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** 5th
COURSE TITLE	**STATISTICAL QUALITY CONTROL**

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

COURSE TYPE	Elective
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	ENGLISH
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.

Prerequisite knowledge: Estimation – Hypothesis Testing

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	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: 90% Project: 10% Information is available at eclass	

(5) ATTACHED BIBLIOGRAPHY

- Montgomery D (2012) Introduction to Statistical Quality Control, 7th Edition Wiley.
- Μπερσίμης Σ., Ρακιντζής Α., Σαχλάς Α. (2021) Στατιστικός Ελεγχος Ποιότητας Εκδόσεις ΤΖΙΟΛΑ.
- Ταγαράς Γιώργος (2001) Στατιστικός Έλεγχος Ποιότητας. Εκδόσεις ΖΗΤΗ.