Technical Elective: Work Systems Design
Spring 2026 Syllabus

Class:

Time: Wednesday 7:20 -9:55 PM
Location: S106

Instructor:

Rong Yin, Ph.D.
Email: rong.yin@scupi.cn
Office: N416 (SCUPI new building)

TA:

Mr. Yuze Yang
Email: benben1024@outlook.com

Office hours:

Instructor:
- Right after each class in the classroom.
- Thursday 1:30 - 4:30 PM.

TA:
- TBD and by appointment
- Online via QQ Group or Tencent Meeting

Credit Hours: **3**

Notes:

- This syllabus is subject to change. Please follow updates announced during class and posted on Blackboard website. Lecture slides, reading assignments, course grades and announcements will also be provided through Blackboard.
- When emailing the instructor, please include "Work Systems Design" in the subject field of your message. Please use your university email account (student_ID_number@stu.scu.edu.cn), since emails from other accounts might be stopped by the SCU spam filter. Thanks!
- Students are responsible for all the course materials delivered in class or posted on BB. If you have to miss any classes, please make sure you get relevant information/documents/handouts from your classmates and peers.

Website & tools:

- Blackboard
- Tencent Meeting for online lectures when necessary

Course Description:

This course is designed to introduce the fundamental principles of human factors engineering and work systems design, including techniques and tools to support human centered design for work systems. Students will gain knowledge of key concepts of design considerations, such as physical and mental strength and limitation of human beings, as pointed out by the course textbook authors.

Course Objectives:

- To introduce the fundamental concepts of human factors engineering and work system design.
- To provide tools and technique to support usable work system design.
- To provide practical experience in applying human factors and ergonomic principles to improve work systems.
- To build students' critical thinking skills and problem-solving abilities in engineering problems.

Learning Outcomes:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Course Prerequisites:

N/A.

Textbook:

Designing for people: an introduction to human factors engineering (3rd ed.). Lee J. D. Wickens C. D. Liu Y. & Boyle L. N. CenterSpace. 2017

Other relevant readings posted on BB.

Assessments:

The course grade will be determined as follows:

- In-class activities and attendance: 10%
- Homework: 15%
- Project and presentation: 15%
- Midterm exam: 30%
- Final Exam: 30%

Grades:

Letter grades will be given as follows:

90.00 – 100.00 A	85.00 – 89.99 A-	80.00 – 84.99 B+	76.00 – 79.99 B	73.00 – 75.99 B-
70.00 – 72.99 C+	66.00 – 69.99 C	63.00 – 65.99 C-	60.00 – 62.99 D	0.00 – 59.99 F

Homework:

Homework will be assigned regularly and are due at the start of the next class. All work will be submitted electronically through the Blackboard. Late submission will **NOT** be accepted. Students are responsible for correctly submitting the homework through Blackboard. Typically, you will be asked to write a **QQTT**, including a **Q**uestion, a **Q**uotation, and **T**wo **T**alking points based on the assigned reading materials. More details about the QQTT will be covered in class.

If you have any problems about your grades, please discuss the issues with me within **ONE week** from the grades are given.

Projects and Presentations:

Students will form groups to work on projects and presentations. You can build groups by your own if you wish. For each project, each group is required to submit a project report that properly summarize and discuss your work and findings, as well as providing your insights on project.

Beginning date and Due date of projects will be announced shortly during our following classes. The project provides you an opportunity to apply the methodologies and skills gained in this course to analyze practical problems. Each group member is required to actively participate and contribute equally to the projects. All groups will submit their final project reports and present their projects at the end of this semester.

Exams:

There will be one midterm exam at the middle of this semester (**around week 6-8**) and one final exam at the end of this semester (**around week 12-13**). The exams will be **closed book and closed notes**. Any other materials are **NOT** allowed. If you miss an exam without prior notification, you will receive a score of "**ZERO**" for that exam except for medical emergency (with proof). Students who have not taken exams are not eligible for make-up exams. More details about the exam schedule and requirements will be covered in class. Early preparation for your exams is strongly recommended.

Class Policy:

Class attendance is expected and important for your success in this course. Not keeping up with the course will hurt your grade in a general way. Valid excuses for absence will be accepted before class. Important dates and plans will be announced during class. Each student is responsible for all assigned work in class and for maintaining awareness of all announcements posted to Blackboard and all e-mails sent to his or her SCU e-mail address. It is the students' responsibility to obtain all class materials (e.g., handouts). Video recording is prohibited during class to maintain a free discussion atmosphere. Please silence your cell phones to prevent disturbing your classmates in class.

You are free in this course to discuss any aspect of the homework with anyone, such as your classmates and your friends, but the written responses must be your own. **Please be aware that all your submissions will go through tools for plagiarism issues**. Academic dishonesty will not be tolerated.

Tentative Course Topics

No.	Week(s)	Topics	Chapters in Textbook
1	1-3	Anthropometry and Workspace Design	Chapter 12
2	4-5	Biomechanics	Chapter 13
3	6-7	Work Physiology	Chapter 14
4	8-9	Stress and Workload	Chapter 15

5	10-11	Safety and Accident Prevention	Chapter 16
6	12-14	Job Design and Training	Chapter 17
7	15-16	Some relevant human errors	Related readings