



COURSE DESCRIPTION

1. GENERAL

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| SCHOOL | ECONOMIC SCIENCES | | |
| DEPARTMENT | TOURISM | | |
| LEVEL | Undergraduate | | |
| COURSE CODE | INF160 | SEMESTER | 8 th |
| COURSE TITLE | Big Data Analytics in Tourism | | |
| INDEPENDENT TEACHING ACTIVITIES | WEEKLY TEACHING HOURS | ECTS | |
| Lectures, Lab Practice | 4 | 5 | |
| COURSE CATEGORY | Skills Development | | |
| COURSE TYPE | Elective | | |
| PREREQUISITES | - | | |
| LANGUAGE OF TEACHING AND EXAMINATIONS | Greek | | |
| THE COURSE IS OFFERED TO ERASMUS STUDENTS | | | |
| URL | https://tourism.ionio.gr/en/undergraduate-studies/courses/1232/ | | |
| ECLASS | https://opencourses.ionio.gr/courses/DTO208/ | | |

2. TEACHING RESULTS

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| Teaching Results |
| Students are expected to acquire significant skills in large-scale data management and analysis, namely: <ul style="list-style-type: none">• Develop strategies involving Big Data in a structured, semi-structured or unstructured form,• Draw and form the required relevant data from various sources,• Select technologies to be used and tools/methods (statistics, etc.) for efficient data processing and analysis,• Apply data analysis and machine learning techniques to effectively identify trends, hidden or recurring patterns, formulate predictions, and generally discover valuable knowledge, |
| General Skills |
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3. CONTENT

This course aims to introduce the basic knowledge and skills necessary for big data analysis. The course focuses on the basic techniques and methodologies of data mining with fields of application posts in social media, reviews in aggregators, etc.

Week 1: Business Intelligence

Week 2: Business Analytics

Week 3: Data Science and Big Data Analytics

Week 4: Decisions

Week 5: Business Intelligence and analytics methods, models & techniques

Week 6: Descriptive Analytics

Week 7: Predictive Analytics



Week 8: Guiding Analytics

Week 9: Mining knowledge from data

Week 10: Outlier analysis or anomaly Discovery

Week 11: Clustering-Association Rules

Week 12: Business Intelligence Systems,

Week 13: Applications and examples of Business Intelligence and analytics

4. TEACHING AND LEARNING METHODS - EVALUATION

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| TEACHING METHOD | | | | | | | | | | | | | |
| USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES | | | | | | | | | | | | | |
| TEACHING STRUCTURE | <table><tr><td>Activity</td><td>Semester Workload</td></tr><tr><td>Lectures</td><td>52</td></tr><tr><td>Lab Practice</td><td>30</td></tr><tr><td>Projects</td><td>13</td></tr><tr><td>Literature Study and Analysis</td><td>30</td></tr><tr><td>Course Total (ECTS: 5)</td><td>125</td></tr></table> | Activity | Semester Workload | Lectures | 52 | Lab Practice | 30 | Projects | 13 | Literature Study and Analysis | 30 | Course Total (ECTS: 5) | 125 |
| Activity | Semester Workload | | | | | | | | | | | | |
| Lectures | 52 | | | | | | | | | | | | |
| Lab Practice | 30 | | | | | | | | | | | | |
| Projects | 13 | | | | | | | | | | | | |
| Literature Study and Analysis | 30 | | | | | | | | | | | | |
| Course Total (ECTS: 5) | 125 | | | | | | | | | | | | |
| EVALUATION OF STUDENTS | | | | | | | | | | | | | |

5. BIBLIOGRAPHY

1. Mining of Massive Datasets Κωδικός Βιβλίου στον Εύδοξο: 94700707, Συγγραφείς: Anand Rajaraman, Jeffrey David Ullman, Jure Leskovec
2. Επιστήμη Δεδομένων: Βασικές Αρχές και Εφαρμογές με Python, 2η έκδοση, Κωδικός Βιβλίου στον Εύδοξο: 94690736, Συγγραφείς: Grus Joel
3. Applied Data Science in Tourism Interdisciplinary Approaches, Methodologies, and Applications, Springer, Roman Egger (editor)