



UNIVERSITÀ DI PISA

QUANTITATIVE ECONOMICS FOR BUSINESS

GIUSEPPE RAGUSA

Anno accademico

2020/21

CdS

MANAGEMENT FOR BUSINESS AND
ECONOMICS

Codice

548PP

CFU

6

Moduli	Settore/i	Tipo	Ore	Docente/i
QUANTITATIVE ECONOMICS FOR BUSINESS	SECS-P/05	LEZIONI	42	GIUSEPPE RAGUSA

Learning outcomes

Knowledge

The aim of Quantitative Economics for Business is to provide an introduction to the practice of econometrics. While both theoretical and practical aspects are covered, emphasis will be on intuitive understanding and concepts will be illustrated with real-world business applications. Quantitative techniques are best learned by doing, and I will require you to do a fair amount of hands-on work.

The methods taught in this introductory course can also be employed in the business disciplines of accounting, finance, marketing, management, and in many social science disciplines.

Assessment criteria of knowledge

Ongoing assessment to monitor academic progress will be carried out in the form of homework assignments. Homework assignments will follow a weekly schedule. Homework assignments count up to 30% of the final grade. The assignment will be posted on the Teams channel and it will consist of a series of personalized multiple-choice tests.

Skills

Students who successfully complete Quantitative Economics for Business should be comfortable with basic statistics and probability. They should be able to use a statistical/econometric computer package to estimate an econometric model and be able to report the results of their work in a non-technical and literate manner. In particular, a student who successfully completes Quantitative Economics for Business will be able to estimate and interpret linear regression models and be able to distinguish between economic and statistical importance. They should be able to critique reported regression results in applied academic papers and interpret the results for someone who is not trained as an economist.

Assessment criteria of skills

Small projects will be carried out in order to understand how to use the R statistical software

Teaching methods

Due to the Covid-19 emergency, this course will be taught remotely. Lectures will be streamed live on Zoom. Recordings of the lectures (and all the supporting material) will be made available on the Teams channel. You can download the application suitable for your device on the Zoom web page (<https://zoom.us>).

Links to each lecture will be posted on the Teams channel. You will need to register in advance for the lecture **using your institutional email (@unipi.it)**. This will be necessary to ensure the highest level of security. A password to join the meeting will be sent after registration.

All the information about the class (announcements, homework assignments) is to be found in the Teams Channel.

Syllabus



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- 01 T 22 September 2020 Introduction and review of statistics
 - 02 Th 24 September 2020 Introduction to R
 - 03 T 29 September 2020 Review of statistics I
 - 04 Th 1 October 2020 Review of Statistics II
 - 05 T 6 October 2020 Bivariate regression I
 - 06 Th 8 October 2020 Bivariate regression II
 - 07 T 13 October 2020 Endogeneity and causality
 - 08 Th 15 October 2020 Multiple regression I
 - 09 T 20 October 2020 Multiple regression II
 - 10 Th 22 October 2020 Nonlinear regression models I
 - 11 T 27 October 2020 Nonlinear regression models II
 - 12 T 29 October 2020 Assessing regression studies
 - 13 Th 3 November 2020 Midcourse Review
 - 14 T 5 November 2020 Midterm
 - 15 Th 10 November 2020 Binary dependent variable
 - 16 T 12 November 2020 Panel Data I
 - 17 Th 17 November 2020 Panel Data II
 - 18 T 19 November 2020 Panel Data III
 - 19 Th 24 November 2020 Instrumental variables regression I
 - 20 T 26 November 2020 Instrumental variables regression II
 - 21 Th 1 December 2020 Instrumental variables regression III
 - 22 T 3 December 2020 Program evaluation I
 - 23 Th 10 December 2020 Program evaluation II
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Bibliography

The textbook we'll be using is Stock and Watson's Introduction to Econometrics (3rd edition)

- Stock, James H. and Mark W. Watson, Introduction to Econometrics, Addison Wesley; 3rd edition, ISBN: 1408264331

Stock and Watson's *Introduction to Econometrics* is nicely organized and easy to read. However, no book is a perfect fit for everyone. There are many other books you can use. A good example is Jeffrey Wooldridge's *Introduction to Econometrics*

- Jeffrey Wooldridge, Introductory Econometrics, South Western, fourth edition, 4th edition, ISBN: 0324788908

Assessment methods

Your grade will consist of:

- Homework assignments (35%)
- Midterm (35%)
- Final exam (30%)

Note:

- Students who don't turn in the homework assignments or do not take the midterm can take a (much) longer final exam worth 100% of the grade (this option is available to students who prefer to forfeit their grade on *both* midterm and homework assignments)
- Grades from the homework assignments and the midterm will be considered only for the first three exam dates ("appelli") after the end of class. For the fourth date, the exam will consist of a longer final exam
- No student will be allowed to take the exam on two subsequent exam dates. No exceptions will be made. ("Taking the exam" here means sitting and looking at the exam) All the exams up to December will be administered virtually.

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