

PSYC 411		Design and Analysis in Psychological Research		Winter 2016	
Instructor:	Dr. K. Edwin Sheppard	Lecture Location:	SA 235		
Phone:	403-220-8970	Lecture Days/Time:	M/W/F: 8:00-8:50am		
Email:	kesheppa@ucalgary.ca	[Lab and/or TA info in remaining cells (delete if N/A)]	SS 018		
			Lab 1 W: 10:00-11:50		
			Lab 2 F: 10:00-11:50		
Office:	Admin 155				
Office Hours:	M/W: 10:00 – 11:00				

Course Description and Goals

Experimental design problems and techniques for analysis of psychological data.

Course Learning Outcomes

The Department of Psychology is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes they facilitate (see psyc.ucalgary.ca/undergraduate/program-learning-outcomes), and the expected level of achievement.

Course Learning Outcomes	PLO(s)	Level(s)
Critically evaluate statistical analyses and understand the advantages and limitations associated with each	2, 3, 7	A
Accurately identify which analyses should be used to answer a research question(s)	3	A
Draw appropriate inferences from obtained findings	2, 3	A
Apply statistical analyses using SPSS to analyze data	3	A
Communicate research findings effectively through written reports in APA format	4, 5	A
Locate, interpret, evaluate, and communicate psychological information and findings	2, 5	A

Notes. PLOs = Program-Learning Outcomes: 1 = demonstrate knowledge of psychological sciences, 2 = think critically and solve problems, 3 = conduct research and analyze data, 4 = communicate effectively, 5 = demonstrate information literacy, 6 = understand and implement ethical principles, 7 = apply psychological knowledge and skills. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

Prerequisites

PSYC 200 – Principles of Psychology I

PSYC 201 – Principles of Psychology II

PSYC 312 – Experimental Design and Quantitative Methods for Psychology

Required Text

No required text. Supplementary readings will be made available by the professor for when applicable.

Evaluation

Course Component	Weighting	Date
Midterm Exam #1	25%	February 10
Midterm Exam #2	25%	March 17
Final Exam	30%	To be scheduled by registrar
Laboratory	20%	Seven assignments will be due throughout the term. See the lab schedule below for descriptions.

Exams (80% of final grade):

Exams will consist of both short answer and computation questions, with the considerable emphasis on short answer questions. The first midterm (**Feb 10**) will cover the material up to and including the end of researcher generated regression. The second midterm (**Mar 17**) will cover polynomial regression, ANOVA, and planned comparisons. The final exam (to be scheduled by the registrar) **will be cumulative**.

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 or any other technology 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.

Laboratory (20%):

Lab assignments must be handed in at the beginning of the lab on which the due date falls (see the lab Schedule below). Under exceptional conditions (e.g., illness), other arrangements may be made at the discretion of the Teaching Assistant. Late lab assignments will not be accepted, except under exceptional circumstances and at the discretion of the Teaching Assistant with the approval of the instructor. Lab assignments submitted electronically will NOT be accepted.

Assignment	Value
Lab 1: Survey Completion / Data Entry	2%
Lab 2: Linear Regression	3%
Lab 3: Multiple Regression	3%
Lab 4: Hierarchical Regression	3%
Lab 5: ANOVA	3%
Lab 6: Mixed Model Regression	3%
Lab 7: MANOVA / DFA	3%

NOTE: it is expected that you will complete all components of the course. If you miss an exam without medical documentation, you will receive a score of 0 for that exam. 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.

Students must achieve a passing grade in both the class and the 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.

In this course there will be no rounding up of final grades, especially in light of the opportunities students have to increase their final grade via research participation.

Tentative Lecture Schedule

Date	Topic/Activity/Readings/Due Date (revise and add columns & rows as necessary)
M Jan 09	Introduction to PSYC 411 and the General Linear Model (GLM) Winter term lectures begin.
W Jan 11	Foundations of the GLM
F Jan 13	Foundations of the GLM
M Jan 16	Foundations of the GLM
W Jan 18	Foundations of the GLM
F Jan 20	Linear Regression Last day to drop Winter Term half-courses.
M Jan 23	Linear Regression Last day to add or swap Winter Term half courses. Last day for change of registration from audit to credit or credit to audit.
W Jan 25	Linear Regression
F Jan 27	Linear Regression Fee payment deadline for Winter Term fees.
M Jan 30	Multiple Regression
W Feb 1	Multiple Regression
F Feb 3	Multiple Regression
M Feb 6	Multiple Regression
W Feb 8	Midterm Review 1
F Feb 10	Midterm 1 From Intro to the GLM to Multiple Regression
M Feb 13	Hierarchical Regression / Polynomial Regression
W Feb 15	Hierarchical Regression / Polynomial Regression
F Feb 17	Hierarchical Regression / Polynomial Regression
Feb 19-26	Reading Week. No lectures. University open (except Family Day).

M Feb 20	Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
M Feb 27	ANOVA
W Mar 1	ANOVA
F Mar 3	ANOVA
M Mar 6	ANOVA
W Mar 8	Planned Comparisons
F Mar 10	Planned Comparisons
M Mar 13	Planned Comparisons
W Mar 15	Midterm 2 Review
F Mar 17	Midterm 2 From Hierarchical regression to Planned Comparisons
M Mar 20	Mixed Model Regression
W Mar 22	Mixed Model Regression
F Mar 24	Mixed Model Regression
M Mar 27	Mixed Model Regression
W Mar 30	ANCOVA
F Mar 31	ANCOVA
M Apr 3	ANCOVA
W Apr 5	MANOVA and DFA
F Apr 7	MANOVA and DFA
M Apr 10	MANOVA and DFA
W Apr 12	Winter Term Lectures End. Last day to withdraw from full courses and Winter Term half courses.
F Apr 14	Good Friday. No Classes. University Closed
Apr 15-26	Winter Term Final Examinations.

Tentative Lab Schedule

Date	Topic/Activity/Readings/Due Date (revise and add columns & rows as necessary)	Assignments
W Jan 11 F Jan 13	NO LABS THIS WEEK	
W Jan 18 F Jan 20	Introduction to Lab and SPSS	Receive Assignment 1 – Survey Completion and Data Entry Due in Lab
W Jan 25 F Jan 27	Linear Regression	Receive Assignment 2
W Feb 1 F Feb 3	Multiple Regression	Receive Assignment 3 <i>Assignment 2 Due</i>
W Feb 8	NO LABS – MIDTERM	

F Feb 10		
W Feb 15 F Feb 17	Hierarchical Regression	Receive Assignment 4
Feb 21- Feb 24	NO LABS – Midterm Break	
W Mar 1 F Mar 3	ANOVA	Receive Assignment 5
W Mar 8 F Mar 10	Mid Term 2 Review	Assignment 5 Due
W Mar 15 F Mar 17	NO LABS - MIDTERM	
W Mar 22 F Mar 24	Mixed Model Regression	
W Mar 29 F Mar 31	MANOVA & DFA	Receive Assignment 6
W Apr 5 F Apr 7	Final Exam Review	Receive Assignment 7 Assignment 6 Due
W Apr 12 F Apr 14	NO LABS	Assignment 7 Due – MANOVA (in the drop box in the main office by 4pm)

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>. If a student cannot make 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](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 make 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](http://www.ucalgary.ca/registrar/exams/deferred_final). Under no circumstances will this be accommodated by the department.

Course Credits for Research Participation:

[For 3-5XX Fall HALF-courses:]

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 9, 2016**.

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. 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.

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 suvpaca@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>)

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **January 20, 2017**. Last day for registration/change of registration is **January 23, 2017**. The last day to withdraw from this course is **April 12, 2017**.