

IE410 - Human Factors and Ergonomics Project

University: Central Technical University

Course Duration: Full Year (Fall and Winter)

Instructor: Dr. Susan Lee

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Office Hours: Mondays and Wednesdays, 2:00 PM - 4:00 PM

Course Description

This course focuses on applying human factors and ergonomics principles to real-world problems. Students work in teams to design and evaluate systems, products, or environments that enhance human performance and safety. The course emphasizes hands-on experience with ergonomic assessment tools, user-centered design, and usability testing.

Learning Outcomes

By the end of this course, students will be able to:

- 1. Apply human factors and ergonomics principles to design projects.
- 2. Conduct ergonomic assessments and usability testing.
- 3. Develop user-centered design solutions.
- 4. Evaluate the impact of design on human performance and safety.
- 5. Work effectively in teams to complete a project.
- 6. Communicate project results through written reports and oral presentations.

Course Timeline and Deliverables

Fall Semester:

Date	Deliverable	Description	Weight
September 5, 2023	Team Formation and Project Proposal	Teams form and submit a proposal outlining the project scope and objectives.	10%
September 26, 2023	Ergonomic Assessment Report	Conduct an ergonomic assessment of an existing system or product.	15%
October 17, 2023	User Needs Analysis	Analyze user needs and requirements for the project.	15%
November 7, 2023	Preliminary Design Review	Presentation of initial design concepts and user feedback.	15%

Date	Deliverable	Description	Weight
December 5, 2023	Midterm Progress Report	Report on progress, challenges, and next steps.	10%

Winter Semester:

Date	Deliverable	Description	Weight
February 15, 2024	Detailed Design Document	Comprehensive design document with detailed drawings and specifications.	15%
March 20, 2024	Usability Testing Report	Report on usability testing and design iterations.	10%
April 10, 2024	Final Presentation and Demonstration	Final presentation and demonstration of the project.	10%

Grading Breakdown

- Team Formation and Project Proposal: 10%
- Ergonomic Assessment Report: 15%
- User Needs Analysis: 15%
- Preliminary Design Review: 15%
- Midterm Progress Report: 10%
- Detailed Design Document: 15%
- Usability Testing Report: 10%
- Final Presentation and Demonstration: 10%

Total: 100%

Course Policies

- **Attendance:** Regular attendance is required. More than three unexcused absences may result in a lower grade.
- **Late Submissions:** Assignments submitted late will incur a penalty of 5% per day, up to a maximum of 25%.
- **Academic Integrity:** All students are expected to adhere to the university’s academic integrity policy. Plagiarism or cheating will result in disciplinary action.

Required Materials

- Textbook: “Introduction to Human Factors and Ergonomics” by Robert Bridger
- Access to ergonomic assessment tools (e.g., REBA, RULA)
- Prototyping materials (to be specified based on project requirements)

Additional Resources

- University Library
- Human Factors and Ergonomics Lab
- Online tutorials and workshops

This syllabus provides a comprehensive overview of the IE410 course, including key elements such as learning outcomes, a detailed timeline with deliverables, and their respective weights. If you need any further details or adjustments, feel free to ask!