

1.1.1 Construction Site and Machinery Management

GENERAL

SCHOOL	Engineering		
ACADEMIC UNIT	CIVIL ENGINEERING		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ΣΥΓ017	SEMESTER	9th
COURSE TITLE	Construction Site and Machinery Management		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
	4	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Field		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)			

LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p>Consult Appendix A</p> <ul style="list-style-type: none"> • Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area • Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B • Guidelines for writing Learning Outcomes 		
<p>Upon completing this course students should be able to recognize and propose use of different types of construction machinery, to prepare construction site management plans, accurate takeoffs, productivity estimates as well as construction site safety plans.</p>		
<p>General Competences</p> <p><i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Search for, analysis and synthesis of data and information, with the use of the necessary technology Adapting to new situations Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment Production of new research ideas </td> <td style="width: 50%; border: none;"> Project planning and management Respect for difference and multiculturalism Respect for the natural environment Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking Others... </td> </tr> </table>	Search for, analysis and synthesis of data and information, with the use of the necessary technology Adapting to new situations Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment Production of new research ideas	Project planning and management Respect for difference and multiculturalism Respect for the natural environment Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking Others...
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The course contributes to the following skills:

- _ Search for, analysis and synthesis of data and information, with the use of the necessary technology
- _ Decision-making
- _ Project planning and management
- _ Respect for the natural environment.

SYLLABUS

Introduction to Construction Site and Machinery Management. Construction machinery (types of machinery, heavy equipment, cost and maintenance). Measured drawings and methods for as-built project costs, designing and dimensioning construction site layouts. Construction site organization. Legislative framework. Construction site safety plans, construction safety engineer. Main concepts and examples: Loader-truck combination, conveyor-belt system, calculation diagrams - Excavator-bulldozer combination. Rapid calculation methodology for performance evaluation - Cost estimation.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face.	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Powerpoint presentations, e-learning platform for educational material	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Activity	Semester workload
	Lectures	39
	Practice/exercises	13
	Project(s)	78
	Course total (26 hours workload per ECTS credit)	130
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	<p>Final written exam (100%) which includes:</p> <ul style="list-style-type: none"> - Open ended questions - Problem solving questions (exercises) <p>OR</p> <p>Final written exam (70%) + Optional individual assignment (30%).</p> <p>The evaluation criteria are presented in the 1st lecture of the semester to all students. Furthermore, each student can see his graded exam/ written assignment paper and talk on the analysis of his written performance with the professor.</p>	

ATTACHED BIBLIOGRAPHY

- [in Greek] Παντουβάκης, Π. Λαμπρόπουλος, Σ. (2012), Οργάνωση Εργοταξίων, Αθήνα, ISBN 978-960-93-4005-2.
- [in Greek] Πολύζος Σερ. (2011), Διοίκηση Διαχείριση των Έργων [Νέα αναθεωρημένη Έκδοση], Εκδόσεις Κριτική.
- [in Greek] Πετροτσάτου Κ. Μαρινέλλη Μ. (2018), Δομικές μηχανές, λειτουργική ανάλυση και

κοστολόγηση έργων Πολιτικού Μηχανικού, Εκδόσεις Κριτική, ISBN: 9789605862534.