DESCRIPTION OF THE SUBJECT/MODULE OF STUDIES

Course unit (module) title	Code
Econometrics	

Academic staff	Core academic unit(s)
Coordinating: Prof. Dr. Mindaugas Butkus	Vilnius University Šiauliai Academy

Study cycle	Type of the course unit
First	Mandatory

Mode of delivery	Semester or period when it is delivered	Language of instruction
Blended learning	The Autumn Semester	Lithuanian/English

Requisites	
Prerequisites: statistics	**Co-requisites (if relevant):**

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	134	54	80

Purpose of the course unit		
Acquire knowledge of the science of econometrics and its place in studies of economics and other social sciences, and the ability to carry out analysis of micro and macro phenomena using econometric methods and principles: hypothesis --> model formation --> data collection --> calculations --> preparation of conclusions --> use of conclusions and model parameters for analysis and interpretation.		
Learning outcomes of the course unit	**Teaching and learning methods**	**Assessment methods**
He will know the classical principles of econometric theory and will be able to analyse and critically interpret economic processes in the context of economic theories and international changes by understanding their application possibilities and using information technologies, and mathematical and statistical methods.	Case study (case studies), scientific article analysis, practical tasks, traditional lecture	Exam, Colloquium
Will be able to prepare instruments for data collection, collect and systematise quantitative and qualitative data, select and justify appropriate methods for their analysis and be able to carry out research, creatively and critically applying these methods, formulate analytical conclusions	Case study (case studies), individual study, information search exercise, practical tasks	Individual study report
Will be able to plan, organise and conduct research that evaluates and predicts economic developments in organisations, countries and the world, applying econometric knowledge and methods	Individual consultation, individual examination	Individual study report
Will be able to communicate constructively by presenting the results of research to the audience, discuss relevant economic issues, speak coherently and convincingly orally and in writing, convey knowledge and understanding, take responsibility	Working in Groups, Discussion	Presentation/defence of the individual investigation report

for the quality of their work, evaluate the work of colleagues following ethical principles		
Will be able to critically and constructively evaluate the research results of one's and colleagues' research, constantly improve learning skills, plan the learning process, make independent decisions, and remain objective and critical.	Discussion, Individual Consultation, Individual Study	Presentation/defence of the individual investigation report

Content	**Contact hours**							**Individual work: time and assignments**	
	Lectures/e-learning	Tutorials/e-learning	Seminars	Workshops/e-learning	Laboratory work	Internship	**Contact hours, total**	**Individual work**	**Tasks for individual work**
1. Repeating descriptive statistics and probabilities theory. Object of Econometrics. Econometric relationship with economic theory and statistical methodology Econometric research stages	3			2			5	6	Literature analysis (Wooldridge, 2020, Chapters 1, 19). Preparation for Colloquium and Examination
2. Classical linear regression with intergroup data and MRM	3			3			6	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapter 2). Preparation for Colloquium and Examination
3. Nonlinear regression with intergroup data and MRM	3			2			5	6	Practical tasks on the computer. Preparation for Colloquium and Examination
4. Multiple regression with intergroup data and MRM	3			2			5	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapter 3). Preparation for Colloquium and Examination
5. Multiple regression with qualitative variables and interactions	3			2			5	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapter 7). Preparation for Colloquium and Examination
Colloquium				2			2		
6. Model error assumptions	3			2			5	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapters 4-6). Preparation for the exam

7. Logistic regression	3			2			5	6	Practical tasks on the computer. Preparation for the exam
8. Regression with time series	3			2			5	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapter 10). Preparation for the exam
9. Reconciliation of intergroup and time series data: introduction to panel data regression models	4			3			7	6	Practical tasks on the computer. Literature analysis (Wooldridge, 2020, Chapter 13). Preparation for the exam
Individual preparation of the study		1					1	26	
Exam		1		2			3		
Total	**28**	**2**		**24**			**54**	**80**	

Assessment strategy	Weight %	Deadline	Assessment criteria
Individual study report	30	At the end of the semester	A good theoretical analysis (2 points). Quality of references (used literature) (included the latest literature). Diversity (various scientific journals and authors, research and meta-research, databases, etc.). The student provided reasonable insights. High-quality text (3 points). There are no grammatical and styling diffuses, the text is well structured, easy to read and understandable. The graphs and tables perfectly illustrate and complement the text. References are correct in the text. The text is not plagiarised (the style and vocabulary correspond to the student's level). Science (4 points). The scientific problem is clearly described The study has a scientific emphasis (at least one aspect is studied deeply enough). Appropriate scientific justification (foresight is supported by references and conclusions by calculations). Other (1 point). The research report reflects the author's creativity (e.g.: illustrations are used, access to the problem under investigation, etc.). A professional approach is revealed.
Colloquium	20	During the semester	Test with closed questions. Measured by the percentage of correctly answered questions.
Exam	50	During the exam session	The first part is the presentation/defence of the individual investigation report (40 %). The presentation shall be assessed based on the following criteria: 1. General criteria for appearance and style: legibility, order, accessibility and attractiveness 2. Content criterion: Summary (closely summarises the main highlights of the study report); Introduction (presenting the topic in such a way that allows the listener to quickly identify/understand the research problem); Justification (definite explanation of the principles relating to the problem under consideration (problems/objectives); Study (clearly presented and in line with the modern approach in the topic under consideration), Area and accent (the main highlights are placed throughout the presentation, the presentation adequately reveals the research carried out). 3. Delivery Criterion: the student was

			professional, enthusiastic, knowledgeable and able to communicate information about the study and its results clearly and effectively. The second part is computer tasks (60 %). The assessment shall be based on the proportion of tasks carried out correctly and on the part of the calculations carried out in an appropriate way to answer the questions.

Author (-s)	Publishing year	Title	Issue of a periodical or volume of a publication	Publishing house or weblink
Required reading				
Wooldridge, J.M.	2020	Introductory Econometrics: A Modern Approach	7th ed.	*https://www.uploady.com/#!/download/7EYa6HZak0R/GD4MhqKm24dDr5Pi*
Additional literature				
Koop, G	2008	Introduction to econometrics		John Wiley & Sons
Gujarati, D. N.	2021	Essentials of econometrics		Sage Publications
Adkins, L.C.	2014	Using Gretl for Principles of Econometrics	4th ed.	Oklahoma State University. http://www.learneconometrics.com/gretl/using_gretl_for_POE4.pdf
Hill, R. C., Griffiths, W. E., & Lim, G. C.	(2018)	Principles of econometrics		John Wiley & Sons.