

# APPLIED ECONOMETRICS II

## COURSE OUTLINE

Responsible: Maria Grydaki

| 1. GENERAL                                                                                               |                                                                                                 |          |         |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------|---------|
| SCHOOL                                                                                                   | School of Management and Economics                                                              |          |         |
| ACADEMIC UNIT                                                                                            | Department of Accounting and Finance                                                            |          |         |
| LEVEL OF STUDIES                                                                                         | Undergraduate                                                                                   |          |         |
| COURSE CODE                                                                                              | 0803.4.006.0                                                                                    | SEMESTER | 2nd     |
| COURSE TITLE                                                                                             | Applied Econometrics II                                                                         |          |         |
| INDEPENDENT TEACHING ACTIVITIES<br>if credits are awarded for separate components of the course          | WEEKLY<br>TEACHING HOURS                                                                        |          | CREDITS |
|                                                                                                          | 3                                                                                               |          | 5       |
| Total                                                                                                    | 3                                                                                               |          | 5       |
| COURSE TYPE<br>general background, special background, specialised general knowledge, skills development | Mandatory, General Background                                                                   |          |         |
| PREREQUISITE COURSES                                                                                     | None                                                                                            |          |         |
| LANGUAGE OF INSTRUCTION and EXAMINATIONS                                                                 | English                                                                                         |          |         |
| OFFERED TO ERASMUS STUDENTS                                                                              | Yes (in English) — Both Winter and Spring Semesters                                             |          |         |
| COURSE WEBSITE (URL)                                                                                     | <a href="https://eclass.hmu.gr/courses/ACCFIN149/">https://eclass.hmu.gr/courses/ACCFIN149/</a> |          |         |

| 2. LEARNING OUTCOMES                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning outcomes</b>                                                                                                                                                        |
| On completion of this module, students should be able to:                                                                                                                       |
| MLO1                                                                                                                                                                            |
| Critically investigate the basic assumptions of simple and multiple regression models and explore potential violations and their consequences for misinterpretation.            |
| MLO2                                                                                                                                                                            |
| Conduct multiple linear regressions using EViews software using cross sectional and time series data and synthesise the results with economic theory.                           |
| MLO3                                                                                                                                                                            |
| Use appropriate econometric methods to determine whether important relationships are independent of time, and hence be able to critically evaluate the data generation process. |
| Upon completion of this course, students should be able to conduct basic econometric analyses.                                                                                  |
| <b>General Competences</b>                                                                                                                                                      |

- Decision-making
- Researching, analyzing, and synthesizing data and information, using the necessary technologies
- Working independently
- Adapting to new situations
- Teamwork
- Working in an international environment
- Promoting free, creative, and inductive thinking
- Generating new research ideas.

### 3. SYLLABUS

Indicatively, but not limited to, the course presentation includes the following sections:

1. The Problem of Model Specification Error – Nonlinear Models and Variable Transformations
2. Multiple Regression Analysis with Categorical Data: Binary or Categorical Variables (or Dummy Variables)
3. Heteroscedasticity
4. Variance Modeling (ARCH-GARCH)
5. Basic Regression Analysis with Time Series Data
6. Autocorrelation - - Random Walk - ARMA(p,q) Autoregressive Models
7. Further Issues (Stationarity) in Time Series Analysis Using Least Squares

### 4. TEACHING and LEARNING METHODS - EVALUATION

|                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                |                          |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>DELIVERY</b><br>Face-to-face, Distance learning, etc.                                                                             | Face to face                                                                                                                                                                                                                                                                                                                   |                          |
| <b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b><br>Use of ICT in teaching, laboratory education, communication with students | <ul style="list-style-type: none"> <li>• Use of ICT in teaching (PowerPoint presentations).</li> <li>• Uploading slides and course materials to the e-class platform.</li> <li>• Communicating with students via the e-class platform and email.</li> <li>• Using a projector</li> <li>• Using econometric software</li> </ul> |                          |
| <b>TEACHING METHODS</b><br>The manner and methods of teaching are described in detail.                                               | <b>Activity</b>                                                                                                                                                                                                                                                                                                                | <b>Semester workload</b> |
|                                                                                                                                      | Lectures                                                                                                                                                                                                                                                                                                                       | 33                       |
|                                                                                                                                      | Practical sessions                                                                                                                                                                                                                                                                                                             | 24                       |
|                                                                                                                                      | Laboratory application using econometric software                                                                                                                                                                                                                                                                              | 6                        |
|                                                                                                                                      | Personal Study                                                                                                                                                                                                                                                                                                                 | 62                       |
|                                                                                                                                      | <b>Course total</b>                                                                                                                                                                                                                                                                                                            | <b>125</b>               |

**STUDENT PERFORMANCE  
EVALUATION**

Description of the evaluation procedure

- Assessment language: English.
- Midterm written exam (30% or 40% of the total grade)
- Students will be assessed through a final written exam, which may include:
  1. Short-answer questions.
  2. Problem-solving questions.
- Students will have access to their assessment results to review explanations regarding their errors.
- A special exam is provided for students with disabilities.

**5. ATTACHED BIBLIOGRAPHY**

The core text book for this module is:

Gujarati D. (2009), Basic Econometrics, 5th edition, McGraw-Hill Irwin (ISBN: [9780071276252](#)).

Additional readings:

Hill, R. Carter, William E. Griffiths and Guay C. Lim (2018), Principles of Econometrics, 5th edition, John Wiley & Sons Pte Ltd.

Wooldridge, M. J. (2013), Introductory Econometrics: A Modern Approach, 5th edition, South-Western, Cengage Learning

