

Course Title	Business Statistics I			
Course Code	MAT 201			
Course Type	Compulsory			
Level	Undergraduate			
Year / Semester	Year 2 / Semester 3			
Teacher's Name	ARISTIDIS SAMITAS/GEORGE ANAYIOTOS/POLINA ELLINA			
ECTS	6	Lectures / week	3	Laboratories / week
Course Purpose and Objectives	<p>This course provides students with the foundations in statistical concepts of data analysis that are necessary tools to conduct quantitative research in business and economics. Students should be familiar with the basic principles of statistics and probability theory. Topics include graphical presentations, basic descriptive measures, probability theory, confidence intervals, and hypothesis testing. The objective of this course is to cover the basic statistical topics that will be useful for the students' studies.</p>			
Learning Outcomes	<p>Upon successful completion of this course, students should be able to:</p> <ul style="list-style-type: none"> ▪ Recognize the role of statistics and probability theory in the quantitative research of real data. ▪ Understand the data collection procedure and the types of data. ▪ Apply the tools of statistics to improve decision making. ▪ Present the data in histograms, charts, and tables. ▪ Compute confidence intervals. ▪ Apply hypothesis testing. ▪ Enhance critical thinking by explaining financial problems using statistical tools. 			
Prerequisites	NONE	Required	NONE	
Course Content	<ul style="list-style-type: none"> ▪ Introduction – Looking at data <p>Introduction to statistics, types of data, describing data (frequency tables and graphic presentation).</p> <ul style="list-style-type: none"> ▪ Description of data <p>Describing data by tables, measures of central tendency, measures of dispersion, skewness, and kurtosis.</p>			

	<ul style="list-style-type: none"> ▪ Probability <p>Probability of an event, conditional probability, independence, Bayes theorem.</p> <ul style="list-style-type: none"> ▪ Probability distributions <p>Discrete random variables, expectation (mean) and standard deviation of a probability distribution, the Binomial distribution, continuous distributions, the Normal distribution.</p> <ul style="list-style-type: none"> ▪ Estimation and confidence intervals ▪ Hypothesis testing
<p>Teaching Methodology</p>	<p>This course will be delivered as a combination of interactive lectures, handouts, assignments, in-class problem-solving exercises that students will prepare to perform statistical analysis using real data. Students will solve homework exercises, interpret, and present the findings.</p>
<p>Bibliography</p>	<ul style="list-style-type: none"> ▪ Introduction to the practice of statistics David S. Moore, George P. McCade, Bruce A. Craig New York: W.H. Freeman and Co. 2017 9th edition ▪ CFA Program Curriculum 2020 Level I Statistical Concepts and Market Returns (reading 8), Probability Concepts (reading 9), Common Probability Distributions (reading 10), Sampling and Estimation (reading 11), Hypothesis Testing (reading 12) Wiley ▪ Statistics: Principles & Methods Johnson Richard A. and Bhattacharyya Gouri K. John Wiley & Sons Inc 2010 6th edition ▪ Statistical Techniques in Business & Economics Lind Douglas A., Marchal William G. and Wathen Samuel A. McGraw-Hill Irwin 2012 15th edition ▪ Introductory Statistics for Business and Economics Thomas H. Wonnaccott Ronald J. Wonnacott New York: Wiley 1990 4th edition

Assessment	Participation 10% Midterm Exam 30% Homework 10% Final Exam 50%
Language	English