

## GAU, Faculty of Engineering

<b>Course Unit Title</b>	Construction Engineering & Management	
<b>Course Unit Code</b>	CVEN409	
<b>Type of Course Unit</b>	Compulsory, All civil engineering students	
<b>Level of Course Unit</b>	4th Year BSc	
<b>National Credits</b>	3	
<b>Number of ECTS Credits Allocated</b>	4 ECTS	
<b>Theoretical (hour/week)</b>	3	
<b>Practice (hour/week)</b>	0	
<b>Laboratory (hour/week)</b>	0	
<b>Year of Study</b>	4	
<b>Semester when the course unit is delivered</b>	7	
<b>Mode of Delivery</b>	Face to Face	
<b>Language of Instruction</b>	English	
<b>Prerequisites and co-requisites</b>	-	
<b>Recommended Optional Programme Components</b>	Basic background in civil engineering practice	
<b>Objectives of the Course:</b>		
<ul style="list-style-type: none"> <li>➤ To introduce students a general picture of the construction industry together with the contemporary management topics.</li> <li>➤ To provide students with basic information on principles of construction project management and increase their awareness on major tasks of a construction manager.</li> <li>➤ To present some of the techniques and methods used during the management of a construction project such as network analysis, cost estimating techniques, hourly output estimation of equipment etc.</li> <li>➤ To help students understand the roles and responsibilities of all parties involved in a construction project, basic phases of a construction project and the way different parties work together to increase performance in a construction project.</li> <li>➤ To give students brief information about the Turkish construction industry and Turkish practice giving reference to current rules and regulations (eg. Health and Safety Regulations for Public Works).</li> <li>➤ To increase the awareness of students on the issues of quality, health and safety, professional responsibility, engineering ethics etc. and the environmental and economic impacts of the construction industry.</li> </ul>		
<b>Learning Outcomes</b>		
When this course has been completed the student should be able to		Assesment.
1	Describe a general picture of the construction industry together with contemporary management topics	1
2	Describe phases of construction projects and functions of construction project managers	1,2,3
3	Assess project delivery systems describing the roles and responsibilities of all parties involved in a construction project	1,2,3,4
4	Apply methods and techniques used for quantity take-off and cost estimation	2,3,4
5	Apply methods used for scheduling and network analysis	1,2,3,4
6	Understand the issues of quality, health and safety and their implications	1,2,3,4
7	Calculate equipment hourly output and cost	1,2,3,4
Assesment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work		
<b>Course's Contribution to Program</b>		
		CL
1	Ability to understand and apply knowledge of mathematics, science, and engineering	4
2	Ability to design and conduct experiments as well as to analyze and interpret data	1
3	Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct	1
4	Ability to apply systems thinking in problem solving and system design	4
5	Knowledge of contemporary issues while continuing to engage in lifelong learning	2
6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	4
7	Ability to express their ideas and findings, in written and oral form	3
8	Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints	4
9	Ability to approach engineering problems and effects of their possible solutions within a well structured, ethically responsible and professional manner	4

10	Ability to manage time and resources effectively and efficiently while carrying out civil engineering projects	5
11	Ability to combine knowledge from different areas of civil engineering for problem solving and system design with an ethical and sustainable approach	5
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)		

Course Contents		
Week		Exams
1	Introduction to course	
2	Construction project management and construction industry	
3	Project delivery systems	
4	Cost estimating and bidding	
5	Cost estimating and bidding	
6	Construction project planning	
7	Construction project planning and Managing quality	
8	Introduction to MS Project	
9		Mid Term
10	Construction machinery and equipment	
11	Construction machinery and equipment	
12	Construction machinery and equipment	
13	Managing health and safety	
14	Managing Health and Safety	
15		Final

#### Recommended Sources

##### Textbook:

- Harris, F., and McCaffer, R. (2001), “Modern Construction Management”, 5th Edition, Blackwell Science, UK.
- Halpin, D. W. (2006), “Construction Management”, 3rd Edition, John Wiley and Sons, USA.
- Smith, N. J. (1996), “Engineering Project Management”, Blackwell Science Publications, UK.
- Peurifoy, R.L., and Schexnayder, C. J. (2002), “Construction Planning, Equipment, and Methods”, 6th Edition, McGraw-Hill Higher Education, International Edition.

##### Supplementary Material (s):

#### Assessment

Attendance	%0	
Laboratory	%0	
Midterm Exam (Written)	%35	
Project/Presentation (Written/Oral)	%15	
Final Exam (Written)	%50	
Total	%100	

#### ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including the Exam week)	15	3	45
Labs and Tutorials	-	-	-
Assignments	-	-	-
Project/Presentation/Report Writing	1	30	30
E-learning Activities	-	-	-
Quizzes	-	-	-
Midterm Examination	1	14	14
Final Examination	1	22	22
Self Study	14	3	42
Total Workload			153

Total Workload/30 (h)	5.1
ECTS Credit of the Course	5