

Psychology 425		Human Factors		Winter 2021	
Instructor:	Jeff Caird	Lecture Location:	Zoom		
Phone:	403-220-8441	Lecture Days/Time:	T/Th 12:30-1:45		
Email:	jkcaird@ucalgary.ca	Laboratory (Lab 1):	W 2:00 to 3:50 p.m.		
Office:	222 Admin.	Laboratory (Lab 2):	F 12:00 to 1:50 p.m.		
Office Hours:	Online by appointment	TA:	Adam Turner		
		Office Hours:	Online by appoint.		

Course Description

This course surveys the theory and data pertaining to the relationships between humans and technology. A research paper and laboratory experiences are integral parts of this course.

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 <https://live-arts.ucalgary.ca/psychology/about#program-learning-outcomes>), and the expected level of achievement.

Course Learning Outcomes	Assessment Methods	PLO(s)	Level(s)
Students will apprehend and articulate the knowledge and methods within human factors.	Multiple choice and essay exams.	1,5,7,8	A
Students will apply knowledge and methods to a variety of contexts and problems.	Laboratory assignments, essays exams, group activities.	2,6,7,8	C
Students will search and synthesize knowledge on a specific topic.	Research paper, presentations.	3,5,7,8	C

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, 8 = Demonstrate multicultural competence and awareness of issues related to equity, diversity,* and inclusion. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

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.

Course Format

Lectures will be taught live via Zoom during each scheduled class as per the course schedule below and some lectures will be recorded and posted to D2L after class.

Prerequisites

Psychology 312 – Experimental Design and Quantitative Methods for Psychology or PSYC 300 and 301 – Research Design and Data Analysis in Psychology I and II

Required Texts (available from the Bookstore and online)

Vicente, K. (2003). *The Human Factor*. Toronto: Vintage Canada.

Lee, J.D., Wickens, C.D., Lui, Y., & Boyle, L.N. (2017). *Designing for People (3rd ed.)*. Charleston, S.C.: CreateSpace.

Assessment Methods

Examinations:

- 1) The mid-term exam on **February 11th (Th)** will cover readings (C1–7) and lectures through Feb. 9th. The midterm is closed book.
- 2) The final exam will stress the final half of the course readings, lecture notes and lectures (i.e., C8, 9, 11; Notes; Vicente, 2003), however, a portion of it will be cumulative (e.g., usability, attention, etc.). The final exam will be scheduled by the Registrar and will be two hours in length and is again closed book.
- 3) The format of the midterm and final exams is approximately 50% multiple choice and 50% essay. The weighting of each exam is indicated under the Distribution of Grades. A review sheet will be provided prior to each exam with example essays.
- 4) Exams in this course are closed book. The use of resources, including class notes, the textbook, online resources, and calculators is prohibited during the exams in this course. Students may not communicate with others about course material or the exam either in person or electronically during exams.
- 5) Students will have a 24-hour window in which to access scheduled exams. In addition, students will be given an additional 50% time to accommodate any technological issues that may arise. For example, the midterm is scheduled for 75 minutes at 12:30 p.m. on Thursday, February 11th. From this date and time, students will have 24 hours to access the exam and, once started, have 115 minutes to complete it.

Written Papers:

A major written paper is part of the course requirements. A paper proposal is due during lab on either February 24th and 26th (depending on your lab section). The paper proposal should be structured into a

one-page outline of the topics that are to be addressed in the review and summarize a minimum of three empirical papers. The Instructor and TA will provide guidance in the selection of appropriate topics. Students are expected to select a topic, research it in depth, write a review outside of class, and edit it extensively. APA (6.0) formatted papers shall not exceed 15 pages inclusive of references. A detailed marking framework will be provided on D2L.

Papers are due **April 1st (Th) at 4:00 p.m. through the D2L dropbox. Late assignments will not be accepted without instructor approval.** I will not accept emailed papers. Students will give a presentation of their paper for about 5 minutes in class (i.e., online) (**April 1st, 6th, 8th, 13th**). The presentation should cover the topic reviewed and the important conclusions reached. Presentations constitute approximately 2% of the final grade and missed presentations will be assigned a 0 without instructor approval.

Laboratories:

Six laboratories assignments are required and comprise 30% of the final grade. Each laboratory is worth 5% of the final mark and assignments will typically be 2 to 3 pages in length. The TA will provide a detailed laboratory handout on D2L that outlines each of the laboratories, marking expectations, methods of submission, due dates and late assignment penalties. Students must achieve a passing grade on both the class and lab components to pass this course.

Distribution of Grades:

Laboratory Assignments	30%
Paper	20%
Mid-term Exam	20%
Final Exam	30%
Total	100%

University of Calgary Academic Integrity Policy

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity.

Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. It is your responsibility to ensure that you have read and are familiar with the student academic misconduct policy: <https://www.ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>.

Department of Psychology Criteria for Letter Grades

Psychology course instructors 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-).

Important Dates Winter 2021

Date:	Important Dates:
M Jan 4-8	Winter term begin, Block Week Courses
T Jan 12	Winter Lectures Begin
R Jan 21	Last day to drop a class without financial penalty
F Jan 22	Last day to add or swap a course
F Jan 29	Tuition Fee Deadline
R Feb. 11	Midterm Exam
Feb 14-20	Reading Week. No lectures. University open (except Family Day). Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
M Feb 15	Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
R April 1	Papers Due
F Apr 2	Good Friday
M Apr 5	Non-Instructional Day, University Open
R Apr 15	Last day of classes, last day to withdraw from winter semester
Apr 19-29	Final Exam Period, Final TBA
Apr 30	End of Term

Tentative Lecture Schedule

	Dates	Topic(s)	Readings
1.	Jan. 12, 14	Introduction, Research Methods	Lee et al., C1
2.	Jan. 19, 21	Design, Evaluation	Lee et al., C2, C3
3.	Jan. 26, 28	Visual, Auditory Systems	Lee et al., C4, C5
4.	Feb. 2, 4	Cognition	Lee et al., C6
5.	Feb. 9	Decision Making	Lee et al., C7
6.	Feb. 23, 25	Displays, Controls	Lee et al., C8, C9
7.	March 2, 4	Anthropometry, Automation	Lee et al., C11, C10
8.	March 9, 11	Automation, Transportation	Lee et al., C10; Notes
9.	March 16, 18	Transportation HF, Aging	Notes
10.	March 23, 25, 30	Aging, Healthcare HF	Notes
11.	April 1, 6, 8, 13	Paper Presentations	
12.	April 13	Final Review	

Tentative Laboratory Schedule

Date	Laboratory	Lab. Number
Jan. 20/22	Design Lab.	
Jan. 27/29	Usability Engineering I	1
Feb. 3/5	Usability Engineering II	2
Feb. 24/26	Paper Proposals, Sign-Up	
Mar. 3/5	Workspace Layout	3
Mar. 10/12	Self-driving Vehicles	4
Mar. 17/19	Aging Lab.	5
Mar. 24/26	Security	6

Extra Research Participation Course Credit is Not Offered for this Course.

Absence from a Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. 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 on a day/time scheduled by the instructor. 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).

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

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

Academic Accommodations

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.pdf>.

Academic Misconduct

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

Instructor Intellectual Property

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Freedom of Information and Protection of Privacy

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Student Support and Resources

<https://www.ucalgary.ca/registrar/registration/course-outlines>

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **Thursday, January 21, 2021**. Last day add/swap a course is **Friday, January 22, 2021**. The last day to withdraw from this course is **Thursday, April 15, 2021** <https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>