

# PSYC\*1010 Course Outline: Winter 2016--Section 01

## **General Information**

**Course Title: Quantification in Psychology**

### **Course Description:**

Statistics in psychology involves translating numbers into words so that we can share research findings with others. In addition, statistics in psychology stems from some basic principles of research design. After completing this course, you will have a good foundation for beginning to use quantification in the conduct and interpretation of psychological research

This course begins with descriptive statistics (techniques for organizing, summarizing, and communicating data) and progresses to inferential statistics (techniques for making decisions about populations based on data collected from samples).

**Credit Weight: 0.50**

**Academic Department: Psychology**

**Semester Offering: W16**

### **Class Schedule and Location:**

Monday, Wednesday, Friday  
9:30 AM - 10:20 AM, RICH 2520

## **Instructor Information**

Instructor Name: Harvey H. C. Marmurek  
Instructor Email: [hmarmure@uoguelph.ca](mailto:hmarmure@uoguelph.ca)  
Office location and office hours: 4019 MacKinnon Extension  
Mondays and Wednesdays, 11 AM – 12 pm

## **GTA Information**

Amanda Amaral [aamaral@uoguelph.ca](mailto:aamaral@uoguelph.ca)  
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## **Course Content**

### **Specific Learning Outcomes:**

The major learning outcomes for this course are:

1. Critical Thinking: inquiry and analysis; problem solving
2. Literacy: information literacy; methodological literacy; quantitative literacy; visual literacy
3. Communication: written communication; reading comprehension

These outcomes entail understanding the use and interpretation of numerical data, the recognition of basic research methodologies (e.g., correlational vs. experimental research design), the creation and interpretation of graphs and tables, creating a plan to operationalize a research question, understanding and communicating the impact of the empirical nature of psychology.

These learning outcomes will be assessed by evaluating a student's ability to:

Differentiate the various forms of inquiry guiding psychological research.

Use appropriate statistical methods to organize, summarize and describe raw data.

Select and use appropriate statistical methods to test hypotheses about simple datasets.

Use considerations of statistical error, power, and effect size to inform research design choices.

Critically analyze and communicate claims of causation and practical significance.

**Lecture Content:**

The table below represents a planned schedule for coverage of the topics. The dates of midterms will not be altered.

## Weekly Topics and Readings

Week	Lecture Dates	Topics (Chapters)	Midterm (Chapters)
1	Jan 11 – 15	Introduction; Descriptive statistics (1, 2)	
2	Jan 18 – 22	Standardized Scores (3)	
3	Jan 25 – 29	Correlation (4)	
4	Feb 1 - 5	Regression (5)	Feb. 3 (1-4)
5	Feb 8 – 12	Introduction to Hypothesis Testing (6, 7)	
6	Feb 15 – 19	Winter Break---No classes	
	Feb 22 – 26	Hypothesis Testing for Means (8)	
7	Feb 29 – Mar 4	Statistical Power (9)	Mar. 2 (5-8)
8	Mar 7 – 11	Single-Sample and Paired-Sample t-tests (10)	
9	Mar 14 – 18	Independent-Samples t-test (11)	
10	Mar 21 – 25	Analysis of Variance (12)	Mar 23 (9-11)
11	Mar 28 – Apr 1	Chi-square analyses (13)	
12	Apr 4 – 8	Research participation must be completed; Review and preparation for final examination	

**Course Assignments and Tests:**

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Midterm 1	Feb. 3 in class	20%	1; 2; 3
Midterm 2	Mar. 2 in class	20%	1; 2; 3
Midterm 3	Mar. 23 in class	20%	1; 2; 3
Research participation*	April 8	5%	1; 2; 3

**\*Research Participation:** Students may obtain up to 5% of their grade by participating in department research and/or writing summaries of psychology research articles. Details of these assignments may be found on Courselink. The due date for completion of this assignment is April 8, 5:00 pm.

**Final examination date and time:** Monday, April 11, 7:00 PM – 9:00 PM

**Final exam weighting:** 35%

[Examination Regulations](#)

**Course Resources****Required Text:**

Geher, G., & Hall, S. (2016, Paperback). Straightforward statistics: Understanding the tools of research. Oxford University Press. New York: NY.

**Course Policies****Grading Policies**

You must provide documentation of medical, psychological, or compassionate grounds for missing a midterm examination. The [University regulations](#) are found at this link:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

In those cases where academic consideration is granted for a missed midterm, the final grade will be pro-rated on the basis of all completed assessments.

If appropriate documentation is not provided for a missed midterm exam, then a mark of O will be recorded. No makeup midterms or extra assignments will be scheduled.

[Undergraduate Grading Procedures](#)

**Course Policy regarding use of electronic devices and recording of lectures:**

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

**University Policies**

**Academic Consideration**

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

[Academic Consideration, Appeals and Petitions](#)

**Academic Misconduct**

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](#)

**Accessibility**

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email [csd@uoguelph.ca](mailto:csd@uoguelph.ca) or see the website: [Student Accessibility Services Website](#)

**Course Evaluation Information**

Please refer to the [Course and Instructor Evaluation Website](#) .

**Drop date**

The last date to drop one-semester courses, without academic penalty, is Friday March 11 . For regulations and procedures for Dropping Courses, see the Academic Calendar: [Current Undergraduate Calendar](#)

**Additional Course Information****Succeeding in This Course**

Some students find statistics to be challenging. Success in this course requires consistent effort every week. Regular class attendance and timely completion of the reading assignments each week are strongly encouraged. It is also highly recommended to begin preparations for exams as early as possible. Deal with questions and concerns as soon as possible by contacting the course instructor.

**Attendance and Materials**

Regular attendance is expected; please be on time for class. You will require a scientific calculator for this course. At a minimum, your calculator should calculate square roots. Bring your calculator to every class to ensure you are able to complete the calculation steps discussed during class time.

## **Textbook Readings and Practice Questions**

It is strongly suggested that, in addition to reading the required textbook chapters, you complete the problem set questions. Answers to Problem Set A questions are provided in the textbook. Success in statistics means regular practice.

Lectures will serve to summarize the main points in the textbook. Summary lecture slides will be available on Courselink. The slides do not substitute for reading the text and completing the assigned problems.

## **Class Discussions on Courselink**

There is a discussion forum available through Courselink where you may discuss course-related matters.

There are a few policies and procedures that you need to be aware of when you post here:

- The instructor will monitor the forums
- The information provided by other students on this board is not necessarily accurate. If you're unsure of what the requirements are for midterms and other assignments, you should check the course outline or email the instructor.
- Make sure your comments are respectful of others in the class.
- The instructor and TA may delete any comment(s) that they feel are inappropriate at any time.

## **Midterm and Final Examination Formats**

In order to ensure that students keep up with the assigned readings, I have scheduled 3 in-class midterms (see course schedule for details). The midterms will comprise questions similar to those in the problem sets at the end of each chapter. The midterms are designed to be completed in about 45 minutes. No extra time will be allotted to students who arrive late. Where necessary, the instructor will provide statistical tables. Students will be allowed to bring 1 double-sided 8" X 11" sheet of paper with study notes to the exams. Bring your calculator for all exams. The final examination will be similar in structure to the midterms. It will focus mainly on the material that is discussed after Midterm 3, but will also test material presented earlier in the course.