ÇANKAYA UNIVERSITY
DEPARTMENT OF INDUSTRIAL ENGINEERING

IE 202
WORK STUDY AND ERGONOMICS
(3 2 4) (ECTS:7)

(Co-requisite: ME210)

Spring 2026

Instructor

Assist. Prof. Dr. Çiğdem Sıcakyüz
Office: L-309
Phone: +90 312 233 1368
E-mail: csicakyuz@cankaya.edu.tr

Teaching Assistant

Kıvılcım Naz BÖKE,
Office: L-306
Phone: +90 312 233 1376
E-mail: knazboke@cankaya.edu.tr

Course Schedule

(Will be announced later)

Office Hours

(Will be announced later)

Course Description

This course is designed to teach the fundamentals of Work Study and Ergonomics, which are both used in the examination of human and work in all their contexts. The topics covered in the course are introduction, problem solving tools (recording and analysis tools, activity charts, line balancing), operation analysis, manual work design (principles of motion economy, motion study), time study (performance rating and allowances), standard data and formulas, work sampling, predetermined time systems, job analysis, job evaluation and compensation, design (workplace, equipment, and tool), work environment design.

Corequisites: ME 210

Class meeting hours

There will be **lecture weeks** and **lab weeks**. Class meeting hours will depend on the week.

LECTURE	Monday	Tuesday	Wednesday	Thursday	Friday
09:20					
10:20				**Sec 03-04 LEC. (LB05)**	
11:20				**Sec 03-04 LEC. (LB05)**	
12:20				**Sec 03-04 LEC. (LB05)**	
13:20					
14:20	**Sec 01-02 LEC. (HA03)**				
15:20	**Sec 01-02 LEC. (HA03)**				
16:20	**Sec 01-02 LEC. (HA03)**				
17:20					

LAB	Monday	Tuesday	Wednesday	Thursday	Friday
09:20					**Sec 01 LAB. (NB01-B)**
10:20					**Sec 01 LAB. (NB01-B)**
11:20					**Sec 04- LAB. (NB01-B)**
12:20					**Sec 04-LAB. (NB01-B)**
13:20				**Sec 02-03 LAB. (NB01-B)**	
14:20				**Sec 02-03 LAB. (NB01-B)**	
15:20					
16:20					
17:20					

Textbook

1. M. P. Groover, Work Systems and the Methods, Measurement and Management of Work, Pearson Prentice Hall, 2007
2. B. Niebel and A. Freivalds Methods Standards and Work Design, McGraw-Hill, 2002.

Supplementary course material

1. R. L. Brauer, Safety and Health for Engineers (Industrial Health and Safety), Wiley, 1993.
2. R. M. Barnes, Motion and Time Study: Design and Measurement of Work, Wiley, 1980.
3. B. W. Niebel, Motion and Time Study, Irwin, 1992.
4. M. S. Sanders and E. J. McCormick, Human Factors Engineering and Design, McGraw-Hill, 1993.

Tentative Course Schedule

Week	Topic	Textbook chapter (s)
1	Introduction: Methods, Standards, and Work Design	1
2	Manual Work and Worker -Machine Systems	2
3	Work Flow and Batch Processing	3
4 (Lab#1)	Manual Assembly Lines	4
5 (Lab#2)	Methods Engineering and Operations Analysis	8
6	Charting and Diagramming Techniques for Operations Analysis	9
7	Motion Study and Work Design	10
8 (Lab#3)	Direct Time Study	13
9	Predetermined Motion Time Systems	14
10 (Lab#4)	Work Sampling	16
11 (Lab#5)	Ergonomics and Human Factors in the Workplace	22
12	Physical Ergonomics: Work Physiology and Anthropometry	23,24
13 (Lab#6)	Physical Work Environment	25
14 (Lab#7)	Job Analysis, Job Evaluation and Compensation	29

Every student is responsible to check the page of the course, webonline.cankaya.edu.tr, regularly (at least twice a week). All the related announcements, lecture notes, grades, attendance, and other information will be uploaded.

Grading

1	Midterm	25%
2	Final Exam	30%
3	Project (Oral presentation 10% + Report 14%)	24%
4	Lab Work	21%

Group Work

Students will conduct most tasks in groups. Laboratory groups will consist of ***three students*** and maintain its members all throughout the semester. Groups for the project consist of ***six students.*** For each group work, each student will evaluate the performance of his/her group members to grade the individual performances.

Laboratory Work

A total of seven scheduled laboratory sessions will be held in weeks as announced in *Tentative Course Schedule.* Lab sessions take two hours in scheduled lab weeks. **Attendance for lab sessions is compulsory**. Every student should attend at all lab meetings at his/her regular section.

Project

Students should form a group consisting of six students and submit the project team information form to the course assistant by March 13 at 16:40. Then, you should schedule a LEGO practice hour with the course assistant and take LEGO from the course assistant at this practice hour regularly. A report should be submitted to MOODLE as a soft copy and to the course's assistant as a hard copy on May 9 at 16:40. This report should contain the explanation of the work assignments, video of your work, necessary forms (will be given) that should be filled and the results of your work. Also, you should prepare a presentation and present your work on May 17 (Saturday).

Course Attendance and NA Grade Policy

Attendance and active participation are mandatory for this course.

Attendance Requirement

- Students must attend **at least** 60% of all lectures.
- Students who fail to meet this requirement are **not eligible** to take the **final examination**.
- If such a student takes the exam, the exam will be considered invalid.
- **Medical reports** are counted as **absences** and **do not exempt** students from the **attendance** requirement.

Laboratory Requirement

- Students must attend **at least** 80% of laboratory (LAB) sessions.
- Students attending less than 80% **cannot** take the final examination.

NA (Not Attended) Grade Conditions

The following situations may result in receiving an NA grade:

- Attendance below the required 60% (lecture) or 80% (LAB) thresholds
- Failure to participate in project work, including:
  - Not joining or forming a group
  - Not being listed in the group report
  - Not contributing to the written work
  - Not participating in the oral presentation

Make-up Policy

A make-up examination for the midterm or final exam will only be given under exceptional circumstances (such as serious health problems). The student must contact the instructor as early as possible and provide proper documentation (e.g., a **medical report certified** by Çankaya University's Health Center). A make-up exam might contain different types of questions than the regular exam.

Classroom Recording Policy

Students are expected to maintain a professional and respectful environment in class. Disruptive behavior, including the use of mobile devices for non-course-related purposes, will not be tolerated. Participation in discussions and problem-solving exercises is highly encouraged to enhance learning.

You are responsible for all announcements made in class and on the class web page, as well as printing the lecture notes and other cited materials from the class web page and other sources

Audio recording, video recording, or taking photographs during class is not permitted without the explicit permission of the instructor.

Unauthorized recording or sharing of any class content, including lectures, slides, discussions, or images of the instructor or students, is strictly prohibited due to privacy and data protection considerations.

Any violation of this policy may result in the recording being deleted and the activity being treated as misconduct.

Use of Artificial Intelligence (AI) Tools

During exams, the use of electronic devices (mobile phones, tablets, smartwatches, or any internet-enabled devices) is strictly prohibited. Therefore, the use of AI tools is automatically not permitted during examinations.

For homework and the project, limited use of AI tools (e.g., ChatGPT or similar systems) is permitted only for support purposes such as brainstorming, language editing, or conceptual clarification. AI tools must not be used to generate solutions, answers, reports, or any content that is submitted as the student's own work.

Any AI assistance must be clearly disclosed. Undisclosed or excessive AI-generated work will be treated as academic dishonesty.

If unauthorized AI use is detected, the assignment or project will be considered invalid, receive a grade of zero, and may be subject to disciplinary action.

Honesty Policy

Academic integrity is expected of students of Cankaya University at all times, whether in the presence or absence of the faculty. All students should declare their understanding and belief in the Honor Code for the examinations and assignments. This statement is a reminder of your obligation as a student to uphold honesty in all work submitted and exams taken in this course and all others.

If you conduct any dishonest act during an examination or for the completion of an assignment (i.e., cheating on an exam, using any extra material that you are not allowed to use during an exam, copying material off of someone else's homework or assignment, using solution keys from previous years, copying material from published and electronic sources without paraphrasing and/or citing appropriately), you will get a credit of zero on that particular exam or assignment. Necessary disciplinary action, as required by the University's rules, will also be taken.

Honor Code Agreement and Submission

All students must acknowledge and agree to the course rules and academic integrity policy by submitting a signed Honor Code form.

Students are required to:

1. Handwrite the Honor Code statement
2. Sign it using a blue-ink pen
3. Upload the file to WebOnline by the end of the Add–Drop week

Failure to submit the signed form may result in being considered non-compliant with course requirements.

Students involved in any dishonest act will receive a grade of zero for the relevant exam or assignment

Naming of Honor Code file

IE326_HonorCodeStatement_NameSurname_StudentID_2026

Changes to the Syllabus

The instructor reserves the right to make changes to the syllabus as necessary. Any changes will be announced on the course website.