

COURSE INFORMATION					
Course Title	Code	Semester	L+P+L Hour	Credits	ECTS
ADVANCED PROJECT PLANNING	CE 562	-	3+0+0	3	10

Prerequisites	
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Language of Instruction	English
Course Level	Master's Degree (Second Cycle Programs)
Course Type	Departmental Elective
Course Coordinator	Assist. Prof. Dr. Özgür Köylüoğlu
Instructors	Assist. Prof. Dr. Özgür Köylüoğlu
Assistants	-
Goals	The goal of this course is to provide the students with the tools for time and cost planning and control.
Content	Planning for design and construction; data collection for time and cost estimations; categorising of works; scheduling; feasibility; preparation of bill of quantities; cost estimates; project cash flow and financial management; resource planning; analysis of local conditions and risk analysis methods; time control.

Course Learning Outcomes	Program Learning Outcomes	Teaching Methods	Assessment Methods
1) Ability to describe estimating methods, nature of costs and price variations	8, 9, 10, 11, 12	1,2	A, B
2) Ability to develop cash flow and describe importance of cash flow management	8, 9, 10, 11, 12	1,2	A, B
3) Ability to implement time and resource scheduling methods	1, 2, 7, 8, 9, 10, 11, 12	1,2	A, B, C
4) Ability to implement project control calculations	1, 2, 7, 8, 9, 10, 11, 12	1,2	A, B, C

Teaching Methods:	1: Lecture, 2: Class discussion
Assessment Methods:	A: Written Exam, B: Homework, C: Term Project

COURSE CONTENT		
Week	Topics	Study Materials
1	Introduction	Lecture Notes and Textbook
2	Estimating Methods	Lecture Notes and Textbook
3	Standard Methods of Measurement	Lecture Notes and Textbook
4	Resource Costs: Labour, Materials and Equipment	Lecture Notes and Textbook
5	1 <sup>st</sup> Midterm Exam	Lecture Notes and Textbook
6	Time Scheduling – Critical Path Method	Lecture Notes and Textbook
7	Time Scheduling –Other methods	Lecture Notes and Textbook
8	Scheduling of Other Resources	Lecture Notes and Textbook
9	2 <sup>nd</sup> Midterm Exam	Lecture Notes and Textbook
10	Risk and Scheduling	Lecture Notes and Textbook
11	The Program Evaluation Technique	Lecture Notes and Textbook
12	Cash Flow Forecasts	Lecture Notes and Textbook
13	Time Management in Practice	Lecture Notes and Textbook
14	Cash Flow Management in Practice	Lecture Notes and Textbook
15	Labor and Equipment Management in Practice	Lecture Notes and Textbook

RECOMMENDED SOURCES	
<b>Lecture Notes</b>	Notes prepared by the instructor
<b>Textbook</b>	<p><b><u>Estimating and Tendering for Construction Work</u></b>            Authors: M. Brook; Routledge, Taylor&amp;Francis, 5<sup>th</sup> Edition, 2017</p> <p><b><u>Programming and Scheduling Techniques</u></b>            Authors: T.E. Uher, A.S. Zantis, Spon Press, Taylor&amp;Francis, 2011</p> <p><b><u>Integrated Design and Cost Management for Civil Engineers</u></b>            Authors: A. Whyte, CRC Press, Taylor&amp;Francis, 2015</p>

<b>MATERIAL SHARING</b>	
<b>Documents</b>	Lecture notes delivered to the students
<b>Assignments</b>	Homeworks are returned to students after they are graded
<b>Exams</b>	Exams questions are solved if demanded

<b>ASSESSMENT</b>		
IN-TERM STUDIES	NUMBER	PERCENTAGE
Mid-terms	2	60
Assignment	6	20
Term Project	1	20
<b>Total</b>		<b>100</b>
<b>CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE</b>		40
<b>CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE</b>		60
<b>Total</b>		<b>100</b>

<b>COURSE CATEGORY</b>	Expertise Courses
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<b>COURSE'S CONTRIBUTION TO PROGRAM</b>						
No	Program Learning Outcomes	Contribution				
		1	2	3	4	5
1	Attains knowledge through wide and in-depth investigations his/her field and surveys, evaluates, interprets, and applies the knowledge thus acquired.				√	
2	Has a critical and comprehensive knowledge of contemporary engineering techniques and methods of application.				√	
3	By using unfamiliar, ambiguous, or incompletely defined data, completes and utilizes the required knowledge by scientific methods; is able to fuse and make use of knowledge from different disciplines.					
4	Has the awareness of new and emerging technologies in his/her branch of engineering profession, studies and learns these when needed.					
5	Defines and formulates problems in his/her branch of engineering, develops methods of solution, and applies innovative methods of solution.					
6	Devises new and/or original ideas and methods; designs complex systems and processes and proposes innovative/alternative solutions for their design.					
7	Has the ability to design and conduct theoretical, experimental, and model-based investigations; is able to use judgment to solve complex problems that may be faced in this process.		√			

8	Functions effectively as a member or as a leader in teams that may be interdisciplinary, devises approaches of solving complex situations, can work independently and can assume responsibility.	√			
9	Has the oral and written communication skills in one foreign language at the B2 general level of European Language Portfolio.				√
10	Can present the progress and the results of his investigations clearly and systematically in national or international contexts both orally and in writing.				√
11	Knows social, environmental, health, safety, and legal dimensions of engineering applications as well as project management and business practices; and is aware of the limitations and the responsibilities these impose on engineering practices.				√
12	Commits to social, scientific, and professional ethics during data acquisition, interpretation, and publication as well as in all professional activities			√	

#### ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Excluding the exam weeks: 13x Total course hours)	13	3	39
Hours for off-the-classroom study (Pre-study, practice)	13	3	39
Midterm examination	2	2	20
Homework	6	15	90
Project	1	40	40
Final examination	1	2	14
<b>Total Work Load</b>			242
<b>Total Work Load / 25 (h)</b>			10
<b>ECTS Credit of the Course</b>			10