



## Syllabus for SIE 410A Human Factors & Ergonomics in System Design

**Description of Course:** Students who take this course will become familiar with the basic concepts, methods, principles, and skills used in human factors and ergonomics design. Consideration of human characteristics in the requirement determination for the design of systems, organizations, facilities, processes, and products to enable human-centered design which considers human abilities, limitations, and acceptance.

### Learning outcomes:

- Learn basic but core concepts in human factors and ergonomics including human perception, cognition, motor control etc.
- Gain knowledge in applying human factors and ergonomics in system design (e.g., display, user interface, workstations etc.)
- Develop skills in task analysis with techniques common to human factors and ergonomics
- Gain experience with the human factors and ergonomics design process
- Enhance written communication skills through analysis and reporting in homework assignments
- Consider ethical issues to protect people

This class is taught in the in-person modality at the Tucson Main Campus. A synchronous Zoom link will be provided for those students who are enrolled from the Yuma Campus and for those who were previously approved for the online section of the course.

### ● Class meetings:

- In-person meeting times: M/W 4:30 pm to 5:45 pm

### ● Illness or potential illness:

- If you feel sick or may have been in contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.
- Notify your instructor if you miss an assignment deadline or class.
- Non-attendance for any reason does **not** guarantee an automatic extension of due date or rescheduling of examinations/quizzes/homework assignments/etc.
  - Please communicate and coordinate any request directly with your instructor.
- If you must miss the equivalent of more than one week of class, you should contact the Dean of Students Office [DOS-deanofstudents@email.arizona.edu](mailto:DOS-deanofstudents@email.arizona.edu) to share documentation about the challenges you are facing.

### ● UA Syllabus policies: <https://catalog.arizona.edu/syllabus-policies>

- **Academic advising:** If you have questions about your academic progress this semester, please reach out to your academic advisor ([Advisors By Major](#)). Contact the Advising Resource Center (<https://advising.arizona.edu/>) for all general advising questions and referral assistance. Call 520-626-8667 or email to [advising@arizona.edu](mailto:advising@arizona.edu).

- **Life challenges:** If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The [Dean of Students Office](#) can be reached at (520) 621-2057.



- **Proven stress busters** (ways to increase your resiliency):
  - **Sleep** 7 to 9 hours each night
  - **Eat healthy** less processed foods, limiting sugar, fat, and alcohol
  - **Stay active** target moderate activity 30 minutes at least five times per week
  - **Stay connected** with family and friends for support, do fun activities together
  - **Engage in relaxation response inducing activities** such as:
    - Meditation, prayer, guided imagery, focused breathing, Yoga, Tai Chi etc.
- **Physical and mental-health challenges:** If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520) 621-9202. For After-Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.
- **Use of AI Tools or Software Applications:** In this course, any and all uses of generative artificial intelligence (AI)/large language model tools such as ChatGPT, Dall-e, Google Bard, Microsoft Bing, etc. will be considered a violation of the Code of Academic Integrity, specifically the prohibition against submitting work that is not your own. The same applies to the use of any software tools/applications/external websites not specifically authorized by the instructor. This applies to all graded activities in the course, including written homework assignments, quizzes, and exams. The following actions are prohibited:
  - entering all or any part of an assignment statement, quiz questions, or test questions as part of a prompt to a large language model AI tool (or any other unauthorized software tool);
  - incorporating any part of a response written by AI or any other unauthorized software tool into an exam/quiz/assignment
- **Exams and quizzes:** All quizzes and exams will be on D2L. All quizzes and exams are open note (your own notes only) and open book. Absolutely no online/web/cloud-based resources may be utilized during a quiz or exam, aside from our course D2L site. Use of any software not pre-approved by the instructor or generative artificial intelligence tools is also not permitted for use on quizzes or exams. Your quiz grade will be the best five of the six quizzes. Quizzes are all weighted the same - 5% of your total grade for each (25% combined). The Final Exam is just on chapters 10 through 18, it is not cumulative. All quizzes and the Midterm Exam will be taken by all students during assigned class meeting times and meeting places. The Midterm and Final Exams are each 24% of your total grade (48% combined). The Final Exam will be taken by all students during the assigned exam time, per the University's Final Exam Spring 2025 Schedule - currently scheduled for Friday May 9, 2025 at 3:30 PM.
- **Individual Homework:** Each student is required to complete 4 homework assignments to gain practice and experience using evaluation methods presented in class. Use provided format (we will review this before you start the first project). Late homework will be penalized one letter grade per day (e.g., homework submitted one day late that would have scored "A" will be given a "B"). Homework needs to be uploaded in D2L as a single file.
- **Flash cards:** 5% of your grade will come from turning in (uploading photos of both card sides onto D2L) 5 sets of hand-written flash cards by midnight the day before each quiz (which will cover the previous 3 chapters). Late submissions will not be accepted. For each chapter identify



at least 5 terms or concepts that you want to understand better. Write the term on one side of a 3x5 inch card and write the definition on the back. For the best results, periodically review the cards **before** each quiz and exam (don't just review your notes the night before the exam or quiz).

- **Participation:** 6% of your grade will come from class participation. We have about 15 planned activities. You need to attend 12 activities to get full credit. On participation days, we will ask you to take out a piece of paper, to do a practice analysis or activity. There will be no penalty for incorrect answers or errors in calculations. After we complete the activity, take a photo, and upload it to D2L before midnight on the day of the activity. Late submissions will not be accepted.
- **Equipment and software requirements:** For this class you will need daily access to the following hardware: laptop or web-enabled device with webcam and microphone; reliable internet signal.
- **Reading our textbook:** Students are expected to purchase and read the course textbook. We will cover all 18 chapters sequentially. Hopefully, there will be at least one guest speaker on Universal Design and possibly other topics. Electronic copies of the textbook are available at a greatly reduced price.

	<p>Textbook:</p> <p>Designing for People, 2017 by John D Lee, Christopher D Wickens, Yili Lui, and Linda Ng Boyle 3rd Edition</p>
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**Course grading matrix:**

Type	Number	Best	Value
Quiz's	6	5	25
Homework	4	4	16
Exams	2	2	48
Participation	15	12	6
Flash cards	6	5	5
			100 Total

- Office hours and contact info:
  - Michael E. Tews, BS, MS, Adjunct Lecturer
    - [mtews@arizona.edu](mailto:mtews@arizona.edu)
    - Office hours: after class or by appointment on Fridays



- Please see the detailed class schedule which describes what we will do on each assigned class session attached separately (\* ***Subject to changes and adjustments***).
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