

## COURSE OUTLINE

### 1. GENERAL

<b>SCHOOL:</b>	BUSINESS AND ECONOMICS		
<b>DEPARTMENT</b>	BUSINESS ADMINISTRATION		
<b>DIVISION</b>	TOURISM AND HOSPITALITY MANAGEMENT		
<b>LEVEL OF STUDY</b>	UNDERGRADUATE		
<b>COURSE UNIT CODE</b>	<b>3102203</b>	<b>SEMESTER OF STUDY</b>	<b>2</b>
<b>COURSE TITLE</b>	BUSINESS STATISTICS I		
<b>COURSEWORK BREAKDOWN</b>		<b>TEACHING WEEKLY HOURS</b>	<b>ECTS Credits</b>
Lectures, Laboratory, case studies		4	4
<b>COURSE UNIT TYPE</b>	General Background Course		
<b>PREREQUISITES :</b>			
<b>LANGUAGE OF INSTRUCTION/EXAMS:</b>	GREEK		
<b>COURSE DELIVERED TO ERASMUS STUDENTS</b>	YES		
<b>MODULE WEB PAGE (URL)</b>	<a href="http://moodle.teipir.gr/course/view.php?id=75">http://moodle.teipir.gr/course/view.php?id=75</a>		

### 2. LEARNING OUTCOMES

#### Learning Outcomes

The aim of the course is to introduce the students in basic principles of Probabilities and descriptive statistics.

Upon successful completion of the course students should be able to:

- calculate and interpret descriptive measures on a collected data set
- understand the basic concepts of Probability Theory and especially the connection of Probability Theory with the statistical inference
- determine the different types of random variables in a database in order to be analyzed
- investigate the relationship between economic variables using correlation and regression techniques
- apply methods of descriptive statistics and regression analysis using statistical packages

#### General Skills

- Search, analysis and synthesis of data with the use of new technologies
- Decision-making
- Planning and management of projects

### 3. COURSE CONTENTS

Definition of Probability through Laplace.

Random variables

Discrete distributions (binomial, geometric Poisson)

Continuous distributions with emphasis on knowledge of the normal distribution and the Central Limit Theorem

Descriptive Statistics with emphasis on understanding the charts but also on the interpretation of the descriptive measures.

Correlation and linear regression between two variables.

The study goodness fit of the linear regression model through the study of the residuals.

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#### 4. TEACHING METHODS - ASSESSMENT

<b>MODE OF DELIVERY</b>	In-Class	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</b>	Support of the learning process through the LMS platform of the PUAS.#	
<b>TEACHING METHODS</b>	<b>Method description</b>	<b>Semester Workload</b>
	Lectures	26
	Case Studies, Class Discussions, Exercises	13
	Laboratory exercises	26
	Independent and Directed Learning	35
	<b>Total</b>	<b>100</b>
<b>ASSESSMENT METHODS</b>	<p><b>I. Final Examination (50%) (Summative Evaluation) includes:</b></p> <ul style="list-style-type: none"> <li>- Multiple choice questions or true/false questions</li> <li>- Short answer questions</li> </ul> <p><u>Evaluation Objective:</u> To understand the fundamentals of the course.</p> <p><u>Evaluation Criteria:</u> Comprehensiveness, accuracy, and critical evaluation.</p> <p><b>II. Multiple Choice Test (10%) (Formative Evaluation)</b></p> <p>Concerns issues covered by lectures.</p> <p><u>Evaluation Objective:</u> Examination of students' progress in relation to learning outcomes, feedback and fine tuning of the course lectures.</p> <p><u>Evaluation Criteria:</u> Comprehensiveness, accuracy, and critical evaluation.</p> <p><b>IV. Laboratory Exercises (40%) (Summative Evaluation):</b></p> <p>Concerns issues covered by laboratory lessons.</p> <p><u>Evaluation Objective:</u> Examination of students' progress in relation to learning outcomes, feedback and fine tuning of the laboratory lessons.</p> <p><u>Evaluation Criteria:</u> Comprehensiveness, accuracy, and critical evaluation.</p> <p>Evaluation criteria are explicitly referred on the site of the course for each learning activity.</p>	

#### 5. RESOURCES

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- DeGroot M H, Schervish M J., (2001), Probability and Statistics, 3rd ed., Addison Wesley
- Johnson R.A.; Bhattacharyya G.K., (2001), Statistics: Principles and Methods. John Wiley and Sons
- Montgomery D C., Peck E A., Vining G. G, (2001), Introduction to Linear Regression Analysis, 3rd ed., Wiley-Interscience.

**JOURNALS**

- Annals of Probability
- Statistics and Probability Letters
- Journal of statistics and probabilities
- Discrete Mathematics