



## Syllabus for SIE 410 Introduction to Human Factors and Ergonomics

**Description of Course:** Students who take this course will get 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 team projects
- Consider ethical issues to protect people

This class is taught in the flex in-person modality. This class can be completed remotely.

### ● Class meetings:

- In-person meeting times: M/W 4:30 pm to 5:45 pm
- Classes will be recorded on zoom and posted on D2L.
- You may attend in person or virtually. You do not need permission to attend virtually. You can change your attendance method (mostly attending in person and occasionally attending remotely as needed). In person attendance is recommended.

### ● 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 will 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/reports/assignments.
  - 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.
- Voluntary, and free [COVID-19 testing](#) is available for students on Main Campus.
- COVID-19 vaccine is available for all students at [Campus Health](#).
- Visit the [UArizona COVID-19](#) page for regular updates.

- **Academic advising:** If you have questions about your academic progress this semester, please reach out to your academic advisor (<https://advising.arizona.edu/advisors/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.
- **Exams and quizzes:** All quizzes and exams will be on D2L. All quizzes and all exams are open note and open book. Your quiz grade will be the best five of the 6 quizzes. The final exam is just on chapters 10 thru 18, it is not cumulative.
- **Group project reports:** You are required to work with your assigned team to complete at least 3 of 4 group projects on your own time to gain practice and experience using evaluation methods presented in class. The class will be randomly divided into 5 person teams. Use provided format (we will review this before you start the first project). Late reports will be penalized one letter grade per day (e.g., report submitted one day late that would have scored “A” will be given a “B”). Only one person in the group needs to upload the team’s report in D2L.
- **Flash cards:** 5% of your grade will come from turning in (uploading photos of both sides onto D2L) 5 sets of 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 best results, periodically review the cards **before** each quiz and exam (don’t just review your notes the night before the exam).
- **Participation:** 5% of your grade will come from class participation. We have about 15 planned activities. You need to attend 10 activities to get full credit. On a participation day, I 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 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.
- **Class Recordings:** These will be available on D2L. You are encouraged to attend each class and participate. If you can’t attend, then watching the recorded class is the next best option.
- **Reading our textbook:** You are strongly encouraged to buy and read our textbook. We will cover all 18 chapters sequentially. Hopefully, there will be a guest speaker on Universal Design. Electronic copies are available at a greatly reduced price.
  - Designing for People, 2017 by John D Lee, Christopher D Wickens, Yili Lui, and Linda Ng Boyle 3rd Edition



Course grading matrix:

Type	Number	Best	Value
Quiz's	6	5	25
Reports	4	3	21
Exams	2	2	44
Participation	15	10	5
Flash cards	6	5	5
			100 Total

- Office hours and contact info:
  - David D Wood, BS, MS, MSIE, CPE, CSP, Lecturer.
    - [ergodave@arizona.edu](mailto:ergodave@arizona.edu)
    - Office hours: after class or by appointment on Fridays
  - Michael Tews, BS, MS, Lecturer.
    - [mtews@arizona.edu](mailto:mtews@arizona.edu)
    - Office hours: after class or by appointment on Fridays
  - James Clisset, Graduate Teaching Assistant.
    - [jclisset@arizona.edu](mailto:jclisset@arizona.edu)
    - Office hours: Tues 5 to 6 pm or by appointment
  - Nathan Owens, undergraduate grader
    - [njwens@arizona.edu](mailto:njwens@arizona.edu)
    - Office hours: Thursday 2 to 3 pm or by appointment
- Please see our detailed class schedule which describes what we will do on each assigned class session attached separately (\* ***Subject to changes and adjustments***).