UNIVERSITY OF PIRAEUS

1) GENERAL

SCHOOL	ECONOMICS, BUSINESS AND INTERNATIONAL STUDIES		
ACADEMIC UNIT	ECONOMICS		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	**ΟΚΠΛΗ05**	**SEMESTER**	5
COURSE TITLE	**ECONOMIC APPLICATIONS OF COMPUTERS**		
INTEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**	
Lectures	1	5	
Laboratory Exercises	3		
COURSE TYPE	SCIENTIFIC EXPERTISE		
PREREQUISITE COURSES	NONE		
LANGUAGE OF INSTRUCTION and EXAMINATIONS	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	https://eclass.unipi.gr/courses/OEP483/		

2) LEARNING OUTCOMES

Learning Outcomes

Upon completing the course, students will be able to:

1. Understand the concept of Business Analytics, its significance in modern business functions, and its relationship with Statistics.
2. Describe and implement the stages of Business Analytics and their key components.
3. Explain the fundamentals of Big Data and Machine Learning and their applications in Business Analytics.
4. Use software tools such as Tableau for effective data analysis and visualization.
5. Analyze data using foundational techniques, appropriately handling variable types, missing values, and outliers.
6. Conduct comprehensive data analysis and visualization in Tableau using real-world datasets.
7. Develop actionable insights from data and prepare business recommendations.
8. Collaborate effectively in teams to apply analytics in solving business problems.

General Competences

- Upon completing the course, students will be able to:
- Understand the concept of Business Analytics, its significance in modern business functions, and its relationship with Statistics.
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- Analyze data using foundational techniques, appropriately handling variable types, missing values, and outliers.
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- Develop actionable insights from data and prepare business recommendations.
- Collaborate effectively in teams to apply analytics in solving business problems.

3) SYLLABUS

The course material is divided into three parts:

Part 1: Introduction to Business Analytics

- Definition and necessity of Business Analytics in business operations.
- Relationship with Statistics and meeting business operational needs.
- Overview of the stages of Business Analytics and their purposes.
- Introduction to Big Data and Machine Learning.
- Overview of key visualization and analysis tools in Python.

- Review of supporting software, its characteristics, and examples.
- Fundamental principles of data analysis: variable types, handling missing values, addressing outliers, and permissible operations by variable type.

Part 2: Introduction to Tableau

- Overview of Tableau components.
- Access and login procedures.
- Familiarization with Tableau's user environment.
- Introduction to the case study.

Part 3: Advanced Applications of Tableau

- Detailed presentation of Tableau's capabilities through a case study of e-commerce sales data.
- Data visualization techniques and insights generation.
- Recap and resolution of questions.
- Support for completing exercises and assignments.

4) TEACHING and LEARNING METHODS

DELIVERY	In-class lecturing
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	• Use of ICT in lectures • Use of ICT in Laboratory education • USE of ICT in Communication with students

TEACHING METHODS

Activity	**Semester workload**
Guided lab work	39
In-class lecture	13
Weekly study and preparation	35
Assignment	30
Exam preparation	10
Final Exam	2
TOTAL	129

STUDENT PERFORMANCE EVALUATION

Assignment: 60%
Final Exam: 40%
$Grade = 0,6 * Assignement + 0,4 * Final Exam$,
Given that: $m \in (Assignement, Final Exam) \geq 5$

ATTACHED BIBLIOGRAPHY

Electronic Books:

1. *Visual Analytics with Tableau* – Eudoxus Code: 91726016
2. *Jumpstart Tablea* – Eudoxus Code: 75488018
3. *Pro Tableau* – Eudoxus Code: 75491015
4. *Rapid Graphs with Tableau 8* – Eudoxus Code: 73252340

Suggested Books:

1. *Digital Marketing - Design, Strategies, and Practices* by Hanlon Annmarie – Eudoxus Code: 112690619
2. *Business Analytics with Models and Methods of Management Science* by Asllani Arben – Eudoxus Code: 77110693