COURSE OUTLINE STATISTICAL ANALYSIS AND DATA PRESENTATION LABORATORY

1. GENERAL

SCHOOL	PHYSICAL EDUCATION, SPORT SCIENCE AND OCCUPATIONAL THERAPY		
DEPARTMENT	PHYSICAL EDUCATION AND SPORT SCIENCE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	C095	**SEMESTER**	7th& 8th
COURSE TITLE	STATISTICAL ANALYSIS AND DATA PRESENTATION LABORATORY		

TEACHING ACTIVITIES *If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	2	3
Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.		

COURSE TYPE *Background, General Knowledge, Scientific Area, Skill Development*	SCIENTIFIC AREA
PREREQUISITES:	NO
TEACHING & EXAMINATION LANGUAGE:	GREEK ENGLISH FOR ERASMUS STUDENTS
COURSE OFFERED TO ERASMUS STUDENTS:	YES
COURSE URL:	https://eclass.duth.gr/courses/KOM02185/

2. LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, participants will be able to:

- *Understand the fundamental principles of statistical analysis and descriptive statistics.*
- *Input and manage data using the Jamovi statistical software.*
- *Perform descriptive analysis and interpret results (central tendency, dispersion, normality).*
- *Apply statistical tests for comparison (t-test for independent and dependent samples, ANOVA, etc.).*
- *Conduct correlation analysis and linear regression between quantitative variables.*
- *Present data and results through professional graphs and reports.*

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information,
ICT Use
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Working in an international environment
Working in an interdisciplinary environment
Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning

Production of new research ideas
• *Search, analysis and synthesis of data and information, ICT Use* • *Adaptation to new situations* • *Autonomous work* • *Teamwork* • *Working in an international environment* • *Working in an interdisciplinary environment* • *Project design and management* • *Critical thinking* • *Promoting free, creative and inductive reasoning*

3. COURSE CONTENT

1. *Text Editing and Structure of a Thesis*
2. *Introduction to Statistics Using the Jamovi Program*
3. *Introduction to the Statistical Program Jamovi I (Window Overview – Data Entry – Variable Definition)*
4. *Introduction to the Statistical Program Jamovi II (Data Entry – Variable Definition – Data Processing)*
5. *Descriptive Statistics (Dispersion – Central Tendency – Distribution – Normality – Graphs)*
6. *Comparison Between Two Samples: t-Test (Statistical t-test for Independent Samples: a. Independent Samples t-test, b. Mann-Whitney U Test, c. Welch's Test)*
7. *Comparison Between Two Samples: t-test (Statistical t-test for Dependent Samples: a. Paired Samples t-Test, b. Wilcoxon Test)*
8. *Analysis of Variance (ANOVA) for Independent Samples for One Factor (a. One-Way ANOVA, b. Welch's Test, c. Kruskal-Wallis Test)*
9. *Analysis of Variance (ANOVA) for Independent Samples for Multiple Factors (Two-Way ANOVA)*
10. *Analysis of Variance (ANOVA) for Dependent Samples for Two Factors, One of Which is Repeated (Two-Way Repeated Measures)*
11. *Pearson Correlation Analysis Between Two Quantitative Variables (Correlation Analysis)*
12. *Simple Linear Regression Between Two Quantitative Variables (Regression Analysis)*
13. *Presentation Software Management – Creating Effective Presentations*

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD *Face to face, Distance learning, etc.*	The course will be taught using a combination of two teaching methods: • Lectures, where basic concepts and theories related to the course content will be introduced. • Laboratory sessions, where students will work independently or in groups, under

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<tr><td></td><td>guidance, performing tasks using general and specialized software packages.
Additionally, a blended learning model will be developed, incorporating distance learning through a learning management platform. This approach provides flexibility and reinforces both theoretical and practical skills.</td></tr>
<tr><td>USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT)
Use of ICT in Teaching, in Laboratory Education, in Communication with students</td><td>Use of ICT in Teaching and Communication with Students will include:
Digital slides for presenting course material
Videos to enhance understanding of complex topics
MsTeams/e-class, webmail for online communication and course management
Cloud computing for collaborative work and file sharing
Artificial intelligence to support learning and provide personalized assistance
This integration of ICT tools will enhance the learning experience and streamline communication between instructors and students.</td></tr>
<tr><td>TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.
Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.</td><td><table><tr><th>Activity</th><th>Workload/semester</th></tr><tr><td>Lectures</td><td>26</td></tr><tr><td>Laboratory Exercise</td><td>26</td></tr><tr><td>Bibliographic research & analysis</td><td>20</td></tr><tr><td>Exams</td><td>3</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td>Total Course</td><td>75</td></tr></table></td></tr>
<tr><td>STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report,Clinical examination of a patient,Artistic interpretation, Other/Others

Please indicate all relevant information about the course assessment and how students are informed</td><td>The assessment for the course will be structured as follows:
Mid-term evaluation (Problem Solving): 35%
Final written exam (Multiple Choice Test, Short Answer Questions): 65%</td></tr>
</table>

5. SUGGESTED BIBLIOGRAPHY

1. *Roussos, L. Petros (2019). Jamovi Manual. Athens. https://eclass.uoa.gr/modules/document/file.php/PPP860/Ρούσος 2019 Jamovi.pdf*
2. *Sarris Menelaos (2021). Statistical Analysis and Research Designs in Social Sciences. Disigma Publications Ltd.*
3. *Zafeiropoulos, K. (2021). Applications of Regression Analysis. A. Tziola & Sons S.A.*

Publications.

ANNEX OF THE COURSE OUTLINE

Alternative ways of examining a course in emergency situations

Teacher (full name):	Vernadakis Nikolaos, Professor
Contact details:	nvernada@phyed.duth.gr
Supervisors: (1)	NO
Evaluation methods: (2)	Written examination with distance learning methods
Implementation Instructions: (3)	The examination in the course will be carried out in subgroups of users in the e-class, depending on the number of participants in the course, on the day according to the examination program announced by the Secretariat. The exam will be conducted through Teams. The link will be sent to students via e-class exclusively to the institutional accounts of those who have registered for the course and have learned the terms of distance methods. Students will have to log in to the examination room through their institutional account, otherwise they will not be able to participate. They will also take part in the examination with a camera, which they will have open during the examination. Before the start of the exam, students will show their identity to the camera, so that they can be identified. Each student should answer multiple choice questions, free text development, critical thinking. Each of the questions is graded from 0.5 points to 2.0 points depending on question's category