**COURSE OUTLINE**

1. **GENERAL**

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| **SCHOOL** | ECONOMIC AND SOCIAL SCIENCES | | | | |
| **ACADEMIC UNIT** | DEPARTMENT OF ECONOMICS | | | | |
| **LEVEL OF STUDIES** | FIRST YEAR | | | | |
| **COURSE CODE** | ECON 303 | **SEMESTER** | | 2 | |
| **COURSE TITLE** | Statistics IΙ | | | | |
| **INDEPENDENT TEACHING ACTIVITIES** *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* | | | **WEEKLY TEACHING HOURS** | | **CREDITS** |
|  | | | 4 | | 7.5 ECTS |
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| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).* | | |  | |  |
| **COURSE TYPE**  *general background,  special background, specialised general knowledge, skills development* | General background | | | | |
| **PREREQUISITE COURSES:** | Statistics I | | | | |
| **LANGUAGE OF INSTRUCTION and EXAMINATIONS:** | HELLENIC, HELLENIC (ENGLISH, ENGLISH TO ERASMUS STUDENTS) | | | | |
| **IS THE COURSE OFFERED TO ERASMUS STUDENTS** | YES | | | | |
| **COURSE WEBSITE (URL)** | <https://ecourse.uoi.gr/enrol/index.php?id=1027> | | | | |

1. **LEARNING OUTCOMES**

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| **Learning outcomes** | |
| *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.*  *Consult Appendix A*   * *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area* * *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B* * *Guidelines for writing Learning Outcomes* | |
| Introduction to statistical inference (estimation and hypothesis testing)  Applications to real-world phenomena | |
| **General Competences** | |
| *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?* | |
| *Search for, analysis and synthesis of data and information, with the use of the necessary technology*  *Adapting to new situations*  *Decision-making*  *Working independently*  *Team work*  *Working in an international environment*  *Working in an interdisciplinary environment*  *Production of new research ideas* | *Project planning and management*  *Respect for difference and multiculturalism*  *Respect for the natural environment*  *Showing social, professional and ethical responsibility and sensitivity to gender issues*  *Criticism and self-criticism*  *Production of free, creative and inductive thinking*  *……*  *Others…*  *…….* |
| Decision-making  Working independently  Team work  Working in an international environment  Working in an interdisciplinary environment  Production of new research ideas | |

1. **SYLLABUS**

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| Point and interval estimation. Properties of estimators. Testing statistical hypotheses: (i) about the mean of a distribution, (ii) the proportion, (iii) the difference between two means, (iv) the difference between two proportions, (v) the variance, (vi) goodness of fit of a theoretical distribution, (vii) independence between two characteristics (contingency tables). Non-parametric tests. Simple linear regression. Simple, multiple, partial, nonlinear, and rank correlation. If time permits, the basics of the following topics will also be covered: One-way ANOVA; test of randomness of the sample; index numbers. Applications with actual data will be carried out in the Statistics Lab using the computer program SSPS. |

1. **TEACHING and LEARNING METHODS - EVALUATION**

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| **DELIVERY** *Face-to-face, Distance learning, etc.* | Face-to-face |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY** *Use of ICT in teaching, laboratory education, communication with students* | **YES** |
| **TEACHING METHODS**  *The manner and methods of teaching are described in detail.*  *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.*  *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* | |  |  | | --- | --- | | ***Activity*** | ***Semester workload*** | | LECTURES | 48 HOURS | | RECITATIONS | 8 HOURS | | LABORATORY | 8 HOURS | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | | Course total | ***64 HOURS*** | |
| **STUDENT PERFORMANCE EVALUATION**  *Description of the evaluation procedure*  *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*  *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.* | (1) MIDTERM EXAMINATION (optional, 20%),  (2) FINAL EXAMINATION (compulsory: 80% for students who do better in the mid-term test, and 100% for those who do not take the mid-term test, or take it but do better in the final). |

1. **ATTACHED BIBLIOGRAPHY**

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| *- Suggested bibliography:*  *- Related academic journals:*  1. *Statistics for Economists*, D. Hatzinikolaou, Ioannina 2002, (Chapters 7-12 and 15-17, in Greek).  2. Three problem sets (uploaded in <https://ecourse.uoi.gr/enrol/index.php?id=1027>) |