



UNIVERSITY OF  
CALGARY

**Department of Psychology**  
**Psychology 425 – Human Factors**  
**Fall 2009**

<b>Instructor:</b>	Dr. Jeff Caird	<b>E-mail:</b>	<a href="mailto:jkcaird@ucalgary.ca">jkcaird@ucalgary.ca</a>
<b>Office:</b>	Admin. 222	<b>Lecture Days/Time:</b>	MWF 11–11:50 am
<b>Office Hours:</b>	M, W: 10:30 a.m. or by appointment	<b>Lecture Location:</b>	SH 274
<b>Telephone:</b>	220-5571		
<b>TA:</b>	Andrew Mayer	<b>E-mail:</b>	<a href="mailto:akmayer@ucalgary.ca">akmayer@ucalgary.ca</a>
<b>Office:</b>	Admin. 067	<b>Lab Days/Time:</b>	LAB B01: T 9-10:50 am, A 248 LAB B02: R 1-2:50 pm, A 248
<b>Office Hours:</b>	TBA	<b>Lab Location:</b>	A 248
<b>Telephone:</b>	220-5910		

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### **Course Description**

This course surveys the theory and data pertaining to the relationships between human and machine behavior. A research paper is an integral part of this course.

### **Prerequisite**

Psychology 312 – Experimental Design and Quantitative Methods for Psychology

### **Topics to be covered:**

1. Introduction and Historical Context
2. Research & Evaluation Methods
3. Sensory Systems
4. Cognition & Decision Making
5. Displays & Controls
6. Anthropometry & Workplace Design
7. Stress & Workload
8. Accidents and Human Error
9. Lifespan Human Factors
10. Transportation Human Factors
11. Medical Human Factors
12. Technosophy & Human Factors

**Texts:** (Available at the Bookstore and online.)

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

Wickens, C. D., Lee, J., Lui, Y., & Gordon-Becker, S. (2004). *An Introduction to Human Factors Engineering* (2<sup>nd</sup> ed.). Upper Saddle River, N.J.: Pearson Education.

## **Evaluation**

### **Examinations:**

- 1) An essay quiz will be given on **September 28th (M)** that covers Vicente (2003).
- 2) The mid-term exam on **October 9th (F)** will cover readings and lectures through Oct. 7th (W).
- 3) The final exam will stress the final half of the course readings and lectures, however, a portion of it will be cumulative (e.g., usability, sensation and perception, etc.). The final exam will be scheduled by the Registrar.
- 4) The format of exams is approximately 60% multiple choice and 40% essay. Exams are closed book. The weighting of each quiz and exam is indicated below.

### **Laboratories:**

Approximately five laboratories assignments are required and comprise 25% of the final grade. The TA will provide a detailed laboratory handout that outlines each of the laboratories and marking expectations. Students must achieve a passing grade on both the class and lab components to pass this course.

### **Written Papers:**

A major written paper is part of the course requirements. A paper proposal is due during lab on Feb. 25 or 26th. The paper proposal should be structured into a one-page outline of the topics that are to be addressed in the review. The T.A. 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 (5.0) formatted papers shall not exceed 15 pages inclusive of references. Papers are due **November 27th (F) at 4:00 p.m. No exceptions.** I will not accept emailed papers. Students will give a presentation of their paper for about 5 minutes in class (**Nov. 27<sup>th</sup>, 30<sup>th</sup> and Dec. 2nd, 4th**). The presentation should cover the topic reviewed and the important conclusions reached.

**Distribution of Grades:**

Laboratory Assignments	25%
Quiz	5%
Paper	25%
Mid-term Exam	15%
Final Exam	30%
Total	100%

Feedback will be liberally provided so that you will know how you are performing in the class. For example, each component will be assigned a numerical score and a letter grade (e.g., 171 out of 200 points for a B on the mid-term).

**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.

**IMPORTANT Class Policies:**

- 1.) Your laboratory reports and research papers are due on the days listed. Late assignments will not be accepted. Exam make-ups and late assignments will be considered for "university valid" excuses and only with sufficient documentation. Make-up exams will be essay only and more difficult than the exam given to the whole class.
- 2.) Laboratories are to be handed to the instructor or placed in the green box outside A275 prior to the due date and time. The written paper must be submitted as hardcopy and by email forms. No late assignments will be accepted (i.e., a 0 will be assigned).
- 3.) When questions arise about a particular laboratory, paper, or exam score, a student must discuss their work with the instructor or T.A. within two weeks after it has been returned. Failure to pick-up assignments when they are returned is not a valid excuse. After two weeks re-evaluation will not be considered.
- 4.) Any tape recordings of lectures must be approved by the lecturer and students in this course may be asked to participate in departmentally approved studies.

### Schedule of Lecture Topics and Assigned Readings:

Topic	Reading
History/Intro	Chapter 1
Research Methods	Chapter 2
Design and Evaluation Methods	Chapter 3
Usability Engineering	
Visual Sensory Systems	Chapter 4
Audition, Tactile, Vestibular	Chapter 5
Cognition/Attention	Chapter 6
<b>Midterm</b>	<b>Oct. 9<sup>th</sup> (F)</b>
Decision Making	Chapter 7
Displays	Chapter 8
Controls	Chapter 9
Anthropometry/Workspace Design	Chapter 10
Stress and Workload	Chapter 13
Human Error/ Medical HF	
Aging HF	
Transportation HF	
Papers Due: <b>Nov. 27<sup>th</sup> (F) @ 4:00 p.m.</b>	Final Examination: <b>TBA</b>

### Important Dates:

No Labs	Sept. 8 <sup>th</sup> and 10 <sup>th</sup>
Last day to get a refund	Sept. 18 <sup>th</sup> (F)
Last day to change registration	Sept. 22 <sup>nd</sup> (T)
<b>Quiz</b>	<b>Sept. 28<sup>th</sup> (M)</b>
<b>Midterm Exam:</b>	Oct. 9 <sup>th</sup> (F)
<b>Paper Proposals Due:</b>	Oct. 22 <sup>nd</sup> and 24 <sup>th</sup> (Scheduled In Lab.)
Reading Days (No lecture)	Nov. 11 <sup>th</sup> to 15 <sup>th</sup> (No Lectures or Labs.)
<b>Papers Due:</b>	Nov. 27 <sup>th</sup> (F) @ 4:00 p.m.
<b>Paper Presentations:</b>	Nov. 27 <sup>th</sup> , 30 <sup>th</sup> , Dec. 2 <sup>nd</sup> , 4 <sup>th</sup> (Scheduled)
Last Day to Withdraw/Last Lecture	Dec. 8 <sup>th</sup> (T)
<b>Final Exam</b>	To be scheduled by Registrar's office

### 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 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 fourteen (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.

### **Course Credits for Research Participation**

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 7<sup>th</sup>, 2009**.

### **Student Organizations**

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in the Admin. building, room 170 or may be contacted at 220-5567.

**Student Union VP Academic:** Phone: 220-3911 [suvpaca@ucalgary.ca](mailto:suypaca@ucalgary.ca)

**Student Union Faculty Rep.:** Phone: 220-3913 [socialscirep@su.ucalgary.ca](mailto:socialscirep@su.ucalgary.ca)

### **Important Dates**

The last day to drop this course and **still receive a fee refund** is **Sep 18<sup>st</sup>, 2009**. The last day to withdraw from this course is **Dec 8<sup>th</sup>, 2009**.