Course Descriptions None 2026-2027

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	31-8-2026	16-10-2026	X			X	

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: * Knowledge acquisition: students will acquire knowledge of statistical methods and econometric models that are relevant when dealing with continuous dependent variables. * Knowledge application and judgement: in several assignments, students will learn to use and extend their knowledge on the basis of realistic cases and datasets. * 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. * 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). 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. 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. 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	Essential (to be brushed up if necessary): * Knowledge of basic statistics * Knowledge of elementary algebra and basic calculus * Experience with a statistical package like SPSS Strongly recommended: * Notions of matrix algebra (e.g. addition, multiplication, transpose, singularity, inversion) * Notions of regression analysis and ordinary least squares (OLS) * Notions of programming and algorithmic thinking
Transitional Regulations	<ul class="trcohorts"> - Master Business Research - No specialisation [2023-2024 and earlier] - In 2024-2025 and 2025-2026 education and exam/resit opportunities are offered. - In 2026-2027 exam/resit opportunities are offered. - From 2027-2028 onwards, the course is cancelled. <table><col style="width: 200px;"><col style="width: 120px;"><col style="width: 120px;"><col><thead><tr><th>Academic Year</th><th>Education</th><th>Exam/Resit</th><th>Replacement(s)</th></tr></thead><tbody><tr><td>2024-2025 - 2025-2026</td><td>X</td><td>X</td><td> </td></tr><tr><td>2026-2027</td><td> </td><td>X</td><td> </td></tr><tr><td>2027-2028 onwards</td><td> </td><td> </td><td> </td></tr></tbody></table>
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

Master Business Research - No specialisation	In transition - Year 1 Compulsory Courses