Faculty of Economics and Business Administration

COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
Panel Data Econometrics	

Academic staff	Core academic unit(s)
Coordinator: Artūras Juodis **Other lecturers:** none	Faculty of Economics and Business administration

Study cycle	Type of the course unit
First (Bachelor's)	Elective

Mode of delivery	Semester or period when it is delivered	Language of instruction
Face-to-face	5 semester	English

Requisites	
Prerequisites: Statistical Theory, Econometric Theory and Practice	**Corequisites (if any):** basic skills in statistical computing is required

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	130	36	94

Purpose of the course unit
The course presents an overview of econometric methods used in panel data analysis and develops the students' skills necessary for applied analysis of panel data.

Learning outcomes of the course unit	Learning methods	Assessment methods
Knowledge and understanding of panel data regression and its applications. (1.2)	Traditional *lectures* to explain the models of panel data regressions	
Knowledge and understanding of estimation methods of panel data regression models. (3.2)	*Tutorial classes* to solve problems that help understand the concepts and methods presented.	
Have acquired knowledge how to specify, estimate and interpret results of the appropriate panel data regression model for a given econometric problem. (3.4)	*Individual and group work*: Solving complementary problems and studying the literature.	Homeworks, written exam.

	Contact hours	Individual work: time and assignments

Content	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Internship	Contact hours, total	Individual work	Tasks for individual work
Maximum Likelihood Estimation, IV and Generalized Method of Moments	4	2					6	9	Wooldridge Ch. 12-14. *Slides.*
Weak Instruments in IV and GMM	2	2	4				8	25	Andrews et al. (2019). *Slides*
Static Panel Data Models	4	2					6	25	Wooldridge Ch. 10. *Slides*
Dynamic Panel Data Models	4	4	4				12	25	Roodman (2009). *Slides.*
Causal Inference in Panel Data	2	2					4	10	Abadie (2021). *Slides*
Total	16	12	8				36	94	

Assessment strategy	Weight %	Deadline	Assessment criteria
Common evaluation scheme. 10-point scale is used for grading. The final grade is equal to the rounded sum of all collected grades multiplied by the corresponding weights. To get the positive final grade 5 is necessary to pass the written exam.			
Group Assignments	30%		Three group assignments (maximum of two students per group) each worth 10% on given theoretical and empirical problem sets. Assignments discussed during the seminars.
Referee Report	20%		Empirical group assignment (maximum of two students per group) over the topic selected by the students and approved by the lecturer. Each group selects an empirical paper related to the topic of this course and writes a concise referee report style overview of the paper. Final version presented online during the seminar.
Written exam	50%	2 h	The exam tests the knowledge of students from all topic. Exam includes 3 questions with total of 9-12 sub-questions. The material tested is predominantly uses the material from slides and assignments. The final grade is rounded to 0.1.

Author (-s)	Publishing year	Title	Volume and/or publication number	Publishing house or web link
Required reading				
[1] Wooldridge, J.M.	2010	Econometric Analysis of Cross Section and Panel data, 2nd Edition		The MIT Press, Cambridge, Massachusetts

[2] Roodman, D.	2009	A Note on the Theme of Too Many Instruments	71(1) 135-158	Oxford Bulletin of Economics and Statistics
[3] Andrews, I. and J. Stock and L. Sun	2019	Weak Instruments in IV Regression: Theory and Practice	(1) 727753.	Annual Review of Economics.
[4] Abadie, A.	2021	Using Synthetic Controls: Feasibility, Data Requirements, and Methodological Aspects	59(2), 391-425	Journal of Economic Literature
Recommended reading				
[1] Baltagi. B. H. (Editor)	2014	The Oxford Handbook of Panel Data		Oxford University Press
[2] Cameron, C.A. and P. K. Trivedi	2005	Microeconometrics: Methods and Applications		Cambridge University Press