

Business Research Methods

Academic Year: **2017/2018**

Semester: **1st**

Instructor(s): Miguel Godinho de Matos, Pedro Raposo: Hugo Castro Silva, Miguel Frazão

Contact(s) and Office hours:

Pedro Raposo: Tuesday 11-12 (room 5314-C)

Miguel Godinho Matos: To be announced

Hugo Castro Silva: To be announced

Miguel Frazão: To be announced

Biography:

Pedro Raposo is an Assistant Professor at CATÓLICA-LISBON, teaching Mathematics, Microeconometrics, with research interests in microeconometrics, namely Health Economics and Labor Economics. Since 2008, Pedro has been doing research in Labor Economics, in Banco de Portugal, with Prof. Pedro Portugal and Prof. José Ferreira Machado. Some of this research was used in his PhD in Economics at Tilburg University, under the supervision of Prof. Jan van Ours. Pedro has published his work in top journals such as Labour Economics, Economics Letters and De Economist. Before Pedro taught in ISEGI (UNL), where he did a MSc in Statistics, and worked in the financial sector at SIBS, after his undergraduate studies in Economics in ISEG (UTL).

Miguel Godinho de Matos is Assistant Professor of Information Systems and Management at Católica Lisbon School of Business & Economics. He is also a visiting scholar at the Heinz College from Carnegie Mellon University. Miguel received a Ph.D. in Telecommunications Policy and Management and a M.Sc. in Engineering and Public Policy from Carnegie Mellon University. Miguel's research interests focus on the analysis of social networks and peer influence on consumer behavior and the impact of digitization on consumer search and choice. Miguel's work has been accepted for publication in top journals such as Management Science and Management Information Systems Quarterly as well as top peer-reviewed research conferences such as the International Conference of Information Systems, the IEEE Conference on Social Computing and the Economics of Digitization Seminar Series of the National Bureau of Economic Research.

Hugo Castro Silva is a teaching assistant at Católica Lisbon School of Business & Economics. He is also a visiting assistant professor at Instituto Superior Técnico (IST), Universidade de Lisboa where he has taught several courses including Microeconomics, Economics, and Management. Hugo received a PhD with honors in Engineering and Management and an MSc in Industrial Engineering and Management from IST. Though an engineer at heart, his research work is on Labor Economics with a special focus on the relationship between technology and human capital, as well as different aspects of labor market segmentation.

Miguel Frazão is a teaching assistant at Católica-Lisbon School of Business and Economics where he has taught courses such as Microeconomics, Macroeconomics and Data Analysis. He has an MsC and bachelor in Economics by CLSBE, finishing with an average of 18 (curricular) and 17, respectively. His main areas of interest are Industrial Organization and Game Theory.

Course overview and objectives:

This course introduces quantitative models for business decision-making. A great emphasis is put on practical applications of models, and on the use of statistical software packages to analyse real-world datasets.

After taking this course you should be able to:

- Construct a database in order to address real-world problems related to business
 - Know the basic concepts of statistics that are heavily relied upon in econometric analysis
 - Distinguish different types of data formats (cross section, panel data, etc.) and how they can be analysed
 - Have hands-on experience with using econometric models to analyse real-world datasets
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Course Content:

Part I - Applied Statistics (18h+9h)

1. Refresh on Statistics
 - (a) Probability distributions, Sampling distributions and Central Limit Theorem
 - (b) Point and interval estimation
 - (c) Hypothesis testing
2. Data collection:
 - (a) Different types of data (quantitative vs. qualitative; primary vs. secondary data)
 - (b) Avoiding biases in data collection (e.g., selection bias, recall bias, survivorship bias)
 - (c) Questionnaire design and sampling
3. Exploratory data analysis
 - (a) Suggest hypotheses about the causes of observed phenomena
 - (b) Assess assumptions on which statistical inference will be based
 - (c) Support the selection of appropriate statistical tools and techniques
4. Introduction to Regression Analysis
 - (a) Ordinary Least Squares Model
 - (b) Estimation
 - (c) Inference
 - (d) Log-linear, Linear-Log and Log-log models
 - (e) Dummy variables, non-linear effects and Interactions
5. Limited Dependent Variables
 - (a) Maximum likelihood estimation
 - (b) Logit and Probit
 - (c) Count data models

Part II - Econometric Methods (18h+9h)

1. Causality vs. correlation
 - (a) Omitted variable bias
 - (b) Simultaneity
 - (c) Measurement Error

2. Taking Advantage of different data formats
- (a) Cross-Section
 - (b) Independently Pooled Cross-Section
 - (c) Panel data
 - (d) Fixed effects & First Differences
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Required background:

At least one statistics undergraduate course. Students should know how to compute an expected value and a partial derivative.

Grading:

The final grade is based on

- Individual Class Participation
 - Homework and (or) Class Project (50%)
 - Midterm and Final Exam (50%) – (minimum average grade (midterm and final exam) is 7)
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Bibliography:

In this class we will use the following textbook:

- JWB: Jeffrey Wooldridge, Introductory Econometrics: A Modern Approach, 5 ed. Thomson (PART1: CHAPTER 1-7 + APPENDIX B) (PART2: CHAPTER 13,14,17 + APPENDIX C)

We will complement the book with discussions of applications, cases, research articles and demonstrations. Whenever relevant, we will hand out lecture notes.

Code of conduct and ethics:

Católica Lisbon School of Business and Economics is a community of individuals with diverse backgrounds and interests who share certain fundamental goals. A crucial element to achieve these goals is the creation and maintenance of an atmosphere contributing to learning and personal growth for everyone in the community. The success of CATÓLICA-LISBON in attaining its goals and in maintaining its reputation of academic excellence depends on the willingness of its members, both collectively and individually, to meet their responsibilities.

Along with all the other members of our community, students are expected to follow professional standards and CATÓLICA-LISBON standards of Academic Integrity. Some details should be mentioned here: Please arrive on time for class with uninterrupted attendance for the duration of the class. Signing attendance sheet for anyone else in the class constitutes fraud and a violation of the CLSBE code of conduct. Use of computers and other electronic devices during the class is not allowed, unless expressly requested by the instructor of the course. Students who persistently act in a disruptive and disrespectful manner during the class session may be invited to leave.

Students are expected to behave at all times according to the fundamental principles of academic integrity, including honesty, trust, fairness, respect, and responsibility. In particular,

- a) In **individual graded assignments** of any type, students may not collaborate with others or use any materials without explicit permission from the instructor of the course;

- b) In **group assignments and reports**, all students listed as authors should have performed a substantial amount of work for that assignment;
- c) It is dishonest to fabricate or falsify data in experiments, surveys, papers, reports or other circumstances; fabricate source material in a bibliography or “works cited” list; or provide false information in other documents in connection with academic efforts;
- d) **Plagiarizing**, i.e. “to steal and pass off the ideas or words of another as one’s own and or to use another’s production without crediting the source” (Merriam-Webster Dictionary) is an Academic Integrity breach. It can be avoided by using proper methods of documentation and acknowledgement. Visit this guide for additional resources on how to avoid plagiarism in your written submissions <http://en.writecheck.com/plagiarism-guide>
- e) In **exams** students must not receive or provide any unauthorized assistance. During an examination, students may use only material and items authorized by the faculty. Use of smartwatches or other communication devices is not permitted during the exam.

Academic integrity breaches will be dealt with in accordance with the school’s code of Academic Integrity: <https://www.clsbe.lisboa.ucp.pt/system/files/assets/files/academicintegritycode.pdf>
