

COURSE OUTLINE

Ημερομηνία: 8 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	6033
A5. Title of the Course	SAMPLING

Lecturers

Name	Rank	Specialization
PAPAGEORGIU IOULIA	Associate Professor	Statistics

B. TYPE OF COURSE

B1. Year of Study	2
B2. Semester	4th
B3. Level of Course (if applicable)	1st Cycle
B4. Type of course	Elective
B5. Field	Scientific Field
B6. ECTS credits allocated (ECTS)	7.00
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: Yes 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	
C4. Scheduled Hours for Workshops per week	2.00
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	
C9. Scheduled Hours for Workshops per semester	26
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: Yes 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

E. COURSE CONTENTS (Syllabus)

Introductory definitions: Finite population, census versus to sample, sampling techniques, characteristic under study and related mathematical symbolisation. List and explanation of the population parameters most commonly of interest in estimation. Simple Random Sampling (SRS). Estimates of population mean, total, proportion and ratio. Confidence intervals. Minimum sampling size. Stratified sampling (ST). Description, Estimation, comparison with SRS. Systematic Sampling (SY). Description, Estimation, comparison with SRS and ST. Cluster sampling. Description. One stage, two stages and generalization. Estimation and comparison with other sampling techniques. Multi-stage sampling. Errors in sampling surveys. Questionnaire.

F. LEARNING OUTCOMES

Upon completion of the course, students will be able to: Implement the standard sampling designs from the sampling theory to select the sample from a finite population. Choose the appropriate method or combine the methods depending on the target population, in order to achieve best performance for the derived estimates. Provide with the statistical inference that is in accordance with the sampling procedure that has been followed. Identify the non-sampling errors that may occur in a sampling survey and implement techniques that can minimize them. Construct a questionnaire.

G. LITERATURE

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