

Psychology 300: Research Methods and Data Analysis in Psychology I
Fall 2019

Instructor:	Dr. Alexandra Twyman	Lectures:	MFH 162: TR 2 to 3:15 p.m.
Email:	alexandra.twyman@ucalgary.ca	Lab TA and Time:	Multiple Sections. Please see D2L
Office Hours:	By Appointment		

Contact me regarding general course issues, questions about lecture material and course content, deferrals and extensions, and grading of exams. Contact your lab instructor regarding lab material and assignments.

Course Description

This course aims to help you to develop the skills required to (a) conduct and analyze scientific research in psychology, (b) communicate your research to others, and (c) evaluate research by other psychologists. These skills are central to success as a psychology major (not to mention as a research psychologist). At a more general level, this course is designed to help you develop methodological, analytical, and communication skills that are invaluable in a wide range of everyday applications and in numerous lines of work.

Note: This course focuses on quantitative approaches. Students interested in qualitative psychological research should consider Psyc 415 - Qualitative Inquiry in Psychology upon completion of this course.

The laboratory component of the course is designed to facilitate experiential learning (learning by doing) of the material, and hence the lab assignments are integrated with the lecture schedule.

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	Assessment Methods	PLO(s)	Level(s)
Contrast research methodologies for strengths and weaknesses.	Multiple choice exams	2, 7	C
Identify ethical issues in research	Multiple choice exams	2, 6	I

Design research using appropriate methodology to test a research question	Lab assignments	1, 2, 3, 4, 5, 6, 7	C
Apply principles of null hypothesis testing	Multiple choice exams	3, 7	I
Conduct and interpret numerical and graphical methods of summarizing data	Multiple choice exams, lab assignments	2, 3, 4	C
Effectively communicate research findings	Lab assignments	3, 4, 5, 7	C
Write all elements of a laboratory report in APA format	Lab assignments	3, 4, 5	C
Use PSYCINFO to locate primary research relevant to a specific topic	Lab assignments	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 and one of: Mathematics 30-1, Mathematics 30-2, Pure Mathematics 30, Applied Mathematics 30, Mathematics 31. Mathematics II (offered by Continuing Education), or 50 per cent or higher on the Mathematics Diagnostic Test. Equivalents will be accepted for students from outside Alberta.

Optional Textbooks

Smith, R. A. & Davis, S. F. (2013). *The Psychologist as Detective: An introduction to conducting research in Psychology* (6th Ed.). Pearson Education Canada.

It is also recommended that you obtain a copy of the *Publication Manual of the American Psychological Association* (6th Ed.) as you will be expected to conform to APA format in all assignments you submit. There are also numerous web resources to assist you in using APA format (such as: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html)

Both books are available in the university bookstore.

Assessment Methods

Class components (75% of final grade).

Exams There will be three in-class exams during this course; all exams will be multiple-choice and will focus on lecture material. These exams are non-cumulative and cover the material up to and including the lecture day immediately preceding the exam. However, many of the concepts in this course are inherently cumulative in that they assume knowledge and understanding of material introduced earlier. Each exam is equally weighted (worth 25% each). No resources (iPods, iPads, computers, books or notes) are allowed in any exams.

EXAM	DATE	CONTENT
Exam 1	Tuesday Oct 8 th	Introduction, science of psychology, research ideas and hypotheses, ethics, role of stats in research, variability and control, choosing the best measure (Sept 5 th to Oct 3 rd , inclusive)
Exam 2	Tuesday Nov 5 th	Non-experimental methods I, II, and III, threats to internal validity, alternative research designs (Oct 10 th to 31 st , inclusive)
Exam 3	TBA: Dec. 9 th to 19 th	Plotting data, central tendency, variability, the normal distribution, probability theory, hypothesis testing I and II (Nov 7 th to Dec 5 th , inclusive)

Lab components (25% of final grade).

Lab Assignments. There will be five lab assignments, equally weighted, which in total will comprise 25% of your grade. Lab assignments will be due in hard copy at the beginning of lab (due dates indicated on course schedule below). Lab assignments will NOT be accepted via electronic submission unless prior consent is received from one's lab instructor. The grades allocated for each assignment are as follows:

Lab Assignment 1: Literature Search 5%

Lab Assignment 2: Survey Research Question 5%

Lab Assignment 3: Ethics 5%

Lab Assignment 4: Observational Research/ Survey Research Write-up 5%

Lab Assignment 5: Poster 5%

Total 25%

NOTE: There will be components of the labs that you are expected to complete in your own time. It is extremely important that you do this work prior to the allotted deadlines, as future labs will be based on the work that you do outside of the lab.

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

Without documentation, late lab assignments will be deducted 5% per day (including weekends) up to a maximum of 35% (7 days), at which point, late assignments will no longer be accepted. All assignments must be submitted in hard copy at the beginning of lab.

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

Calculators & Formula Sheets For tests requiring computations (the final), a non-graphics based calculator may be used. For some tests, formula information will be provided at the time of the test (the final). No other resources are allowed during tests.

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

Please note that this schedule is tentative, and may be adjusted for several factors, including the pacing of student learning or instructor illness.

Date	Lecture Topic	Lab Topic	Assignment DUE
<u>UNIT 1</u>			
Sept 5 th	Syllabus & Introduction		
10 th & 12 th	Ch. 1: The Science of Psychology	Avoid Plagiarism	
<i>Sept 12th: Last day to drop classes without penalty and Sept 13th: last day to add or swap classes.</i>			
17 th & 19 th	Ch. 2: Research Ideas, Hypotheses, and Ethics	Literature Search & APA format	
24 th & 26 th	Ch. 9: Role of Statistics in Research Ch. 5: Variables & Control	Research Ethics	#1 Due: Literature Search
OCTOBER 1 st & 3 rd	Ch. 6: Choosing the Best Measure	Survey Research	# 2 Due: Ethics
October 8th	Exam # 1		
<u>UNIT 2</u>			
10 th	Non-Experimental Methods: I		
15 th & 17 th	Ch. 3 & 4: Non-Experimental Methods: II and III		# 3 Due: Survey Research
22 nd & 24 th	Ch. 8: Threats to Internal Validity	Observational Research & Survey Research Write-up	
29 th & 31 st	Ch. 13: Alternative Research Designs	Creating a Poster	# 4 Due: Observational Research & Survey Research Write-up
November 5th	Exam #2		
<u>UNIT 3</u>			
7 th	Plotting Data		
12th & 14th	FALL BREAK: NO CLASS		
19 th & 21 st	Central Tendency & Variability	Lab time to Work on Poster (Optional)	
26 th & 28 th	The Normal Distribution and Z-scores	Poster Presentation	# 5: Poster
December 3 rd & 5 th	Probability Theory and Hypothesis Testing I and II		
6 th	<i>End of Fall Lectures and last day to withdraw from a course.</i>		
9th – 19th	Exam #3 during the final exam period, date TBA		

Reappraisal of Graded Term Work <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

A student who feels that a piece of graded term work (term paper, essay, test, etc.) has been unfairly graded, may have the work reappraised as follows. The student shall discuss the work with the instructor **within ten business days** of being notified about the mark or of the item's return to the class. If not satisfied, the student shall take the matter to the head of the department offering the course **within 2 business days of receiving the decision from the instructor**, who will arrange for a reappraisal of the work **within the next ten business days**. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. Students in faculties without a departmental structure should take the matter to the dean, or designate, of the faculty offering the course. The result of that reappraisal will be given to the student in writing along with information about appealing the reappraisal.

The reappraisal of graded term work may cause the grade to be raised, lowered or to remain the same. There is no limit to the number of pieces of graded work that a student may request be reappraised, however a single piece of work may only be reappraised once.

Reappraisal of Final Grade <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

In the reappraisal of a final grade, the only element that will be considered is the grading of the final assessment that makes up the final mark (e.g., final examination, final project, final paper). An exception may occur when the Instructor of Record evaluates a piece of graded term work at the end of the term; that grade may also be considered in a reappraisal of final grade.

A student seeking a reappraisal of a final grade should first attempt to review the final assessment with the department or faculty offering the course. After which, the student shall obtain a Reappraisal of Final Grade form from ucalgary.ca/registrar (under Student Forms). The student must indicate exactly what error was made in marking the final assessment and/or in computing the final grade. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected.

Students requesting a reappraisal of a final grade must submit their request by the following dates:

Fall Term – March 1

Winter Term – June 30

Spring Intersession – August 15

Summer Term – October 15

Supplemental Examinations: 30 calendar days from the date the examination was written

For information relating to Law, Veterinary Medicine and the Cumming School of Medicine (MD) courses, please refer to the faculty section.

The reappraisal form shall be submitted to Enrolment Services who will forward it to the department head or dean of the faculty offering the course. Reappraisals of final grades are dealt with by the head of the academic unit in consultation with members of academic staff. Normally, the department/faculty will respond to a reappraisal request within thirty calendar days of its initiation. After the reappraisal is

completed, the department shall return the form to the Registrar's Office who shall inform the student in writing of the decision.

Students should be aware that the grade being reappraised may be raised, lowered or remain the same. A student may request a reappraisal of final for a maximum of two courses in one academic year (September 1 – August 31).

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 Accommodations

The student accommodation policy can be found at: ucalgary.ca/access/accommodations/policy. Students needing an Accommodation because of a Disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities ucalgary.ca/policies/files/policies/student-accommodation-policy. Students needing an Accommodation based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the instructor.

Seating During Exams

Instructors and exam invigilators are free to ask students to move seats before an exam begins or even during an exam. Students must comply with this request and refusal to do so may warrant a charge of academic misconduct.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. A student may be asked to provide supporting documentation for an exemption/special request for a make-up exam <https://www.ucalgary.ca/pubs/calendar/current/n-1.html>. Students who miss a test/exam have up to **48 hours** to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up 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. Once approved by the instructor 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 <https://www.ucalgary.ca/registrar/exams/deferred-exams>.

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 <https://www.ucalgary.ca/registrar/exams/deferred-exams>. Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).**

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.

Acknowledgments and Respect for Diversity

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy website (<http://www.ucalgary.ca/mentalhealth/>).

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 **Friday, December 6, 2019**.

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 **Thursday, September 12, 2019**. Last day add/swap a course is **Friday, September 13, 2019**. The last day to withdraw from this course is **Friday, December 6, 2019**.