy) to cheat.

**Course materials copyright information.** These course materials are designed for use as part of the course PSYC 2021 at York University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian copyright law. Copying this material for distribution (e.g. uploading material to a commercial third-party website) may lead to a violation of copyright law. [Intellectual Property Rights Statement](#)

**Academic accommodation for students with disabilities.** While all individuals are expected to satisfy the requirements of their program of study and to aspire to do so at a level of excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to do so. The [York University Accessibility Hub](#) is your online stop for accessibility on campus. The [Accessibility Hub](#) provides tools, assistance and resources. York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder. For Further Information please refer to: [York university academic accommodation for students with disabilities policy](#).