COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
ACADEMIC UNIT	DEPARTMENT OF STATISTICS		
LEVEL OF STUDIES	1st Cycle (UNDERGRADUATE)		
COURSE CODE	**6042**	**SEMESTER**	**2nd**
COURSE TITLE	**Calculus II**		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	4	7,5
Workshops	2	
Labs	2	

COURSE TYPE	Compulsory
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	
COURSE WEBSITE (URL)	https://www.dept.aueb.gr/en/stat/content/calculus-ii-75-ects

(2) LEARNING OUTCOMES

Learning outcomes
Upon successful completion of the course, students will be able to understand and use basic concepts related (a) series of functions and (b) function of more than one variable (partial derivatives, optimization with or without constraints, including techniques such as Lagrange multipliers or the Kuhn-Tucker conditions, multiple integrals, etc.). The course emphasizes on future application of these concepts to statistics, probability, computer science and various fields of study related to economic or management sciences.
General Competences
Written and oral expression skills Skill towards expressing mathematical arguments / proofs p

(3) SYLLABUS

Series of functions (power series, Taylor series, Fourier series) and applications. Pointwise and uniform convergence and applications. Geometry of R^{n}. Functions of more than one variable. Limits and continuity. Derivatives of functions on Rn. Integration of functions on Rn. Transformations and Jacobian. Optimization, Lagrange multipliers and applications.

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</td><td>YES</td></tr>
<tr><td>TEACHING METHODS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>52</td></tr>
<tr><td>Tutorial</td><td>26</td></tr>
<tr><td>Written Assignment</td><td>40.5</td></tr>
<tr><td>Self Study</td><td>69</td></tr>
<tr><td>Course total</td><td>187.5</td></tr>
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<tr><td>STUDENT PERFORMANCE EVALUATION
.</td><td>Written examination at the end of the semester: 35%

In Between Exams: 35%

Assignment: 30%

Information is available at Professors website, class announcements, eclass</td></tr>
</table>

(5) ATTACHED BIBLIOGRAPHY

- MarsdenandTromba (2007) Διανυσματικός Λογισμός (ελληνική μετάφραση). Παν. Εκδ. Κρήτης.
- Thomas and Finney, Weir and Giordano (2001) ΑπειροστικόςΛογισμός, Παν. Εκδ. Κρήτης.
- Αθανασιάδης Χ.Ε, Γιαννακούλιας Ε., Γιωτόπουλος Α. (2010) Γενικά Μαθηματικά, Απειροστικός Λογισμός, Τόμος 1, Εκδόσεις Συμμετρία.
- Κατερίνης, Φλυτζάνης, (2010) Ανώτερα Μαθηματικά, Εκδ. Μπένου

Lecture notes of the Professor of the course