

PSYCH 273, FALL 2021
SEMINAR IN HUMAN FACTORS
Dr. Anthony D. Andre

Instructor: Dr. Anthony D. Andre
Classroom: DMH 150
Class Day/Time: Tuesdays: 4:00pm-6:40pm
Phone: (408) 966-9355 (cell)
Email: andre@interface-analysis.com | 800usability@gmail.com
Office Location: By Appt via Tel or Zoom
Office Hours: By Appt
Textbook: Engineering Psychology & Human Performance, 4th Edition. [Christopher D. Wickens, Justin G. Hollands, Raja Parasuraman, Simon Banbury]
Prerequisites: Psychology or HF/E Grad Program, Psych 173/135/158.



Technology Requirements

You will need reliable access to the internet to access Canvas and Zoom (when needed) and to receive notifications and e-mails about the course. Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas site. You are responsible for regularly checking with the messaging system through one.sjsu.edu. I recommend using the Canvas student app on your smartphone as well.

Class Type

Class is live with occasional live Zoom or asynchronous lectures. Always assume class is live and in person unless I inform you otherwise.

Communication

Never hesitate to contact me if you have any question or need. Email is best, but if urgent, don't hesitate to call my cell phone.

Class Recordings and Lecture Files

Any class lecture files or recordings are my property and copyright. Neither can be shared, posted, published, presented, uploaded, or otherwise used for any purpose other than to study for the course (and for later professional reference) or by any person other than the student.

Course Description

This course is designed to provide you with a survey of theory, research, and application in human factors, as applied to the design of consumer products, software applications and complex systems. A major focus of this course is on ways to design new technology that is easy to learn and use by incorporation of usability principles and guidelines. The textbook and

lectures will be the primary sources of information in the course, but a good deal of understanding must also come from each student's thoughts and insights on the everyday systems and products with which they interact. The course primarily reviews the “information processing” approach to Human Factors—referred to in the textbook as Engineering Psychology. We cover the human information processing system and how to apply our understanding of this system to the presentation of information and overall user experience design of various product and systems. In addition, we will discuss contemporary human factors issues such as automation, IoT, virtual reality and more. Throughout the course students will be exposed to real-world examples of universal usability principles across a variety of products and domains.

Learning Objectives

- Students will have a clear understanding of the capabilities and limitations of human information processing and how to apply this understanding to user interface and user experience design.
- Students will learn several universal usability principles and be able to apply these principles toward evaluating and designing products and systems for ease of use.
- Students will learn how to analyze the usability of a product and how to write up this analysis as a usability heuristic evaluation report.

Course Requirements and Assignments

Students will conduct one large-scale usability evaluation project, complete several small assignments, and take a final exam. The project requires students to conduct a human factors/engineering psychology evaluation (or audit) of an assigned product and to produce a written report.

Grade Breakdown

Assignment	Percentage of Final Grade
Assignments	15%
Usability evaluation project	40%
Mid-Term exam	20%
Final exam	20%
Class participation and contributions	5%

Grading Scale

% Score	Grade
93%+	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-

77-79%	C+
73-76%	C
70-72%	C-
69% and lower	D-F

Dropping and Adding

Students are responsible for understanding the policies and procedures about Adds, drops, academic renewal, etc. Information on add/drops are available at <http://info.sjsu.edu/web-dbggen/narr/soc-fall/rec-298.html>. Information about late drop is available at <http://www.sjsu.edu/sac/advising/latedrops/policy/> . Students should be aware of the current deadlines and penalties for adding and dropping classes.

Attendance

I expect you to attend all classes. If you need to miss a class, please let me know by email and then obtain notes from another student.

Participation

Participation in class discussions, breakout rooms and exercises is very important. If you are not participating enough in the class discussions, or asking questions, I will let you know.

Classroom/Zoom Protocol

I expect students to approach class in a professional manner and to comply with the following:

- Please be on time to class.
- When in a Zoom meeting, please enter your actual name in your Zoom account so that it shows on the screen. Do not show anything but a picture of yourself (no cartoons, anime, other content).
- Please be respectful and courteous of others at all times.
- Please don't come to class if you are sick or have symptoms suggestive of being sick.

Review and Preparation Activities

In addition to engagement with the learning environment of the classroom, you will be required to independently prepare yourself for future classes by various out of class review and preparation activities. The university definition of a credit hour suggests that "Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus."

Late work

- All work must be turned in on time. All assignments will be penalized 20% for every day they are late.

- There are no makeup exams, except for unplanned emergencies.

Disabilities

- Please inform me of any known disabilities or special needs/considerations at the start of the semester and prior to September 1, 2021. Please don't hesitate to discuss any form of need or accommodation with me.
- If a special need or accommodation emerges during the semester, please inform me immediately.

University Policies

Academic integrity

Academic Integrity

I do not tolerate any forms of academic dishonesty in my courses. I take issues of academic dishonesty very seriously and pursue disciplinary action rigorously, so please take extra care to avoid this sort of unpleasant situation. Any instances of cheating on exams results in an automatic 0 for the exam. Plagiarized assignments automatically receive a score of 0. I reserve the right to fail a student in the course if the academic dishonesty transgression is particularly severe. All instances of academic dishonesty are reported to the Office of Student Conduct and Ethical Development (SCED). Students may appeal any accusations of cheating or plagiarism to SCED. Your commitment as a student to learning is evident by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all of your academic coursework. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the [Accessible Education Center \(AEC\)](http://www.sjsu.edu/aec) at <http://www.sjsu.edu/aec> to establish a record of their disability.

COURSE SCHEDULE
(subject to modification)

DATE	TOPIC	READINGS/MATERIAL DUE
8/24	Intro to Engineering Psychology -Take Home Assignment #1	Chapters 1-2
8/31	<i>Hand in Assignment #1</i> Attention in Perception -Assign Major Evaluation Project Topic	Chapter 3
9/7	Spatial Displays / Spatial Cognition	Chapter 4-5
9/14	Navigation Usability Evaluation: Process and Techniques	Chapter 5
9/21	Software and Web Usability Principles	
9/28	Memory	Chapter 6
10/5	NO CLASS: Midterm – Online via Canvas	Midterm Exam
10/12	Decision Making/Attention	Chapter 7
10/19	Language and Communications	
10/26	Usability Evaluation Reporting Business Rules/Constraints Analyses -Take Home Assignment #2	
11/2	Human Behavior/Habits/Fallibility Decision Making	Chapter 8
11/9	<i>Hand in Assignment #2</i> Human Error/Selection of Action	Chapter 9
11/16	Multitasking/Divided Attention	Chapter 10
11/23	Mental Workload	Chapter 11
11/30	Automation and Smart Interfaces Final Exam Review Final Report Q&A	Chapter 12
12/6		Final Report Due by Noon PST
12/9	Final Exam - Online via Canvas	Final Exam