



Department of Psychology
Psych 292
Basic Data Analysis
Mondays, Wednesdays 1:00pm – 2:20pm, SJU 1004

Instructor and T.A. Information

Instructor: Dr. Paul Wehr
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Office Hours: Fridays: 12:30pm - 2:30pm
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Course Description

PSYC292 will introduce students to the fundamentals of descriptive and inferential statistics used in psychological science. We will emphasize a deep understanding of statistical principles rather than the application of “cookbook” statistical formulas.

COURSE GOALS AND LEARNING OUTCOMES

Upon completion of this course, students should:

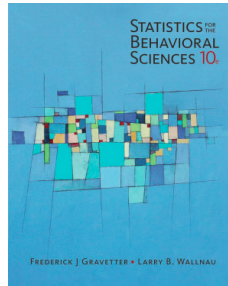
- A. Possess a fundamental, deep understanding of descriptive and inferential statistics, and be prepared to augment this understanding in upper-year statistical courses.
- B. Be able to select and conduct basic statistical analyses.
- C. Refine their ability to read and interpret research results reported in the literature.
- D. Become a more critical “consumer” of reported research findings in the literature and the media.

Information Available on LEARN

The course web page can be found on LEARN (<https://learn.uwaterloo.ca/>). Here, you will find links to the syllabus, lecture slides, and important announcements. I will do my best to have slides for the upcoming lecture available at least 24 hours in advance of class time.

Textbook

Gravetter, F. J. & Wallnau, L. B. (2017). *Statistics for the behavioral sciences (tenth edition)*. Cengage Learning: Boston, MA.



Tutorials

Tutorials begin during the First week of the semester. Teaching Assistants will demonstrate solutions to a number of problems and then students will work with their peers to solve a similar set of problems. Following each tutorial, an assignment will be distributed for students to complete outside of class and then submit early the following week. Tutorial guidelines and question sets will be posted on LEARN in advance. You will likely find the tutorials to be more helpful if you have attended that week's classes and completed the assigned readings.

If your tutorial is scheduled on...	Your assignment is due on the following...
Wednesday	Monday
Thursday	Tuesday
Friday	Wednesday

Calculators

Students are required to bring a calculator to all classes, tutorials, midterms, and the final exam. Just about any calculator will do as long as it is capable of obtaining a square root (some are not). The one the instructor uses was purchased from the dollar store over a decade ago and still works great for this class. Note that students are not permitted to use smartphones or other internet-enabled devices during examinations!

Course Assessment

Weekly Lab assignments are worth 2% each and are intended to prepare students for examinations. Thus, it is important to attend regularly and complete each assignment on time. The remaining assessments consist of three midterms, each worth 15%, and a cumulative final exam that is worth 35%. There is also the opportunity to earn up to three bonus credits through SONA (or the library option).

Assessment	Due	Weight
Lab Assignments (10):	Weekly	20%
Midterm 1	February 4 th	15%
Midterm 2	March 4 th	15%
Midterm 3	Mar 27 th	15%
Final Exam	Final Exam Period	35%
SONA Bonus	End of Term	+3%

Examinations

MIDTERMS: There will be three 80-minute midterms taking place during class time on the date they are scheduled. Technically, these exams are non-cumulative, but topics covered in this course naturally build on one another. For example, to carry out a t-test (covered on Midterm 3), you need to know how to calculate a standard deviation (covered on Midterm 1). Students are permitted to bring a single page (double sided) with whatever information they choose. This study aid should include any all formulas since none will be provided by the instructor. All statistical tables, conversely, will be provided at the exam. It is recommended that you begin building your study aid right away and add to it each week as important formulas are introduced. It is also *highly* recommended that you partner with your peers to double-check the accuracy of your formulas!!

FINAL EXAM: The final exam is cumulative and will take place during the final exam period. The exact date will be announced later in the term after the university publishes the final exam schedule. Students will be permitted to bring a three-page study aid to the final exam and, once again, all relevant statistical tables will be provided by the instructor.

POLICY ON MISSED EXAMINATIONS: If an exam is missed for a legitimate reason (e.g., illness or kidnapping), valid documentation (e.g., a verification of illness form or ransom note) is required in order to avoid receiving a zero for that exam. Make-up exams will **ONLY** be provided for students with valid absences. Please submit your documentation to the instructor as soon as possible. Absence due to *religious holiday* is a valid excuse, but notify your instructor at the beginning of the course in the event of a conflict. Absences for varsity athletics, family obligations, co-op interviews or other similar engagements are **NOT** part of University policy and students should not assume that they will be accommodated. If you have a pressing issue that conflicts with an exam, you should discuss this with your instructor as soon as possible.

Correspondence

PSYC 292 has high enrolment. Typically, we receive an overwhelming number of e-mail messages from students with questions about course content, assignments, midterms, etc. Several discussion forums have been created on LEARN for students to communicate with each other and with the Instructor and TAs. Posting queries and comments on the discussion forum is preferable to e-mail because, chances are high, that other students have the same question as you. It also helps to facilitate interaction between students in large classes.

Before posting on the discussion forums, however, please be sure to check existing postings, announcements on LEARN and the syllabus to avoid redundancies. You should contact the instructor if you have questions about the lecture material. Please contact **YOUR TA** if you have questions about the tutorial content. Also, remember that the instructor has office hours following each class and welcomes students to attend as often as you wish. For sensitive or personal issues unrelated to course content, please e-mail the instructor directly or visit during office hours.

Succeeding in PSYC292

MANY students struggle with statistics. If you find this is your experience, don't panic but you might find it necessary to work harder, collaborate more with classmates, and seek out more help. Here are some things you can do to more effectively learn the material and enjoy the course:

- Carefully complete the assigned readings each week and attend all lectures.
- Work with your peers both during the tutorial and after class while completing the assignments.
- Test your understanding of content by completing the practice questions available in the textbook.

- Don't be afraid to ask questions in lecture and in tutorials if you don't understand something. All students have gaps in their knowledge. Good students identify those gaps and fill them before the examination by asking questions.
- Visit the instructor and/or your TAs during office hours if you need additional help.

Accommodation for Students with Disabilities

The AccessAbility Services office, located on the first floor of the Needles Hall extension, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

<https://uwaterloo.ca/disability-services/>

Counselling & Psychological Services

The Counselling & Psychological Services office at the University of Waterloo, located on the second floor of the Needles Hall extension, offers a variety of resources for those struggling with the challenges of university life, including coping skills seminars and workshops, peer support, group therapy, and clinical referrals. Their home page is:

<https://uwaterloo.ca/counselling-services/>

Student Success Office

The Student Success Office at the University of Waterloo, located on the second floor of South Campus Hall, offers tutoring, workshops, success coaching, and a variety of other resources for students looking for guidance to be successful in university. Their home page is:

<https://uwaterloo.ca/student-success/>

Writing Centre

The Writing Centre, located on the second floor of South Campus Hall, works across all faculties to help students clarify their ideas, develop their voices, and communicate in the style appropriate to their disciplines. Writing Centre staff offer one-on-one support in planning assignments, using and documenting research, organizing papers and reports, designing presentations and e-portfolios, and revising for clarity and coherence.

You can make multiple appointments throughout the term, or drop in at either the Dana Porter or Davis Centre libraries for quick questions or feedback. Group appointments for team-based projects, presentations, and papers are also available. To book a 50-minute appointment and to see drop-in hours, visit:

<https://uwaterloo.ca/writing-centre/>

Concerns About the Course or Instructor (Informal Stage)

We in the Psychology Department take great pride in the high quality of our program and our instructors. Though infrequent, we know that students occasionally find themselves in situations of conflict with their instructors over course policies or grade assessments. If such a conflict arises, the Associate Chair for Undergraduate Affairs (Dr. Myra Fernandes) is available for consultation and to mediate a resolution between the student and instructor. Dr. Fernandes' contact information is as follows: Email: mafernan@uwaterloo.ca, Phone: 519-888-4567, x32142. A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See Policy 70 and 71 below for further details.

Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 – Student Discipline.

<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 – Student Petitions and Grievances, Section 4.

<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 – Student Appeals.

<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72>

Other sources of information for students

Academic Integrity (Arts): <https://uwaterloo.ca/arts/ethical-behavior>

Academic Integrity Office (uWaterloo): <https://uwaterloo.ca/academic-integrity/>

Withdrawal Dates

Withdrawal deadline and receive no penalty: January 23rd, 2017

Withdrawal deadline to receive “WD” on transcript: March 17th, 2017

Withdrawal deadline to receive “WF” on transcript: April 6th, 2017

Term Schedule

Week	Dates	Lecture Topics	Reading Assignment	Lab/Assessment
1	Jan 07 & 09	Introduction to Statistics, Notation, & Mathematical Operations	Course Outline Chapter 1	Lab 1
2	Jan 14 & 16	Frequency Distributions, Visual Representations of Data, & Measures of Central Tendency	Chapter 2 & 3	Lab 2
3	Jan 21 & 16	Measures of Variability	Chapter 4	Lab 3
4	Jan 28 & 30	z-scores & Standardized Distributions	Chapter 5	Lab 4
5	Feb 04 & 06	Probability	Chapter 6	Midterm 1 (Feb 4 th)
6	Feb 11 & 13	Distribution of Sample Means	Chapter 7	Lab 5
7	Feb 18 & 20	Reading Break		
8	Feb 25 & 27	Hypothesis Testing & Introducing the t-statistic	Chapter 8 & 9	Lab 6
9	Mar 04 – 06	Independent Samples t-test	Chapter 10	Midterm 2 (Mar 4 th)
10	Mar 11 – 13	Dependent Samples t-test	Chapter 11	Lab 7
11	Mar 18 – 20	Correlation	Chapter 15	Lab 8
12	Mar 25 – 27	Regression	Chapter 16	Midterm 3 (Mar 27 th) Lab 9
13	Apr 01 – 03	Chi Square & Binomial Test	Chapters 17 & 18	Lab 10

Note: Lecture topics BEGIN during the week they are scheduled, but will often spill over into the following week before completed.