



Course Details

Course Department:	Department of Mathematics and Statistics
Course Code:	MAS 458
Course Title:	Statistical Data Analysis
Number of ECTS:	7
Level of Course:	1st Cycle (Bachelor's Degree)
Year of Study (if applicable):	1
Semester/Trimester when the Course Unit is Delivered:	Spring Semester
Name of Lecturer(s):	Andreas Anastasiou
Lectures/Week:	2 (2 hours per lecture)
Laboratories/week:	1 (1 hours per lecture)
Tutorials/Week:	--
Course Purpose and Objectives:	Introduction to statistical computation and simulation
Learning Outcomes:	<p>Upon successful completion of this course, students are expected to be able to:</p> <ul style="list-style-type: none">• Use software to perform simulations of random variables and apply simulation techniques.• Carry out computations for summarizing data and studying their properties.
Prerequisites:	Basic courses in Probability and Statistics.
Co-requisites:	Not Applicable
Course Content:	Introduction to R, diagnostic statistics, simulation methods, Markov chain Monte-Carlo, simulation, optimization, resampling.
Teaching Methodology:	Lectures (4 hours per week)
Bibliography:	<ol style="list-style-type: none">1. Simulation, Sheldon M. Ross (Academic Press).2. R Lecture Notes, K. Fokianos.3. An Introduction to the Bootstrap, B. Efron and R. Tibshirani., Chapman & Hall.4. Computational Statistics, J. Gentle, Springer.
Assessment:	Final exam, midterm exams, data analysis projects.
Language of Instruction:	Greek
Delivery Mode:	Face-To-Face
Work Placement(s):	Not Applicable