

Course unit title:	Construction Management and Economics		
Course unit code:	CE345		
Type of course unit:	Compulsory		
Level of course unit:	Bachelor (1st Cycle)		
Year of study:	3		
Semester when the unit is delivered:	5 (Fall)		
Number of ECTS credits allocated :	6		
Name of lecturer(s):	Dr. Christos Anastasiou		
Learning outcomes of the course unit:	<ol style="list-style-type: none"> 1. Describe the basic principles that characterise and define construction management. 2. Identify the importance of health and safety and codes of practice and understand aspects of civil engineering management. 3. Capacity to apply the knowledge of the above topics in carrying out associated analysis and planning. 4. Identify critical path networks and resource allocation. 5. Ability to analyze discipline-specific practical skills in using discounted cash flow techniques to assess the financial worth of construction projects. 6. Ability to create case study involving manipulation and interpretation of data; mathematical skills; project, time and resource management. 7. Understand basic concepts of engineering economics 8. Ability to carry out basic engineering economics calculations 		
Mode of delivery:	Face-to-face		
Prerequisites:	None	Co-requisites:	None
Recommended optional program components:			
Course contents:	<p>Introduction: Discuss the basic concepts of construction management. Present historic projects and explain the basic terms such as quality management, contracts, Tenders etc.</p> <p>Quality Management: Quality Control and Inspection. Quality Assurance and Total Quality Management.</p> <p>Time Planning/Control: Explain the importance of timely execution of construction works (create Work Breakdown Structures and Gantt Charts). Describe the problems that are created from bad management of the works. Explain project time control, project planning (Network Diagrams), activity durations and critical path (CPM / PERT Methods). Calculate early and late event times.</p> <p>Construction Operations: Plan and model construction operations. Develop building process models and the structure of construction operations.</p> <p>Mathematical Techniques: Carry out calculations using the Systems Analysis (optimization) techniques</p> <p>Engineering Economics: Be able to have a working knowledge of such concepts as Earned Value, Interest Rates, Present and Annual Worth Analysis. Be able to carry out Cost / Benefit Analysis.</p>		
Recommended and/or required reading:			
Textbooks:	<ul style="list-style-type: none"> • Halpin, D. W., "Construction Management", Wiley, 2004. • Blank, L & Tarquin, A. 2008. "Basics of engineering economy", McGraw-Hill. ISBN 978-0-07-340129-4 		
References:	<ul style="list-style-type: none"> • Sears, K., Sears, G., Clough, H. R., "Construction Project Management: A Practical Guide to Field Construction Management", Wiley, 2008. 		

	<ul style="list-style-type: none"> Levy, S., "Project Management in Construction", McGraw-Hill, 2006.
Planned learning activities and teaching methods:	The course will be presented through theoretical lectures in class. The lectures will present to the student the course content and allow for questions. Part of the material will be presented using visual aids and solved examples/exercises. The aim is to familiarize the student with the different and faster pace of presentation and also allow the instructor to present related material (photographs etc.) that would otherwise be very difficult to do. Exercises will be given as homework which will be part of their assessment. Besides from the notes taken by students in class, all of the course material will be made available through the class website and also through the e-learning platform of the university. Finally the instructor will be available to students during office hours or by appointment in order to provide any necessary tutoring.
Assessment methods and criteria:	<ul style="list-style-type: none"> Assignments 15% Tests: 35% Final Exam 50%
Language of instruction:	English
Work placement(s):	No