

## Syllabus

### Course description

<b>Course title</b>	<b>Econometrics</b>
<b>Course code</b>	27032
<b>Scientific sector</b>	SECS-P/05
<b>Degree</b>	Bachelor in Economics and Management
<b>Semester and academic year</b>	2nd semester 2018-2019
<b>Year</b>	3rd
<b>Credits</b>	7
<b>Modular</b>	No

<b>Total lecturing hours</b>	42
<b>Total lab hours</b>	21
<b>Total exercise hours</b>	none
<b>Attendance</b>	suggested, but not required
<b>Prerequisites</b>	Probability and Statistics course strongly suggested
<b>Course page</b>	<a href="https://www.unibz.it/it/faculties/economics-management/bachelor-economics-management/">https://www.unibz.it/it/faculties/economics-management/bachelor-economics-management/</a>

<b>Specific educational objectives</b>	<p>The aim of the module is to develop specific skills in applied econometric research by a mix of lectures, computer classes, and tutorials where each topic is discussed in both methodology and application. The intention is to provide a description of a number of different research methods and examples of how they may be applied to management and social science research problems for the collection and analysis of data.</p> <p>More specifically educational objective include:</p> <ul style="list-style-type: none"> <li>- Ability to interpret the results of econometric analysis and draw appropriate conclusions.</li> <li>- Ability to apply theoretical and empirical models to a real world context.</li> <li>- Learn specialised statistical/econometric software to perform econometric analysis.</li> <li>- Ability to efficiently plan and manage independent economic and business study.</li> <li>- Enhance organisational, analytical and communication skills through participation in group project work</li> </ul>
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<b>Lecturer</b>	Francesco Ravazzolo; <a href="mailto:francesco.ravazzolo@unibz.it">francesco.ravazzolo@unibz.it</a> <a href="https://www.unibz.it/it/faculties/economics-management/academic-staff/">https://www.unibz.it/it/faculties/economics-management/academic-staff/</a>
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	Office E512 c Tel. 0039 0471 013133
<b>Scientific sector of the lecturer</b>	SECS-P/05
<b>Teaching language</b>	English
<b>Office hours</b>	21 please refer to the lecturer's web page
<b>Lecturing assistant</b>	Angelica Gianfreda
<b>Teaching assistant</b>	none
<b>Office hours</b>	See timetable of the lecturer
<b>Teaching format</b>	Frontal lectures

<b>List of topics covered</b>	<p>Matrix Algebra and Stochastic Issues</p> <p>Linear Regression with a Single Regressor and with Multiple Regressors</p> <p>Hypothesis Tests and Confidence Intervals in Linear Regression Models</p> <p>Regression with Panel Data (Advantages and limitations of fixed and random effects regression)</p> <p>Regression with a Binary Dependent Variable, Categorical data analysis</p> <p>Heteroscedasticity and Autocorrelation</p> <p>Instrumental Variables Estimation</p> <p>Factor Analysis</p>
<b>Teaching format</b>	Lectures, practical labs, group project, face-to-face coaching and mentoring.

<b>Learning outcomes</b>	<p>The course will equip students with the following analytical skills: Analysis, Synthesis, Evaluation, Application; Numeracy and business research skills; Managing information and knowledge; Research related skills.</p> <p>In addition the course will develop the following behavioral, organizational and communication skills: personal effectiveness, learning, autonomy, technical expertise, communication and information technology, IT architecture and problem-solving using IT software Eviews.</p> <p>More precisely, the learning outcomes include:</p> <ul style="list-style-type: none"> <li>- Knowledge and understanding quantitative methodologies used by students in economics, business and management field, including data collection , data processing and analysis, model design and analytics</li> <li>- Applying knowledge and understanding to techniques for analysing quantitative data in economics, business and management</li> </ul>
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	<ul style="list-style-type: none"> <li>- Making judgments regarding the suitability of particular methods to research in economics and business.</li> <li>- Making informed choices in regard to quantitative methods for decision-making , selection and application of research methods using statistical software, IT and communication skills, available statistical information and data.</li> <li>- Can communicate with their peers, research community, public and policy-makers on making necessary judgement and corrections to policy and research.</li> </ul> <p>Can be expected to be able to promote, within academic and professional contexts, technological and socio-economic advanced knowledge</p>
<b>Assessment</b>	Written exam and a mid-term assignment (optional): written exam includes an essay and a review questions to test knowledge of theory, method and application skills. Written group assignment (optional) carried in groups in the mid-term in a form of report.
<b>Assessment language</b>	English
<b>Evaluation criteria and criteria for awarding marks</b>	<p>Final mark is a sum of marks from the group assignment and a written exam.</p> <p>Mid-term Assignment in groups can give a bonus of 20% of the total points. Student will analyse econometric problems in both academic and practical contexts, displaying effective quantitative problem-solving skills. With a clarity of answers and mastery of research method, ability to collect and process the data, make critical comparisons and judgements, summarize, establish and measure the relationships within the project. An assignment also test student’s ability to work in a team, creativity, IT and communication skills, critical thinking, cooperation and demonstrate individual’s reflection and judgement.</p> <p>Final written exam.</p>
<b>Required readings</b>	Christiaan Heij, Paul de Boer, Philip Hans Franses, Teun Kloek, and Herman K. van Dijk, <i>Econometric Methods with Applications in Business and Economics</i> , Oxford University Press.
<b>Supplementary readings</b>	<p>Marno Verbeek, <i>A Guide to Modern Econometrics</i>, Wiley 4th Edition.</p> <p>Jim H. Stock and Mark W. Watson, <i>Introduction to Econometrics</i>, Pearson International 3d Edition.</p>