

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
ACADEMIC UNIT	DEPARTMENT OF STATISTICS		
LEVEL OF STUDIES	1st Cycle (UNDERGRADUATE)		
COURSE CODE	6123	SEMESTER	5 th
COURSE TITLE	Statistical Quality Control		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
Lectures		4	7
Workshops		2	
Labs			
COURSE TYPE	Elective		
PREREQUISITE COURSES:	Estimation – Hypothesis Testing		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS			
COURSE WEBSITE (URL)	https://www.dept.aueb.gr/en/stat/content/statistical-quality-control-7-ects		

(2) LEARNING OUTCOMES

Learning outcomes
After the course the student will have the skills needed to deal with improving the quality of products or services using statistical methods.
General Competences
• Search, analysis and synthesis of data and information, using the necessary technologies • Adaptation to new situations • Decision-making • Autonomous work • Generation of new research ideas • Project planning and management • Respect for diversity and multiculturalism • Respect for the natural environment • Demonstration of social, professional and ethical responsibility and sensitivity to gender issues • Exercise of criticism and self-criticism • Promotion of free, creative and inductive thinking

(3) SYLLABUS

Basic concepts of quality control and statistical quality control. Cause and effect charts. Pareto charts. Control charts for variables (R,S). Attributes control charts (p,np,c,u). CUSUM and EWMA control charts. Capability indices. Introduction to multivariate control charts. The six-sigma methodology. Acceptance sampling. Basic experimental design using principals of repetition and blocking.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	YES	
TEACHING METHODS	Activity	Semester workload
	Lectures	52
	Lab Exercise	26
	Studying and Analyzing Bibliography	47
	Project	20
	Self Study	30
	Course Total	175
STUDENT PERFORMANCE EVALUATION	Written examination at the end of the semester: 85% Project: 15% The instructor may additionally conduct a supplementary oral examination of a selected sample of students, based on an appropriate sampling procedure, the outcome of which shall be taken into consideration in determining the final grade. Information is available at e-class	

(5) ATTACHED BIBLIOGRAPHY

- Montgomery D. Introduction to Statistical Quality Control, 8th Edition Wiley. 2019 - Μπερσίμης Σ., Ρακιτζής Α. , Σαχλάς Α., Στατιστικός Έλεγχος Ποιότητας. Εκδόσεις Τζιόλα 2025 - Ταγαράς Γιώργος Στατιστικός Έλεγχος Ποιότητας. Εκδόσεις ΖΗΤΗ. 2001	
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