

COURSE OUTLINE

Ημερομηνία: 4 Νοε 2022

A. INFORMATION FOR THE COURSE

A1. School	School of Science and Technology of Information
A2. Department	Department of Statistics
A3. Master Programme	
A4. Course Code	6142
A5. Title of the Course	PROBABILITY II

Lecturers

Name	Rank	Specialization
DELLAPORTAS PETROS	Professor	Statistics
VAKERLOUDIS STAVROS	Assistant Professor	Probability, Stochastic Processes, Stochastic Analysis and Applications.
MAMALOUKAS CHRISTOS	EDIP	MATHEMATICS, APPLIED MATHEMATICS, COMPUTATIONAL MATHEMATICS, INFORMATICS

B. TYPE OF COURSE

B1. Year of Study	1
B2. Semester	2nd
B3. Level of Course (if applicable)	1st Cycle
B4. Type of course	Core
B5. Field	Background
B6. ECTS credits allocated (ECTS)	7.50
B7. Is the Course in the Syllabus?	Yes
B8. If yes, which is the reference Page?	29-68
B9. Is there a site for the course?	Yes https://www.dept.aueb.gr/el/stat-courses

C. INSTRUCTION

C1. Lectures Include:	Classroom lectures: Yes Distance learning lectures: No Seminars: No Laboratory exercises: No Field training exercise: No Literary analysis: No Tutorial: Yes Interactive teaching: No Educational visits: No Project: No Essays/reports: Yes Independent study: Yes Lectures given by scientists: No Internship: No
C2. Scheduled Hours for Lectures per week	4.00
C3. Scheduled Hours for Tutorials per week	2.00
C4. Scheduled Hours for Workshops per week	0.00
C5. Scheduled Hours for Case Studies per week	
C6. Scheduled Hours for Other Activities per week	
C7. Scheduled Hours for Lectures per semester	52
C8. Scheduled Hours for Tutorials per semester	26
C9. Scheduled Hours for Workshops per semester	0
C10. Scheduled Hours for Case Studies per semester	
C11. Scheduled Hours for Other Activities per semester	
C12. Mode of Delivery	Face to Face
C13. Student's Evaluation	Written examination at the end of the semester: Yes Oral examination: No Midterm exam: No Homework: No Project: No Public Presentation: No Laboratory exercises: No Practical exercises: No Exempt work: No

C14. Language of Instruction	Greek
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D. PREREQUISITE COURSES

Εισαγωγή στις Πιθανότητες

E. COURSE CONTENTS (Syllabus)

The Course syllabus is: Two dimensions, random vectors, discrete and continuous distributions. Joint and marginal distribution functions. Extension to more than two dimensions. Conditional distributions, conditional expected values and variances. Covariance, correlation and independence. Transformation of random variables. Moment Generating functions. Chi square, t and F distributions. Order Statistics

Central Limit Theorem

Special multivariate distributions (multivariate normal, polynomial etc)

F. LEARNING OUTCOMES

Upon completion of the course, students will have a better understanding of introductory concepts taught in the first course of probabilities. They will also be able to have all the necessary and prerequired knowledge for modules that include multivariate analysis and multivariate techniques or modelling.

G. LITERATURE

G1. Use of Multiple Literature	Yes
G2. Recommended or required reading	