# COURSE OUTLINE

## (1) GENERAL

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| SCHOOL | Faculty of Social, Political and Economic Sciences |
| ACADEMIC UNIT | Department of Economics |
| LEVEL OF STUDIES | Undergraduate |
| COURSE CODE | NK64     **SEMESTER** 6th |
| COURSE TITLE | Econometrics II |

| INDEPENDENT TEACHING ACTIVITIES<br>*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 |
|---|---|---|
| Lectures | 4 | 6 |
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| | | |
| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).* | | |

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| COURSE TYPE<br>*general background, special background, specialised general knowledge, skills development* | General Background |
| PREREQUISITE COURSES: | |
| LANGUAGE OF INSTRUCTION and EXAMINATIONS: | HELLENIC |
| IS THE COURSE OFFERED TO ERASMUS STUDENTS | YES (ESSAY IN ENGLISH) |
| COURSE WEBSITE (URL) | http://www.econ.duth.gr/undergraduate/lessons/%CE%9F%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B5%CF%84%CF%81%CE%AF%CE%B1%20%CE%99%CE%99.pdf |

## (2) LEARNING OUTCOMES

Econometrics II is the natural continuation of the Econometrics I course. The course continues into special issues of econometric analysis. Departing from the assumptions of the simple linear regression model in this course we study actual phenomena apparent in real life phenomena, as autocorrelation, heteroskedasticity and the existence of unit roots. Moreover, we study panel data and probability models where the dependent variable is a binary one. All these are taught, without losing the basic focus on empirical applications.

Upon completion of the course the student will be able to:
• define adequately the models for solving various empirical problems.
• Examine and infer upon the existence of a causal relationship between variables and the policy implications from this relationship.
• comprehend the various issues in defining actual real life models and proposing ways to overcome the various obstacles during the applications of the models.
• apply specific, state-of-the-art and demanding methodologies in solving economic problems.
• infer upon the empirical findings of the problems and determine the effects in applying economic policy measures.

*Working independently*
*Team work*
*Decision-making*
*Production of free, creative and inductive thinking*

## (3) SYLLABUS

1. Special Econometric Issues
2. Autocorrelation
3. Multi-collinearity
4. Heteroskedasticity
5. Binary regression models
6. Panel data
7. Unit root tests
8. Time series
9. Empirical applications

## (4) TEACHING and LEARNING METHODS - EVALUATION

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|---|---|
| **DELIVERY**<br>*Face-to-face, Distance learning, etc.* | *Face-to-face* |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**<br>*Use of ICT in teaching, laboratory education, communication with students* | The basic instrument for electronic communication, notes dissemination etc is the E-class |
| **TEACHING METHODS**<br>*The manner and methods of teaching are described in detail.*<br>*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.*<br><br>*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* | <table><tr><td>*Activity*</td><td>*Semester workload*</td></tr><tr><td>Lectures</td><td>52</td></tr><tr><td>Independent study</td><td>98</td></tr><tr><td></td><td></td></tr><tr><td>Course total</td><td>**150**</td></tr></table> |
| **STUDENT PERFORMANCE EVALUATION**<br>*Description of the evaluation procedure*<br><br>*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*<br><br>*Specifically-defined evaluation criteria are given, and if and where they are accessible to students.* | The evaluation is based entirely on the written examination at the end of the semester based on problems including short questions and answers, figure analysis, mathematical representations, judgment, proofs and problem solving.<br><br>The examination criteria are made known at the start of the semester and are available at the E-class. |

## (5) ATTACHED BIBLIOGRAPHY

*- Suggested bibliography:*
1) Gujarati και Porter, Introduction to Econometrics. (5th Edition), McGraw-Hill Press, 2008.
2) Hamilton. J., Times Series Analysis, (1st Edition), Princeton Press, 1994.
3) W.H. Greene, Econometric Analysis, (7th edition), Pearson Prentice Hall, 2011.
4) Wooldridge, Jeffrey M. Econometric Analysis of Cross Section and Panel Data. (2nd Edition), MIT Press, 2002.
5) J.H. Stock and M.W. Watson, (3rd edition), Introduction to Econometrics, Pearson Prentice Hall, 2003.
*- Related academic journals:*
Econometrica
Journal of Econometrics
Journal of Applied Econometrics
International Journal of Forecasting
Journal of Forecasting
Applied Economics