

COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED SCIENCES		
DEPARTMENT	ENVIRONMENTAL ENGINEERING (DIVISION OF ENVIRONMENTAL GEOTECHNOLOGY ENGINEERING)		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	GE5150	SEMESTER OF STUDY	1th
COURSE TITLE	Statics and Dynamics of Structures		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
Theory - lectures		2	6
Laboratory exercises		2	
Total (hours)		4	
COURSE UNIT TYPE	GBC: General Background Courses		
PREREQUISITES :			
LANGUAGE OF INSTRUCTION/EXAMS:	greek		
COURSE DELIVERED TO ERASMUS STUDENTS	no		
MODULE WEB PAGE (URL)	http://airlab.teikoz.gr/geope/semester1/geo1051.htm		

2. LEARNING OUTCOMES

Learning Outcomes

On successful completion of this module the learner will be able to Deal with problems that deal with Static and dynamic analysis of structures.

General Skills

Upon successful completion of the programme students will:

- have the basic theoretical and practical knowledge in the fields of the subject area of Geotechnology and Environmental Engineering*
- be able to properly apply the theoretical and practical knowledge acquired during the study period*
- be able to cover a wide spectrum of scientific and technical knowledge related to mining and geotechnical projects as well as the sector of environmental reclamation*
- have gained the necessary competencies to proceed to their second cycle study*

Has to deal with basic static and dynamic problems

3. COURSE CONTENTS

Static and dynamic analysis of structures. Introduction. Basics. Resultant of forces. Balance of forces. Weight center. Forces on structures. Lattices. M, Q, N Diagrams on columns, beams and plates. Isostatic and hyperstatic structures. Cross method on hyperstatic structures. Composite structures.

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	At class	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY		
TEACHING METHODS	Method description	Semester Workload
	lectures	13
	Exercises	26 in theory + 26 at laboratory
	Group work	
	Educational visit to industries	
	Atomic workout	33
	Personal study	52
Total (ects credits * 25)	150	
ASSESSMENT METHODS	<ul style="list-style-type: none">• Written final examinations in theory (60 %)• Written final examinations at laboratory (40 %) (50% exams and 50 % atomic workout).	

5. RESOURCES

Choice 1 Book title: ΤΕΧΝΙΚΗ ΜΗΧΑΝΙΚΗ, «Eudoxus» book code: **12867367**, Edition: 2002, Writer: Π. Α. ΒΟΥΘΟΥΝΗΣ, ISBN: ISBN: 978-960-85437-7-1, Distributor (Edition): Εκδόσεις Π.Α. ΒΟΥΘΟΥΝΗ

Choice 2 Book title: ΕΙΣΑΓΩΓΗ ΣΤΗ ΜΗΧΑΝΙΚΗ – ΣΤΑΤΙΚΗ, «Eudoxus» book code: **5309**, Edition: 2000, Writer: ΠΑΝΑΓΙΩΤΟΥΝΑΚΟΣ / Γ. ΠΑΠΑΔΟΠΟΥΛΟΣ, ISBN: 960330200-7, Distributor (Edition): Official academic book at National Metsovio Polytechnic of Athens

Choice 3 Book title: ΣΤΑΤΙΚΗ ΤΩΝ ΙΣΟΣΤΑΤΙΚΩΝ ΦΟΡΕΩΝ, «Eudoxus» book code: **2065**, Edition: 2008, Writer: . Γιάννης Β. Γκαρούτσος, ISBN: 960-8250-14-5, Distributor (Edition): SPIN