

TED UNIVERSITY
CE451 CONSTRUCTION ENGINEERING and MANAGEMENT
COURSE INFORMATION

2016-2017 Fall Semester

Instructor: Dr. Metin Arıkan; metin.arikan@tedu.edu.tr; room: D308 phone: 312 585 0207

Office Hours: Mondays: 11:30-12:30, Wednesdays: 10:30- 11:30

Assistant: Onur Doğan onur.dogan@tedu.edu.tr room: G204 phone: 312 585 0192

Class hours: Mondays at 13:00-15:50 in room A329

Prerequisites: None **Credits:** 3 (3+0+0) /ECTS: 5

Level of course: BS

Course Description : Introduction to construction project management: Parties and their roles, stages, attributes and goals of construction projects. Quantity measurement calculations: example calculations of a house. Construction machinery, equipment and plants: selection criteria, hourly cost determination and output analysis of excavators. Professional responsibility and ethics, productivity, quality, health and safety issues. Environmental and economic impacts of construction industry.

Course Learning Outcomes:

- 1) Explain stages and parties in a construction project, and compare the roles of the parties.
- 2) Prepare bill of quantities and estimated cost of a housing project.
- 3) Analyze hourly cost of construction machines.
- 4) Plan an excavation work by selecting proper excavating machines and hauling trucks with minimum cost.
- 5) Plan the quality assurance and site safety programs for construction projects.
- 6) Relate to acting as a professional engineer.
- 7) Consider environmental and economic effects of construction projects.

Expected Student Work Load: 139 hours

Textbook: There are no specific textbooks for this course

Reference Books:

Lecture Notes by the instructor.

Hakediş Düzenlenmesi/Chapters 6, 7 and 9 by Ünal Akçalı, 2011.

Construction Methods and Management by S.W. Nunnally.

Course Schedule

Weeks / Date		Topics
1	Sep 26-Sep 27	Intr. to constr. proj. man.: parties and their roles, stages, attributes and goals of construction projects. Tasks of management.
2	Oct 03-Oct 04	Quantity measurement calculations.
3	Oct 10-Oct 11	Quantity measurement calculations.
4	Oct 17-Oct 18	Quantity measurement calculations.
5	Oct 24-Oct 25	Unit price analysis and project cost estimation.
6	Oct 31-Nov 01	Midterm Exam-1
7	Nov 07-Nov 08	Construction machinery: selection criteria, hourly cost determination.
8	Nov 14-Nov 15	Construction machinery: Output analysis of excavators and hauling trucks.
9	Nov 21-Nov 22	Professional responsibility and ethics.
10	Nov 28-Nov 29	Midterm Exam-2
11	Dec 05-Dec 06	Productivity and quality management of construction projects.
12	Dec 12-Dec 13	Health and safety issues.
13	Dec 19-Dec 20	Environmental and economic impacts.
14	Dec 24-Dec 25	Review of the course.

Final Exam Dates: During Jan 02- Jan 14

Resit Exam Dates:

Course Grading: Midterm Exams each 30%; Final Exam 35%; Attendance 3%,; Quiz 2%

Design Content :

- 1) Selection of construction machines (excavators and hauling trucks) for an excavation job.
- 2) Setting up quality assurance and safety programs of a construction site.

Computer Usage :**Class Policies :**

- 1) There will be two midterm exams each contributing 30% to the final grade.
- 2) There will be one final exam at the time assigned by the university administration, contributing 35% to the final grade.
- 3) There will be two unannounced quizzes each contributing 1% to the final grade.
- 4) Attendance to class discussions is required, and will be taken during the class hours contributing 3% to the final grade. Those whose attendances are less than 60% will receive a N/A grade.
- 5) There will be one make-up exam after the final exams are over for those who can not take the midterm or final exams at the scheduled time. A valid doctor's report is required to be eligible to take the make-up exam.
- 6) Students are expected to participate in class discussions and behave in a proper way in the class during the exams and quizzes. For example, no talking will be allowed if somebody is already making a contribution to the class discussion.
- 7) Students are also expected to be present in class in time.

Contribution of Course to Program Outcomes :

Topics that will be discussed in this course will be used mainly by those who will be in managing positions of a construction project. They will have to select the resources economically and use them efficiently working with different people and organizations within their organizations or outside their organizations. Therefore, they will be expected to act professionally and ethically and to observe and respect cultural differences and backgrounds of others with whom they will have to conduct business.

Assessment Procedures :

% Contribution of quizzes, midterm exams, final exam and attendance to overall grading of the student with respect to Learning Outcomes of the course

Assesment Methods	LEARNING OUTCOMES							Total
	LO.1	LO.2	LO.3	LO.4	LO.5	LO.6	LO.7	
Q1		1.0						1.0
Q2			1.0					1.0
MT1	3.0	27.0						30.0
MT2			15.0	15.0				30.0
FE	3.5	3.5	7.0	7.0	7.0	3.5	3.5	35.0
Attend.								3.0
Total	6.5	31.5	23.0	22.0	7.0	3.5	3.5	100.0

Academic Honesty :

Every individual is expected to be honest (tell the truth), keep the promises (integrity) and not violete others' rights in all aspects of the life. Therefore, students of this course is also expected to observe such values in their academic lives.