

**ALTINBAŞ UNIVERSITY**  
**Department of Civil Engineering**  
**Syllabus of CVE470 Construction Project Management**

*NOTE: This syllabus is subject to change. Any changes will be communicated in advance.*

<b>1. COURSE INFO</b>	<i>Credits</i>	(3+0+0) 3
	<i>Lecture Hours</i>	Monday, 14:40 – 17:30
	<i>Lecture Hall</i>	AB201
<b>2. INSTRUCTOR</b>	<i>Name</i>	Işık Ateş Kırıl
	<i>Email</i>	<a href="mailto:isik.kiral@altinbas.edu.tr">isik.kiral@altinbas.edu.tr</a>
	<i>Phone</i>	+90 212 604 01 00 E: 13509
	<i>Office Hour</i>	Tuesday, 12:00 – 14:00
	<i>Office</i>	TBA
	<i>Webpage</i>	<a href="http://www.ateskiral.com">http://www.ateskiral.com</a>

**3. COURSE TEXTBOOK**

Project Management Institute. (2017). A guide to the project management body of knowledge (PMBOK guide). Newtown Square, Pennsylvania, 6<sup>th</sup> edition.

**4. COURSE DESCRIPTION (CATALOG)**

In this course, it is aimed to establish a base for students to develop necessary skills and knowledge about managing projects in the construction industry. In order to accomplish this aim, this course is designed to provide an integrating perspective on the issues of managing construction projects by introducing students to the units existed on Project Management Body of Knowledge that are incorporated under the term ‘management of projects’. Moreover, the course prepares students for the PMI body of knowledge through class lectures leading to the possibility of enrolling for the PMP certificate. Last but not least, through summary reports, it is aimed that students gain experience in areas such as academic writing and literature review, which are some of indispensable issues in research methodology.

**Course Type**

Elective

**Laboratory and Computer Usage**

N/A

**Grading Policy:**

- In-class Bonus Points: Individual extra points based on the performance of students’ comments, answers to questions, additional comments during the lectures (maximum 20%)
- Summary Report Assignments: Summary and critical review of the assigned journal papers 25% of the course grade.
- Midterm Examination: 25% of the course grade.
- Final Examination: Comprehensive exam at the end of the semester, 50% of the course grade.

## **5. SPECIFIC GOALS FOR THE COURSE**

### **SPECIFIC OUTCOMES OF INSTRUCTION**

- To develop necessary skills and improve the knowledge level about the concepts of basics of the construction project management such as the definition of project, project life-cycle, organizational strategy and organizational project management.
- To develop necessary skills and improve the knowledge level about the concepts of organizational structures such as organic structure, functional structure, projectized structure, matrix structure and composite structure.
- To develop necessary skills and improve the knowledge level about the concepts of human-based skills of project manager such as leadership and motivation.
- To develop necessary skills and improve the knowledge level about the concepts of time management such as scheduling, resource leveling, and network diagrams.
- To develop necessary skills and improve the knowledge level about the concepts of cost management such as cost estimating methods, earned value management, cost crashing and cost categorization.
- To develop necessary skills and improve the knowledge level about the concepts of risk management such as risk definition, framing, decision-making processes, risk classification, checklist, brainstorming, Delphi method, swot analysis, sensitivity analysis.
- To develop necessary skills and improve the knowledge level about the concepts of engineering economics such as net benefit, marginal principle, and cost - benefit plot, net present value, payback period, internal rate of return, profitability index.

### **STUDENT OUTCOMES**

This course is intended to contribute to the following student outcomes:

1. To be able to apply mathematics, science and engineering knowledge realistically
4. To be able to work in a multi-disciplinary team environment
5. To identify, identify, formulate and solve engineering problems
6. Having professional and ethical responsibility
7. To communicate effectively
10. To have information about current issues and problems
11. To be able to use modern technical methods and tools required for engineering practice
12. Having skills in basic principles of Civil Engineering and being able to use these basic principles in research and application areas
14. Having knowledge in other scientific fields and being able to apply scientific innovations and developed techniques in other fields to the field of Civil Engineering

Week	Date	Lecture(s)	Content
1	7 <sup>th</sup> October	Lecture 0 – Orientation Lecture 1 – Introduction to Management of Construction Projects	Definition of Project and Operation, The Characteristics of Construction Projects, Project Life Cycle, Project Management, Program and Portfolio Management, Organizational Strategy and Organizational Project Management, Project Constraints, Construction Specific Project Management Knowledge Areas
2	14 <sup>th</sup> October	Lecture 2 – Organizational Structures Lecture 3 – The Role and Individual Skills of Project Manager in Construction Projects	Organic Organizational Structure, Functional Organizational Structure, Projectized Organizational Structure, Weak Matrix Organizational Structure, Balanced Organizational Structure, Strong Organizational Structure, Composite Organizational Structure, Project Manager Responsibilities, Human-Based Skills of Project Manager, The Definition of Leadership, Leadership Theories, The Definition of Motivation, Motivation Theories, Motivation Process Theories
3	21 <sup>th</sup> October	Lecture 4 – Scope Management Lecture 5 – Time Management Midterm Examination Preparation	The Definition and Objectives of Scope Management, Project Charter, Planning Process, Creating a Work Breakdown Structure, Time Management Processes, Defining Activities, Activity Sequencing, The Types of Relationships Between Activities, Use of Man-Hour Method for Determination of Activity Duration, Network Diagrams
4	28 <sup>th</sup> October	Midterm Examination	
5	4 <sup>th</sup> November	Midterm Evaluation Lecture 5 – Time Management - Continued	Network Diagrams, Project Evaluation and Review Technique (PERT), Resource Histogram, Resource Leveling, The Two Key Elements of Resource Leveling, Resource Leveling Techniques
6	11 <sup>th</sup> November	Lecture 6 – Cost Management	The Definition of Cost Management, Cost Management Process, Plan Cost Management, Estimate Costs, The Categorization of Costs, Cost Estimating Techniques, Time – Cost Association, Cost Crashing, Determine Budget, Project Budget Components, Project Budget, Contingency and Management Reserves, Cost Control, Cost Baseline Plan, The Definition of Earned Value Management, Benefits and Limitations of Earned Value Management
7	18 <sup>th</sup> November		
8	25 <sup>th</sup> November	Lecture 7 – Risk Management	The Definition of Risk, Decision-Making, Framing, Bounded Rationality, Biases, The Motivation and Benefits of Risk Management, Risk Management Process, Risk Strategy, Risk Identification, Identify Risk Events/Consequence Scenarios, Risk Mapping, Risk Classification, Checklist, Brainstorming, Interviews, Preliminary Hazard Analysis, SWOT Analysis, Delphi Method, Sensitivity Analysis, Expected Monetary Value Analysis, Weighted Attribute Method, Monte Carlo Simulation, Risk Response, Risk Avoidance, Risk Acceptance, Risk Monitor and Prepare, Risk Mitigation, Risk Transference, Risk Control
9	2 <sup>nd</sup> December		
10	9 <sup>th</sup> December	Lecture 8 – Engineering Economics	Engineering Economics, Why Engineering Economics are Important to Engineers? Time Value of Money, Important Rates in Engineering Economics, Discount Rate, Inflation Rate, Interest Rate, Effective Interest Rate, Simple and Compounding Interest Calculation, Cash Flow, Single Payment, Present Value, Future Value, Perpetuity, Annuity, Net Benefit, Marginal Principle, Cost - Benefit Plot, Multiple Projects Evaluation Methods, Net Present Value, Payback Period, Discounted Payback Period, Benefit – Cost Ratio, Incremental Benefit – Cost Ratio, Internal Rate of Return, Profitability Index
11	16 <sup>th</sup> December		
12	23 <sup>th</sup> December		
13	30 <sup>th</sup> December	Final Examination	