# Course Descriptions None 2024-2025

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| Course Title | Empirical Analysis I |
| Course Code | EBC4183 |
| ECTS Credits | 6,5 |
| Assessment | Whole/Half Grades |

Period

| Period | Start | End | Mon | Tue | Wed | Thu | Fri |
|---|---|---|---|---|---|---|---|
| 1 | 2-9-2024 | 20-10-2024 | X | | | X | |

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| Level | Advanced |
| Coordinator | Stephan Smeekes, Niels Holtrop For more information:s.smeekes@maastrichtuniversity.nl; n.holtrop@maastrichtuniversity.nl |
| Language of instruction | English |
| Goals | In terms of the so-called Assurance of Learning standards, this course pursues the following learning objectives:<br>* Knowledge acquisition: students will acquire knowledge of statistical methods and econometric models that are relevant when dealing with continuous dependent variables.<br>* Knowledge application and judgement: in several assignments, students will learn to use and extend their knowledge on the basis of realistic cases and datasets.<br>* Research skills: the acquired knowledge involves (the application of) econometric techniques and thus directly contributes to students' research skills. Moreover, students will gain experience with data analysis in the open-source programming environment R, a research skill that we also be relevant beyond this course.<br>* Communication and professional attitude: to realize the above learning objectives, interaction, feedback, and teamwork will be key. As a result, students will also sharpen their communication skills and improve their professional attitude. |
| Description | Empirical analysis refers to research in which one gains knowledge on the basis of observation or experience. In economics and business economics, the goal of empirical analysis very often is to model and quantify relationships between various events or phenomena. In this course, we will learn how econometrics, and in particular its mainstay regression analysis, enable us to analyze (business) economic relationships between a phenomenon (the dependent variable) and its drivers (the independent variables). We will focus on relationships that are linear (or linearizable) in the parameters, and where the dependent variable is a real number (as opposed to, e.g., a nominal outcome).<br>More precisely, we will learn how we can build valid econometric models and study how and under which conditions we can use the method of ordinary least squares (OLS) to calibrate these models. We will discuss the problems if these conditions are not met and address possible solutions. Specific attention will be dedicated to models for time series data.<br>Throughout the course, we do not stick to a purely theoretical discussion of the relevant concepts but apply our knowledge to real-life problems. On the basis of structured assignments with realistic data, we will conduct econometric analyses in the open-source programming environment R. As such, a secondary objective of this course is to introduce students to data analysis in R, a skill that will also be useful in other courses and in many research-oriented jobs.<br><br>Assessment Methods : Participation, Reports, Exam. |
| Literature | Wooldridge, Jeffrey M. (2009), Introductory Econometrics: A Modern Approach (4th ed.), South-Western Cengage Learning, or any more recent version. |
| Prerequisites | This course is in transition for the master Business Research.<br>See the Master Education and Examination Regulations for more information.<br><br>The following rule applies to master Business Research students who started the programme prior to academic year 2024-2025.<br>TRANSITIONAL REGULATION (EBC4183):<br>The master Business Research has been discontinued.<br>Courses of the Business Research master's programme will continue to be offered until and including academic year 2025-2026 with exam opportunities running until and including 2026-2027.<br><br>PREREQUISITES:<br>Essential (to be brushed up if necessary):<br>* Knowledge of basic statistics<br>* Knowledge of elementary algebra and basic calculus<br>* Experience with a statistical package like SPSS<br>Strongly recommended:<br>* Notions of matrix algebra (e.g. addition, multiplication, transpose, singularity, inversion)<br>* Notions of regression analysis and ordinary least squares (OLS)<br>* Notions of programming and algorithmic thinking |
| Teaching methods | PBL / Lecture / Assignment / Research |
| Assessment methods | Final Paper / Participation / Assignment / Presentation / Take home exam |
| Evaluation in previous academic year | For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM |

This course belongs to the following programme / specialisation

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| Master Business Research - No specialisation | Transitional Regulation |