

PSYC 615	Analysis of Variance	Fall 2016
Instructor:	Andrea Protzner	Lecture Location: A 051/053
Phone:	403-220-5566	Lecture Days/Time: TR 14:00 - 15:15
Email:	protzner@ucalgary.ca	TAs: Raye Lukacik Jessie Hart
Office:	A 153	eralukac@ucalgary.ca jmhart@ucalgary.ca
Office Hours:	By appointment	Lab Location: SS 018
		Lab Day/Time: F 13:00 – 15:45

Course Description and Goals

This course covers statistical techniques that are commonly used in behavioural research, especially Psychology, and therefore emphasizes the use of linear models to analyze data that have been collected using balanced experimental designs. The labs will provide students with opportunities to work on statistical problems related to the lectures.

Prerequisites

The course material is designed with the assumption that students have completed an undergraduate statistics course. A review of basic statistical concepts is provided in the Basic Statistics tutorial on the CD that comes with the course textbook.

Required Text

Maxwell, S. E., & Delaney, H. D. (2004). *Designing Experiments and Analyzing Data: A model comparison perspective* (2nd ed.). Mahwah, N.J.: Lawrence Erlbaum Associates. The companion website for this book is at www.designingexperiments.com. This text is available at the University of Calgary bookstore.

Evaluation

Exams: Three in-class exams will be administered during the statistics laboratory. Each exam will be a combination of short answer and computational questions, and one letter sized page (one sided) of notes will be allowed as an aid. **Please refer to *Absence From A Test/Exam* section in case of absence from the exams.**

Lab Assignments: Four of your laboratory assignments will be marked, and should be handed in on or before 4:30pm on the due date. Assignments should be handed in by email to jmhart@ucalgary.ca. Make sure that your name and the assignment number/title are included in the filename. **Late assignments will not be marked, and will receive a grade of zero.**

Dates and Weighting:

Exam 1 (10% of final grade; Friday, October 21)

Exam 2 (35% of final grade; Friday, November 18)

Exam 3 (35% of final grade; tentatively Friday, December 9, but the date will be finalized after consulting

with the class.)

Lab Assignments (20% of final grade; due dates TBA)

** Students must achieve a passing grade on both the class and lab components to pass this course.

Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

Important dates

[Fall 2016]

Date	
M Sep 12	Lectures begin.
F Sep 23	Last day to drop full courses (Multi-term) and Fall Term half courses. No refunds for full courses (Multi-term) or Fall Term half courses after this date.
M Sep 26	Last day to add or swap full courses (Multi-term) and Fall Term half courses. Last day for change of registration from audit to credit or credit to audit.
M Oct 10	Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
Nov 10-13	Reading Days. No lectures.
F Nov 11	Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
F Dec 9	Fall Term Lectures End. Last day to withdraw with permission from Fall Term half courses.

Tentative Lecture Schedule

The following schedule is approximate. Dates for specific lecture topics may change as we progress through the term, but every attempt will be made to keep the same dates for the exams. All readings refer to our text, Designing Experiments and Analyzing Data (DEAD).

Date	Course Introduction
T Sep 13	Course Introduction
R Sep 15	Testing hypotheses about group means in a one-way design Reading: DEAD Chapter 3
T Sep 20	Testing hypotheses about group means in a one-way design Reading: DEAD Chapter 3
R Sep 22	Linear Contrasts Reading: DEAD Chapter 4
T Sep 27	Linear Contrasts Reading: DEAD Chapter 4
R Sep 29	Multiple comparisons

	Reading: DEAD Chapter 5
T Oct 4	Multiple comparisons Reading: DEAD Chapter 5
R Oct 6	Trend Analysis Reading: DEAD Chapter 6
T Oct 11	Trend Analysis Reading: DEAD Chapter 6
R Oct 13	Factorial designs: main effects & interactions Reading: DEAD Chapters 7 & Chapter 8
T Oct 18	Factorial designs: main effects & interactions Reading: DEAD Chapters 7 & Chapter 8
R Oct 20	Review for Exam 1: No lecture
F Oct 21	EXAM 1, held during the Lab. The exam will cover 1) Testing hypotheses about group means in a one-way design, 2) Linear Contrasts, 3) Multiple comparisons, & 4) Trend Analysis.
T Oct 25	Factorial designs: linear contrasts, simple main effects & unbalanced data Reading: DEAD Chapter 7
R Oct 27	Factorial designs: linear contrasts, simple main effects & unbalanced data Reading: DEAD Chapter 7
T Nov 1	Designs with covariates Reading: DEAD Chapter 9
R Nov 3	Designs with covariates Reading: DEAD Chapter 9
T Nov 8	No lecture.
R Nov 10	No lecture.
T Nov 15	One-way within-subject designs Reading: DEAD: Chapter 11
R Nov 17	Review for Exam 2: No lecture
F Nov 18	EXAM 2, held during the Lab. The exam will cover 1) Factorial designs: main effects & interactions, 2) Factorial designs: linear contrasts, simple main effects & unbalanced data & 3) Designs with covariates.
T Nov 22	One-way within-subject designs Reading: DEAD: Chapter 11
R Nov 24	Higher-order within-subject designs Reading: DEAD: Chapter 12
T Nov 29	Higher-order within-subject designs Reading: DEAD: Chapter 12
R Dec 1	Multivariate Analysis of Variance (MANOVA) Reading: T.B.A.
T Dec 6	Multivariate Analysis of Variance (MANOVA) Reading: T.B.A.
R Dec 8	Review for Exam 3: No lecture
F Dec 9	TENTATIVE DATE FOR EXAM 3. The exam will cover 1) One-way within-subject designs 2) Higher-order within-subject designs & 3) MANOVA.
Dec 12-22	Fall Term Exam Period.

Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class; no reappraisal of term work is permitted after the 15 days. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

Academic Accommodation

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have up to 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam during exam make-up hours provided by the department <http://psychology.ucalgary.ca/undergraduate/exam-and-course-information#mues>.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. **If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam. Under no circumstances will this be accommodated by the department.**

Freedom of Information and Protection of Privacy (FOIP) Act

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIP-sensitive information.

Evacuation Assembly Point

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at <http://www.ucalgary.ca/emergencyplan/assemblypoints>
Please check this website and note the nearest assembly point for this course.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 130 and may be contacted at 403-220-5567.

Student Union VP Academic: Phone: 403-220-3911 suypaca@ucalgary.ca
Student Union Faculty Rep.: arts1@su.ucalgary.ca

Student Ombudsman's Office

The Office of the Student Ombudsmen provides independent, impartial and confidential support for students who require assistance and advice in addressing issues and concerns related to their academic careers. The office can be reached at 403-220-6420 or ombuds@ucalgary.ca
(<http://www.ucalgary.ca/provost/students/ombuds>)

Safewalk

The safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available 24 hrs/day, 365 days a year.
Call 403-220-5333.

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund is September 23, 2016.** Last day for registration/change of registration is **September 26, 2016.** The last day to withdraw from this course is **December 9, 2016.**