EXPERIMENTAL ECONOMICS

Bachelor in Economics BIE SEP-2023 EXEC-Ec.3.M.A

Area Economics

Number of sessions: 15

Academic year: 23-24

Degree course: THIRD

Number of credits: 3.0

Semester: 1º

Category: COMPULSORY

Language: English

Professor: **ALEXANDRO RUIZ PÉREZ**

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Alexandro Ruiz Pérez holds a Ph.D. in Economics from CEMFI and currently works as a Senior Analyst at Compass Lexecon, where he has been involved in various cases related to competition, antitrust, and damage estimation. In his doctoral thesis, he employs tools from structural econometrics to investigate the relationship between the increasing presence of common shareholders in competing firms and their strategic incentives. Additionally, he utilizes causal identification strategies to analyze the impact of central bank collateral policies on credit supply. During his Ph.D., Alexandro also had the opportunity to teach Microeconomics in the Master in Economics at CEMFI. In addition to his academic experience, he has worked with several business associations and media outlets, applying his journalism background.

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SUBJECT DESCRIPTION

Identifying and quantifying causal relations is a key question in economics. In recent years experimental methods have grown in importance as ways to credibly infer **causal relations**. Experimental settings allow researchers to examine the causal effect of changing one variable, carefully controlling for other variables and confounding factors. **Econometric tools** to interpret experimental data have also been developed, as the use of experimental methods has become more frequent in economics.

LEARNING OBJECTIVES

The course offers an introduction to the topic of experimental economics. Emphasis will be placed in understanding the **econometric tools** used to analyze **experimental data**. The course will discuss the strengths and weaknesses of the use of experiments and related approaches like **natural experiments** and **quasi-experiments** and the use of **instrumental variables**. **Discrete choice** will also be covered. Several examples and **applications** will be discussed. In addition, students will learn how to use the statistical software **Stata** to analyze and interpret real data.

TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	26.67 %	20.0 hours
Discussions	0.0 %	0.0 hours
Exercises in class, Asynchronous sessions, Field Work	13.33 %	10.0 hours
Group work	0.0 %	0.0 hours
Individual studying	60.0 %	45.0 hours
TOTAL	100.0 %	75.0 hours

PROGRAM

SESSION 1 (LIVE IN-PERSON)

PRESENTATION
Lecture 1: Structure, organization and objectives. Review of regression (standard errors, p-value, R2, multiple variables).

SESSION 2 (LIVE IN-PERSON)

UNIT I: INTRODUCTION
Lecture 2: The problem of endogeneity, main forms and solutions: the experimental approach, natural experiments and quasi-experiments and instrumental variables.

SESSION 3 (LIVE IN-PERSON)

Lecture 3: Introduction to Stata.

SESSION 4 (LIVE IN-PERSON)

UNIT II: EXPERIMENTAL METHODS
Lecture 4: Treatment effect model.

SESSIONS 5 - 6 (LIVE IN-PERSON)

UNIT II: EXPERIMENTAL METHODS
Lecture 5: Treatment effect model cont., lab vs field experiments, advantages and disadvantages of the experimental approach.

PRACTICAL CLASS
Problem Set 1: Treatment effect model.

SESSION 7 (LIVE IN-PERSON)

UNIT III: NATURAL EXPERIMENTS AND QUASI-EXPERIMENTS
Lecture 6: Natural experiments and quasi-experiments.

SESSIONS 8 - 9 (LIVE IN-PERSON)

UNIT III: NATURAL EXPERIMENTS AND QUASI-EXPERIMENTS
Lecture 7: Quasi-experiments, panel data and difference in differences.

PRACTICAL CLASS
Problem Set 2: Quasi-experiments and difference in differences.

SESSION 10 (LIVE IN-PERSON)

UNIT IV: INSTRUMENTAL VARIABLES
Lecture 8: Instrumental variables.

SESSION 11 (LIVE IN-PERSON)

UNIT IV: INSTRUMENTAL VARIABLES
Lecture 9: Instrumental variables and two-stage least-squares.

SESSION 12 (LIVE IN-PERSON)

PRACTICAL CLASS
Problem Set 3: Instrumental variables.

SESSION 13 (LIVE IN-PERSON)

UNIT V: DISCRETE CHOICE MODELS
Lecture 10: Introduction to the discrete choice model, utility-based interpretation, marginal effect, probit and logit.

SESSION 14 (LIVE IN-PERSON)

PRACTICAL CLASS
Problem Set 4: Discrete choice model.

SESSION 15 (LIVE IN-PERSON)

FINAL EXAM
Final exam covering all the content of the course.

EVALUATION CRITERIA

A. CLASS PARTICIPATION (10%)

Two main criteria will be used in reaching judgment about your class participation:

1-Attendance: Attendance to class is compulsory. (1) Students must comply with the 70% attendance rule. Otherwise they will lose their 1st and 2nd chance, and go directly to the 3rd one (they will need to enrol again in this course next academic year). (2) Punctuality will be taken into consideration when grading this assistance item and the teacher reserves the right to allow attendance to class to those students not being on time. Finally, (3) general attitude and behaviour in class will be also considered. Students affecting the class environment in a negative way will lose points in the assistance grade.

2-Active participation: Participation in class will be evaluated positively if students: (1) attain a threshold quantity of contributions that is sufficient for making a reliable assessment of comment quality. Additionally, (2) participation will be evaluated in quality terms. A high quality comment reveals depth of insight, rigorous use of case evidence, consistency of argument, and realism. A high quality presentation of ideas must consider the relevance and timing of comments, and the flow and content of the ensuing class discussion. It demands comments that are concise and clear, and that are conveyed with a spirit of involvement in the discussion at hand.

B. INDIVIDUAL WORK (20%)

Practical worksheets, also known as problem sets, will be distributed before practical classes, and students are expected to independently work on them and submit them during the class. These worksheets will be reviewed to assess individual performance and provide feedback.

C. FINAL EXAM (70%)

The final exam will take place at the end of the first semester (session 15) and will cover all the content of the course. More details about this exam will be provided in advance in class.

IMPORTANT: In order to pass the course, you need a minimum grade of 5 in the final exam. If your grade in the final exam do not reach the threshold value of 5, you will fail the course, even the case in which your weighted average of the course exceeds 5.

Additionally, given that the dates of exams are provided in advance, no exceptions will be made. If you do not attend an exam (for whatever reason), this will automatically imply a 0 in this part of the course. Please take this into consideration when planning your semester and your attendance.

criteria	percentage	Learning Objectives	Comments
Final Exam	70 %		Final exam
Individual Work	20 %		Problem sets
Class Participation	10 %		Participation

RE-SIT / RE-TAKE POLICY

Any student whose weighted final grade is below 5 will be required to sit for the retake exam to pass the course (except those not complying with the attendance rules, whom are banned from this possibility).

Grading for retakes will be subject to the following rules:

- The retakes will consist of a comprehensive exam or equivalent assignment. The grade will depend only on the performance on this exam; continuous evaluation over the semester will not be taken into account.

- Dates and location of the retakes will be posted in advance and will not be changed.
- The exam/assignment will be designed bearing in mind that the passing grade is 5 and the maximum grade that can be attained is 8 out of 10

BIBLIOGRAPHY

Recommended

- Angrist, J.D., and Jorn-Steffen Pischke. *Mostly Harmless Econometrics: An Empiricist's Companion.* Princeton University Press. ISBN 0691120358 (Printed)
- Wooldridge, J. M.. *Introduction to Econometrics: A modern approach.* Cengage Learning. ISBN 9781337558860 (Printed)

BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may provide further indications.