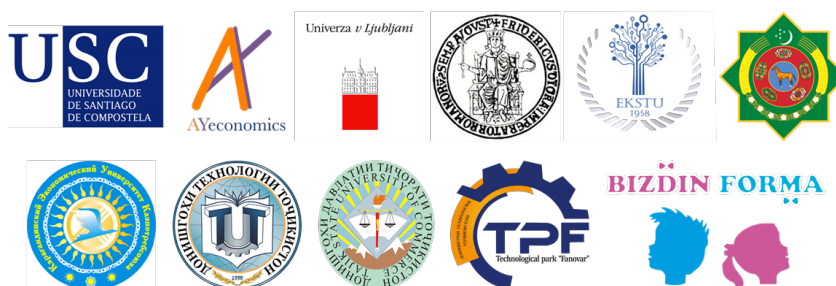




DEVELOPMENT OF A MASTER PROGRAMME IN THE MANAGEMENT OF INDUSTRIAL  
ENTREPRENEURSHIP FOR TRANSITION COUNTRIES

610198-EPP-1-2019-1-ES-EPPKA2-CBHE-JP

Partners :



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## Research Methods and Data Analysis

Study program	Year	Semester

Course type:	CORE
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University code	
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Lectures	Seminar	Tutorial	Laboratory work	Other work	Individ. work	ECTS
30	0	0	30	30	90	6

Lecturer	
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Languages	English
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PREREQUISITS	ОБЯЗАТЕЛЬНЫЕ УСЛОВИЯ
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CONTENTS	СОДЕРЖАНИЕ
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1. Introduction to research
  - 1.1. Introduction to research methods
  - 1.2. Definition and objectives of the econometric model
  - 1.3. How to write a paper
2. Gathering data and preparing databases
  - 2.1. Data gathering
  - 2.2. Survey methods
  - 2.3. Data representativeness and cleaning
3. Linear regression – Least squares

- 3.1. Model specification
- 3.2. Hypothesis testing
- 3.3. Model adjustment and assumptions
- 4. Panel data analysis
  - 4.1. Panel data definition
  - 4.2. Static versus dynamic models
  - 4.3. GMM

## READINGS

- Baltagi, B. (2021). *Econometric analysis of panel data*, 6<sup>a</sup>, Springer.
- Dougherty, C. (2016). *Introduction to Econometrics*, 5<sup>a</sup>, Oxford University Press.
- Marsden, P. V., & Wright, J. D. (2010). *Handbook of Survey Research*, 2<sup>o</sup>. Emerald Group Publishing.
- Wooldridge, J.M. (2020). *Introductory Econometrics A Modern Approach*, 7<sup>a</sup>, Cengage Learning Editores, 2020

## OBJECTIVES AND COMPETENCES

## ЦЕЛИ И КОМПЕТЕНЦИИ

### Objectives

The aim of this subject is to introduce the student in the process of cleaning, analyzing and interpreting data to take more effective business decisions.

### Competences

#### *Basic competences*

- To analyze and synthesize information
- To evaluate and make judgments based on information and the empirical analysis with critical and self-critical thinking
- To learn and work independently

#### *Transversal competences*

- To communicate in English econometric results, effectively, clearly, applying synthesis capacity

#### *Specific competences*

- To understand and use the basic econometric techniques both for cross-section and panel data
- To effectively solve problem using appropriate quantitative, including the identification, formulation, and solution of business problems.

## INTENDED LEARNING OUTCOMES

## ОЖИДАЕМЫЕ РЕЗУЛЬТАТЫ ОБУЧЕНИЯ

Students will be able to:

- to acquire a set of basic tools and techniques which are necessary to understand the data

- to manage a set basic techniques and tools for quantifying the relationships between relevant variables in the economic and business world.
- to effectively address certain business problems using the appropriate econometric methodology.
- to draw conclusions rigorously from empirical evidence.

#### LEARNING AND TEACHING METHODS

#### МЕТОДЫ ОБУЧЕНИЯ И ПРЕПОДАВАНИЯ

This subject intend to be mainly practical, so the student can learn the concepts by facing and solve problems. Thus, most of the classes are recommendable to be taught in the computer room. The recommended software is gretl, since it is open-source and quite intuitive, so the student can focus on understanding and using different econometrics models without having experience on the software. Thus, each lesson will have a presentation by the teacher (short master class) and then students will start to work on the lab to implement and learn the main concepts throughout problems solving (short exercises) or analysing a practical cases in the computer room.

#### ASSESSMENT

#### ОЦЕНКА

It's recommendable that the subject evaluation consist in number of points accumulated by problems solving and practical cases in the computer room (40%) and practical research exercise (60%). In the practical research exercise the student needs to explain the theoretical relationship, to get the appropriate data for the analysis, to do a descriptive section and econometric analysis.