

STATISTICS & SOFTWARE IN BEHAVIOURAL SCIENCES II

(1) GENERAL

SCHOOL	HEALTH SCIENCES		
ACADEMIC UNIT	SPEECH LANGUAGE THERAPY		
LEVEL OF STUDIES	GRADUATE PROGRAM (LEVEL 6)		
COURSE CODE	slt-77	SEMESTER	7 th
COURSE TITLE	STATISTICS & SOFTWARE II IN BEHAVIOURAL SCIENCES		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures		2	4
Applied Practice		1	
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Specialised General Knowledge		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://moodle.ioa.teiep.gr/course/view.php?id=188		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> 														
<p>The purpose of the course is:</p> <p>To provide students with knowledge that will allow them to apply classical statistical methods for solving/analyzing problems regarding behavioral sciences and specifically speech, language and communication. To develop student skills using software (SPSS) for data analysis such as language and speech signals parameters and interpretation of their results.</p> <p>Upon successful completion of the course, students will be able to:</p> <ul style="list-style-type: none"> ➤ Collect, organize and present summary data (Levels 1, 2: Knowledge, Understanding) ➤ Use basic methods of statistical inference (Levels 1, 2, 3, 4: Knowledge, Understanding, Applying, Analyzing) ➤ Analyze data and make appropriate conclusions (Levels 1, 2, 4: Knowledge, Understanding, Analyzing) 														
<p>General Competences</p> <p><i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</i></p> <table border="0"> <tr> <td><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td><i>Project planning and management</i></td> </tr> <tr> <td><i>Adapting to new situations</i></td> <td><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td><i>Decision-making</i></td> <td><i>Respect for the natural environment</i></td> </tr> <tr> <td><i>Working independently</i></td> <td><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td> </tr> <tr> <td><i>Team work</i></td> <td><i>Criticism and self-criticism</i></td> </tr> <tr> <td><i>Working in an international environment</i></td> <td><i>Production of free, creative and inductive thinking.....</i></td> </tr> <tr> <td><i>Working in an interdisciplinary environment</i></td> <td><i>Others...</i></td> </tr> </table>	<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>	<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>	<i>Decision-making</i>	<i>Respect for the natural environment</i>	<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>	<i>Team work</i>	<i>Criticism and self-criticism</i>	<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking.....</i>	<i>Working in an interdisciplinary environment</i>	<i>Others...</i>
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| <ul style="list-style-type: none"> • Search, analyze and synthesize data and information, using the necessary technologies • Working in an interdisciplinary environment • Decision making • Promoting free, creative and inductive reasoning | <ul style="list-style-type: none"> • Production of new research ideas • Autonomous work at the level of supervision and management of an experiment and team work and ensuring harmonic cooperation with all the scientific and labor hierarchy |
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(3) SYLLABUS

1. Introductory concepts. Revision of the basic concepts from the course "Statistics and software I in behavioral sciences"
2. Simple linear regression. Interpretation of the results.
3. Statistical testing in simple linear regression.
4. Assumptions of the simple linear regression. Model comparison in simple linear regression.
5. Simple linear regression: examples.
6. Multiple linear regression. Partial regression coefficients.
7. Indicator variables. Predictions in multiple linear regression.
8. Multiple linear regression: examples.
9. Logistic regression. Odds ratio. Interpretation of the results.
10. Multiple logistic regression: examples.
11. Factor analysis. Examples.
12. Item response theory. Examples.
13. Data analysis using software

(4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY</p> <p style="text-align: center;"><i>Face-to-face, Distance learning, etc.</i></p>	<p>Lectures: Face to face in a classroom</p> <p>Field Exercises: Teaching Room and Computer Labs</p>	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</p> <p style="text-align: center;"><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of audio-visual equipment (powerpoint)</p> <p>Support the learning process through the Moodle online platform.</p>	
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	Activity	Semester workload
	Lectures	26
	Fieldwork	13
	Independent study/evaluation	61
	Course total	100
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p style="text-align: center;"><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p>	<p>Written final exams for theory (100%) comprising:</p> <p>Critical thinking questions demonstrating that the student has understood the concepts</p> <p>Questions that require information synthesis by the student.</p> <p>Multiple choice questions.</p>	

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

The final exams will be offered in Greek

(5) ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

- Τριχόπουλος, Δ., Τζώνου, Α. και Κατσουγιάννη, Κ. (2002). *Βιοστατιστική*. Εκδόσεις Παρισιάνος ΑΕ.
- Gaunreau, K. and Pagano, M. (2002). *Αρχές Βιοστατιστικής*. Εκδόσεις: Έλλην.
- Ιωαννίδης, Δ. Α. (2011). *Στατιστική μεθοδολογία*. Θεσσαλονίκη: Εκδόσεις Ζήτη Πελαγία & Σια Ι.Κ.Ε.
- Ντζούφρας, Ι., Καρλής, Δ. 2015. Εισαγωγή στον προγραμματισμό και στη στατιστική ανάλυση με R. [ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών
- Χαλικιάς, Μ., Λάλου, Π., Μανωλέσου, Α. 2015. Μεθοδολογία έρευνας και εισαγωγή στη Στατιστική Ανάλυση Δεδομένων με το IBM SPSS STATISTICS. [ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών.

- *Related academic journals:*

- **Open Journal of Statistics**
<https://www.scirp.org/journal/ojs/>
- **The American Statistician**
<https://www.tandfonline.com/toc/utas20/current>
- **Journal of Applied Statistics**
<https://www.tandfonline.com/toc/cjas20/current>
- **Journal of Statistical Software**
<https://www.jstatsoft.org/index>