APPLIED ECONOMETRICS (ERASMUS) EXTENDED SYLLABUS 2022

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMICS & BUSINESS		
DEPARTMENT	ECONOMICS		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	ECO 421	**SEMESTER OF STUDIES**	8th
COURSE TITLE	APPLIED ECONOMETRICS		

INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures (Computer Lab)	3	6

COURSE TYPE	Scientific Area, Skills Development
PREREQUISITE COURSES:	Suggested prerequisites: Mathematics for Economists I, Mathematics for Economists II, Statistics I, Statistics II, Principles of Economics I, Principles of Economics II, Econometrics
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English) https://eclass.upatras.gr/courses/ECON1405/
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/ECON1336/

2. LEARNING OUTCOMES

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.

The main objective of the course is to connect the theoretical econometric concepts and models that the students are taught in the Econometrics course, with the practical application and analysis of econometric methods and models in a manner similar to that applied by the empirical researchers-economists. Students are familiarized with the basic tools of economists to quantify, measure and analyse economic data, relationships and phenomena using the econometric package gretl.

The course will analyse and process data from real economic data bases, as well as the use of appropriate econometric models, depending on the nature of the data (spatial data, chronological data, combination of two, etc.), to answer classic economic questions.

At the end of the course the students are expected to have a complete knowledge of the classical tools and techniques of the applied economic analysis and in addition to have developed the following skills:

- Computer skills - use of specialized open-source econometric software
- Communication skills - Ability to communicate the results of empirical work with the presentation of papers, homework questions or homework projects

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, analyze and synthesize data and information, using the necessary technologies   • Decision making   • Autonomous Work   • Teamwork   • Working in an international environment   • Working in an interdisciplinary environment   • Production of new research ideas   • Promote free, creative and inductive thinking

3. ERASMUS COURSE CONTENT

Course Website: https://eclass.upatras.gr/courses/ECON1405/
Instructor: Ioannis Venetis, https://www.econ.upatras.gr/en/people/teaching-staff/venetis-ioannis
Office Hours: Wed 10:00-12:00, Thu 10:00-11:00
Contact: ivenetis @ upatras.gr
Lecture room: PAM2, Monday 14:00-17:00

The basic course outline will cover (empirically) the following book chapters:

- Chapter 1 The Nature of Econometrics and Economic Data
- Chapter 2 The Simple Regression Model
- Chapter 3 Multiple Regression Analysis: Estimation
- Chapter 4 Multiple Regression Analysis: Inference
- Chapter 5 Multiple Regression Analysis: OLS Asymptotics
- Chapter 6 Multiple Regression Analysis: Further Issues
- Chapter 7 Multiple Regression Analysis with Qualitative Information: Binary (or Dummy) Variables

BOOK
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We will follow closely the book (first 7 chapters of Wooldridge book)
- Introductory Econometrics A Modern Approach, 6th Edition, ISBN10: 1-305-27010-XISBN13: 978-1-305-27010-7, AUTHORS: Jeffrey M. Wooldridge - ©2016 , https://www.cengage.uk/shop/isbn/9781305270107
- **Note**: there is a latest edition: Introductory Econometrics A Modern Approach, 7th Edition ISBN10: 1-337-55886-9ISBN13: 978-1-337-55886-0, ©2020, https://www.cengage.uk/shop/isbn/9781337558860
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All applied analysis will be based on the open source software gretl
http://gretl.sourceforge.net/
In summary, the material to be covered - always at a practical level using as a main empirical tool the econometric software **"gretl"** - is the following:

Weeks 1 - 2
Following Wooldridge's (2016) Book. Chapter 1: The Nature of Econometrics and Economic Data
Answer using a word file:
Problems 1
Computer exercises from Wooldridge book, C2 and C5 (Chapter 1)
Work using `gretl` **inp** or **session** file: C1, C6, C7

Weeks 3 - 4
Following Wooldridge's (2016) Book. Chapter 2: The Simple Regression Model

Answer using a word file:
Problems 4
Computer exercises C2
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems: 1,3,5,6
Computer exercises: C4, C5

Weeks 5 - 6
Following Wooldridge's (2016) Book. Chapter 3: Multiple Regression Analysis: Estimation
Answer using a word file:
Problems 2
Computer exercises C3
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems: 3,9,16
Computer exercises: C1, C2, C6

Weeks 7 - 8
Following Wooldridge's (2016) Book. Chapter 4: Multiple Regression Analysis: Inference
Answer using a word file:
Problems 2
Computer exercises C3
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems: 1,6,10,11
Computer exercises: C6

Weeks 9 - 10
Following Wooldridge's (2016) Book. Chapter 5: Multiple Regression Analysis: OLS Asymptotics
Answer using a word file:
Problems 2
Computer exercises C5
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems: 4
Computer exercises: C1, C3

Weeks 11 - 12
Following Wooldridge's (2016) Book. Chapter 6: Multiple Regression Analysis: Further Issues
Answer using a word file:
Problems 24
Computer exercises C1
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems:
Computer exercises: C2, C3, C5, C8, C10

Week 12-13
Following Wooldridge's (2016) Book. Chapter 7: Multiple Regression Analysis with Qualitative Information: Binary (or Dummy) Variables
Answer using a word file:
Problems 1 and 2
Computer exercises C1
Work using `gretl` *.inp or *.session file types to prepare answers for
Problems: -
Computer exercises: C7, C12, C15

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face lectures	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	• Support Learning through the e-class platform • Learning and using the open-source program "gretl" for practice on all the taught techniques and the presentation of economic results	
TEACHING ORGANIZATION	*Activity*	*Semester workload*
	Lectures (3 hours per week x 13 weeks)	39 hours
	Hours for private study and preparation of home-works	111 hours
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	**150 hours (total student work-load)**
STUDENT ASSESSEMNT	Written final exam in English Optional individual enhancement grade projects that include comprehension exercises in the course modules (compulsory use of gretl)	

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:
- Introductory Econometrics A Modern Approach, 6th Edition, ISBN10: 1-305-27010-XISBN13: 978-1-305-27010-7, AUTHORS: Jeffrey M. Wooldridge - ©2016 , https://www.cengage.uk/shop/isbn/9781305270107

-Other Foreign language bibliography:
- Cristian Heij, Paul de Boer, Philip Hans Franses, Teun Kloek, Herman K. van Dijk, Econometric Methods with Applications in Business and Economics. Issue 1, ISBN-13: 978-0199268016, Oxford University Press

-Useful Internet Addresses:
http://gretl.sourceforge.net/
http://www.learneconometrics.com/gretl/index.html

-Related scientific journals:
- Journal of Applied Econometrics
- Journal of Econometrics