



UNIVERSITY OF  
CALGARY

**Department of Psychology**

**Psychology 617 (L01) – Advanced Research Design and Analysis II  
Winter 2011**

---

<b>Instructor:</b>	Theresa Kline	<b>Lecture Location:</b>	Administration 053
<b>Phone:</b>	403-220-3269	<b>Lecture Days/Time:</b>	T&Th/11:00 – 12:15
<b>Email:</b>	babbitt@ucalgary.ca	<b>Lab Day/Time:</b>	F 9:00 – 11:50
<b>Office:</b>	Administration 135B	<b>Lab Location:</b>	SS 018-TriFaculty Computer Lab
<b>Office Hours:</b>	TBA		

---

**Course Description and Goals**

Multivariate techniques and design issues, including canonical correlation, discriminant analysis, multiple regression, principal components analysis and factor analysis, structural equation modeling.

**Prerequisites**

Psyc 615 – Advanced Research Design and Analysis I, or consent of the Department

**Required Text**

Tabachnick, B.G. & Fidell, L.S. (2007). Using Multivariate Statistics (5th ed.). Boston: Allyn and Bacon.

This text is available at the U of C Bookstore.

A package of class notes is also required for this course and is available for purchase at the Psychology Office (A 275).

**Suggested References (Specific chapters are available for photocopying):**

Diekhoff, G. (1992). Statistics for the Social and Behavioral Sciences: Univariate, Bivariate, Multivariate. Dubuque, IA: Wm. C. Brown.

Pedhazur, E.J. (1997). Multiple Regression in Behavioral Research (3rd. ed.). Fort Worth, TX: Harcourt, Brace, College Publishers.

**Evaluation**

Distribution of Credit for Final Grade:

First Exam:	25%
Second Exam:	25%
Third Exam:	25%
Lab Assignments:	25% (grade will be based on 5 assignments)

Examinations are problem-solving and short essay-type formats.

Calculators are permitted to be used on all exams. The final exam will also be open book/open note.

Laboratory assignment format is covered in the lab outline.

### 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 to the nearest whole percentage (e.g., 89.4% will be rounded up to 90%).

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

### Lecture/Lab Schedule

Date	Topic/Activity/Readings
T Jan 11	Winter Lectures begin Correlation and Regression <i>Pedhazur - Ch. 2,5,7</i> <i>Diefkhoff – Ch. 5, 12</i>
Th Jan 13	Correlation and Regression <i>Pedhazur - Ch. 2,5,7</i> <i>Diefkhoff – Ch. 5, 12</i>
F Jan 14	Lab Day (correlation)
T Jan 18	Last day to drop a course with no W grade and tuition refund. Correlation and Regression <i>Pedhazur - Ch. 2,5,7</i> <i>Diefkhoff – Ch. 5, 12</i>
Th Jan 20	Correlation and Regression <i>Pedhazur - Ch. 2,5,7</i> <i>Diefkhoff – Ch. 5, 12</i>
F Jan 21	Lab Day (regression) Last day to drop a course with tuition refund..
T Jan 25	Discriminant Function Analysis <i>Tabachnick &amp; Fidell – Ch. 9</i> Last day for registration/change of registration.
Th Jan 27	Discriminant Function Analysis <i>Tabachnick &amp; Fidell – Ch. 9</i>
F Jan 28	Lab Day (Discriminant Function Analysis)
T Feb 1	Logistic Regression <i>Tabachnick &amp; Fidell – Ch. 10</i> <i>Pedhazur - Ch. 17</i>
Th Feb 3	Logistic Regression <i>Tabachnick &amp; Fidell – Ch. 10</i> <i>Pedhazur - Ch. 17</i>
F Feb 4	Lab Day (Logistic Regression/Exam 1 review)
T Feb 8	Logistic Regression <i>Tabachnick &amp; Fidell – Ch. 10</i> <i>Pedhazur - Ch. 17</i>
Th Feb 10	Exam 1
F Feb 11	Lab Day (Exam 1 review)

T Feb 15	Multiway Frequency Analysis <i>Tabachnick &amp; Fidell – Ch. 16</i>
Th Feb 17	Multiway Frequency Analysis <i>Tabachnick &amp; Fidell – Ch. 16</i>
F Feb 18	Lab Day (Multiway Frequency Analysis)
T Feb 22	Reading Days. No lecture.
Th Feb 24	Reading Days. No lecture.
F Feb 25	Reading Days. No lab.
T Mar 1	Multiway Frequency Analysis <i>Tabachnick &amp; Fidell – Ch. 16</i>
Th Mar 3	Canonical Correlation <i>Tabachnick &amp; Fidell – Ch. 12</i>
F Mar 4	Lab Day (Canonical Correlation)
T Mar 8	Multi-Dimensional Scaling <i>Diekhoff – Ch. 18</i>
Th Mar 10	Multi-Dimensional Scaling <i>Diekhoff – Ch. 18</i>
F Mar 11	Lab Day (Multi-dimensional Scaling/Exam 2 review)
T Mar 15	Principal Components Analysis <i>Tabachnick &amp; Fidell – Ch. 13</i>
Th Mar 17	Principal Components Analysis <i>Tabachnick &amp; Fidell – Ch. 13</i>
F Mar 18	Lab Day (Principal Components Analysis)
T Mar 22	Exam 2
Th Mar 24	Common Factor Analysis <i>Tabachnick &amp; Fidell – Ch. 13</i>
F Mar 26	Lab Day (Common Factor Analysis)
T Mar 29	Confirmatory Factor Analysis <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
Th Mar 31	Confirmatory Factor Analysis <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
F Apr 2	Lab Day. (Confirmatory Factor Analysis)
T Apr 5	Structural Equation Modeling <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
Th Apr 7	Structural Equation Modeling <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
F Apr 8	Lab Day (SEM – part 1)
T Apr 12	Structural Equation Modeling <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
Th Apr 14	Structural Equation Modeling <i>Tabachnick &amp; Fidell – Ch. 14</i> <i>Pedhazur - Ch. 18</i>
Th Apr 14	Lecture ends.
F Apr 15	Last day to withdraw. Lab Day (SEM – part 2)
W April 20	EXAM 3 (non-cumulative, open book) 9:00 a.m. – 12:00 noon

### 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. 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 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.

### **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 275), 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 or UCIDs with their grades 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 Ombudsman's Office**

The Office of the Student Ombuds 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](mailto: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 and **still receive a tuition fee refund** is **Jan 21, 2011**. Last day for registration/change of registration is **Jan 24, 2011**. The last day to withdraw from this course is **Apr 15, 2011**.