
Psychology 411	Design and Analysis in Psychological Research	Fall 2015
Instructor:	Sarah Farstad	Lecture Location: EDC 287
Email:	sfarstad@ucalgary.ca	Lecture Days/Time: Tues/Thurs 11am-1215pm
Office:	A245	Lab and TA info Tues 8-950am, SS018 Jacqueline Boon
		Wed 8-950am, SS018 Nicole Larson
Office Hours:	TBA	

Course Description and Goals

This course is for students who have completed Psychology 312 (Experimental Design and Quantitative Methods in Psychology). The assumption is that you did well in that course and wish to pursue more advanced studies in research methodology and statistical analysis.

This course is an excellent preparation for introductory graduate-level statistics and methodology courses in psychology. You will learn how to analyze and interpret a wide variety of experimental designs. The lectures will focus on the theoretical and conceptual issues related to statistical concepts and will be supplemented with examples from SPSS. The labs will focus on the application of statistical knowledge (i.e., running the statistical procedures in SPSS and interpreting the output).

Prerequisites

Psychology 200 and Psychology 201 – Principles of Psychology I & II
Psychology 312 – Experimental Design and Quantitative Methods for Psychology

Required Text

Pallant, J. (2013). *SPSS Survival Guide* (5th ed.). Open University Press.

The textbook is available at the bookstore.

Two other textbooks will be on reserve at the library – they are **optional readings**.

Meyers, L. S., Gamst, G. C., & Guarino, A. J. (2013). *Applied Multivariate Research: Design and Interpretation* (2nd ed.). Sage Publications.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using Multivariate Statistics* (6th ed.). Boston: MA: Pearson Education Inc.

Evaluation

Course Component	Weighting	Date
Exam 1 (non-cumulative)	25%	October 13, 2015
Exam 2 (non-cumulative)	25%	November 10, 2015
Final exam (cumulative)	25%	To be scheduled by registrar.
Lab	25%	Five assignments due throughout the term. See lab description below.

Exam description:

There will be two non-cumulative midterms (see above for exam dates), each worth 25% of your mark. They will be composed primarily of short answer questions and may include some computational questions. The first midterm (Oct 13) will cover material up to simultaneous multiple regression. The second midterm (Nov. 10) will cover hierarchical multiple regression and ANOVA. The final exam will be **cumulative** and will cover all the material in the course but there will be an emphasis on material learned after the second midterm (mixed model regression, MANOVA, DFA). More information about exams will be provided in lecture.

The use of calculators is permitted for computational questions on the exams. However, you will be graded on your work. Accordingly, if you fail to show your work, you will receive a 0 for the question (i.e., for the computation component of the question) even if the final answer is correct.

The use of computers is NOT permitted for exams in this course. Exam answers must be written in the exam booklets provided during the exam.

No study aids will be permitted during exams for this course, apart from those that may be provided by the instructor during the exam.

Lab assignment description:

Lab Assignment	Weighting	Due Date, depending on lab group
Correlation and regression	5%	Sept 29 or 30
Multiple regression	5%	Oct 6 or 7
Hierarchical multiple regression	5%	Oct 27 or 28
ANOVA	5%	Nov 17 or 18
MANOVA	5%	Dec 1 or 2

The lab assignments will specifically focus on the application of statistical procedures in SPSS. They will involve some or all of the following components: completing short answer questions, running analyses, interpreting output, and writing APA style results sections. More information on the specific lab assignments will be provided by the TAs in lab.

Lab assignments must be handed in at the beginning of the lab on which the due date falls (see the lab Schedule below). Assignments submitted following the beginning of lab will be marked one day late automatically. Under exceptional conditions (e.g., illness), other arrangements may be made at the

discretion of the Teaching Assistant. Late assignments will be deducted 10% per day (including weekends), up to a maximum of 70% (7 days), at which point, late assignments will no longer be accepted. Lab assignments submitted electronically will NOT be accepted.

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

Department of Psychology Grade Distribution Policy

The distribution of grades in Psychology courses (the percentage of A grades, B grades, etc.) will be similar to the distribution of grades in other courses in the Faculty of Arts. The Department monitors the grade distributions of 200-, 300-, and 400-level courses in the Faculty to ensure that the grade distributions in Psychology courses are comparable. Based on these reviews, students can expect that 1) up to 30% of grades in 200- and 300-level psychology courses will be "A" grades (A+, A, and A-), and 2) up to 40% of grades 400-level psychology courses will be "A" grades.

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

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-).

Tentative Lecture Schedule

Date	Topic	Optional readings
T Sep 8	<i>Lecture begins.</i> Introduction and overview. Review of basics.	Meyers et al., Ch. 1-2
R Sep 10	Review of basics.	
T Sep 15	Correlation	Meyers et al., Ch. 6A
R Sep 17	Linear regression	Meyers et al., Ch. 6A
F Sep 18	<i>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.</i>	
M Sep 21	<i>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.</i>	
T Sep 22	Multiple regression	Meyers et al., Ch. 7A
R Sep 24	Multiple regression cont.	Same
F Sep 25	<i>Fee payment deadline for Fall Term full and half courses.</i>	
T Sep 29	Multiple regression cont.	Same
R Oct 1	Multiple regression cont.	Same
T Oct 6	Multiple regression cont.	Same
R Oct 8	Exam review	
M Oct 12	<i>Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
T Oct 13	Midterm 1 (covers material up simultaneous multiple regression)	
R Oct 15	Hierarchical multiple regression	Meyers et al., Ch. 8A
T Oct 20	Hierarchical multiple regression cont.	Same

R Oct 22	ANOVA	-Meyers et al., Ch. 4A -Tabachnick et al., Ch. 3.2
T Oct 27	ANOVA cont.	Same
R Oct 29	ANOVA cont.	Same
T Nov 3	ANOVA cont.	Same
R Nov 5	Exam review	
T Nov 10	Midterm 2 (covers hierarchical multiple regression and one/two way ANOVA)	
Nov 11-15	<i>Reading Days. No lectures.</i>	
W Nov 11	<i>Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
R Nov 12	<i>Reading Days. No lectures.</i>	
T Nov 17	Mixed between-within subjects ANOVA	Same
R Nov 19	Mixed between-within subjects ANOVA	Same
T Nov 24	MANOVA	-Meyers et al., Ch. 5A -Tabachnick et al., Ch. 7
R Nov 26	MANOVA and DFA	-Meyers et al., Ch. 11A -Tabachnick et al., Ch. 9
T Dec 1	DFA	Same
R Dec 3	Exam review	
T Dec 8	<i>Fall Term Lectures End. Last day to withdraw with permission from Fall Term half courses.</i>	
Dec 11-22	<i>Fall Term Exam Period. Covers all material from the course</i>	

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

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services ; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor.

The full policy on Student Accommodations is available at http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy_0.pdf.

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>. 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 http://www.ucalgary.ca/registrar/exams/deferred_final. Under no circumstances will this be accommodated by the department.

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 http://www.ucalgary.ca/registrar/exams/deferred_final. 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 via the Department Office (Admin 255), 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.

Course Credits for Research Participation (Max 2% of final grade)

Students in most psychology courses are eligible to participate in Departmentally approved research and earn credits toward their final grades. **A maximum of two credits (2%) per course, including this course, may be applied to the student's final grade. Students earn 0.5% (0.5 credits) for each full 30 minutes of participation.** The demand for timeslots may exceed the supply in a given term. Thus, students are not guaranteed that there will be enough studies available to them to meet their credit requirements. Students should seek studies early in the term and should frequently check for open timeslots. Students can create an account and participate in Departmentally approved research studies at <http://ucalgary.sona-systems.com>. The last day to participate in studies and to assign or reassign earned credits to courses is **Dec 8, 2015**

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 170 and may be contacted at 403-220-5567.

Student Union VP Academic: Phone: 403-220-3911 suypaca@ucalgary.ca
Student Union Faculty Rep.: Phone: 403-220-3913 socialsciirep@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.su.ucalgary.ca/services/student-services/student-rights.html>).

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 18, 2015**. Last day for registration/change of registration is **September 21, 2015**. The last day to withdraw from this course is **December 8, 2015**.

Tentative Lab Schedule

Date	Lab schedule	Assignments
T Sep 8, W Sep 9	NO LABS.	
T Sep 15, W Sep 16	Data entry and SPSS review	
T Sep 22, W Sep 23	Correlation and Linear Regression	Assignment 1 handed out.
T Sep 29, W Sep 30	Multiple regression	Assignment 1 due. Assignment 2 handed out.
T Oct 6, W Oct 7	Multiple regression Exam review	Assignment 2 due.
T Oct 13, Wed Oct 14	NO LABS. Exam week.	
T Oct 20, Wed Oct 21	Hierarchical regression	Assignment 3 handed out.
T Oct 27, Wed Oct 28	ANOVA	Assignment 3 due.
T Nov 3, W Nov 4	ANOVA continued	Assignment 4 handed out.
T Nov 10, W Nov 11	NO LABS. Reading days.	
T Nov 17, W Nov 18	Mixed between-within subjects ANOVA	Assignment 4 due.
T Nov 24, W Nov 25	MANOVA	Assignment 5 handed out.
T Dec 1, W Dec 2	DFA and Final exam review.	Assignment 5 due.