

Type and level of studies: PhD				
Title of the study program: Economics, Statistics, Business				
Subject title: Methodology of Scientific Research 1D				
Subject code: DMEN				
Number of ECTS: 10				
Subject status (Compulsory / Elective): Compulsory				
Teacher/s (Name, last name): Branislav Boričić, Mirjana Ilić, Rade Stankić, Jasna Soldić Aleksić, Aleksandra Nojković				
Number of active teaching lessons:				Other lessons
Lectures:	Practice classes:	Other forms of teaching:	Study research work:	
Prerequisite: no				
Subject objective: To enable students to acquire skills in the methods of general logic, methodology and research, as required for their use in economics-, business- and statistics-based subjects. To prepare students for further units in research and argumentation, as well as with knowledge and skills on crucial elements of data management and analysis. The objective of this course is to make students well-acquainted with the basic econometric methods and prepare them for empirical work in economics. In particular, topics will include specification and estimation of econometric models, testing, and forecasting. The course gives students the opportunity to use actual economic data to test economic theories.				
Subject outcome (gained knowledge): This course develops basic logical and methodological methods and will emphasize their applications to problems in economics, statistics, management and related areas, and also demonstrates further applications in economics. Students are capable to carry out practical data analysis by usage some of data analysis software package. Students have adopted the principles of econometric modeling within the Classical Linear Regression Model framework. Students are trained to estimate and predict from simple econometric models. Students learn to interpret the results of the econometric analysis. Students are trained to solve econometric problems based on concrete economic data. Students are introduced to basic use of statistical software packages (EViews, Stata or equivalent econometrics program).				
Subject content/structure: METHODOLOGY AND LOGIC. Scientific theory and axiomatic method; Deduction relation; Independence of axioms; Consistent and inconsistent theories; Truth and proof; Completeness; Classical and non-classical logics; The logic of preference; Independence of rational choice axioms; Arrow-Sen social choice theory; Possibility and impossibility phenomena. INFORMATICS. Modern concepts of data management and data analysis, applicative software for data analysis, preliminary and explorative data analysis, formulation of data analysis strategy, basic principles of data modeling and knowledge extraction from data. ECONOMETRICS. Introduction. The Classical Linear Regression Model (CLRM): Simple and Multiple Regressions. The assumptions, methods of estimation, small and large sample properties of the estimators. Hypothesis testing and prediction. Testing linear restrictions. Dummy variables. Multicollinearity. Misspecification errors. Stochastic repressors and Instrumental variable estimation. Heteroskedasticity and autocorrelation. Generalized Least Squares (GLS). Simultaneous Equation Models. Fundamental Issues in Simultaneous Equation Models. The problem of identification. Methods of estimation.				
Teaching methods: practice classes, other forms of teaching, study research work				
Grading (maximum number of points 100)				
Pre-examination obligations	Points	Final exam	Points	
Activities during lectures		Written exam		

Practice lessons			Oral exam	
Colloquium/a			
Semester papers				
Literature:				
No.	Author	Title	Publisher	Year
	M. Blaug	The Methodology of Economics: Or, How Economists Explain	Cambridge University Press, Cambridge	1992
	B. Boričić	Logic and Proof	Ekonomski fakultet, Beograd	2011
	G. Priest	An Introduction to Non-Classical Logic	University Cambridge Press, New York	2001
	D.Asteriou, S.G. Hall	Applied Econometrics	Palgrave, New York	2007
	W.H. Greene	Econometric Analysis	Prentice Hall	2011
	M. Verbeek	A Guide to Modern Econometrics	Wiley	2012
	B. A.Tucker (editor-in-chief)	Computer Science	Chapman & Hall/CRC, Boca Ration	2004
	E. Turban, D. King	Electronic Commerce	Prentice Hall, New Jersey	2011
	A. Field	Discovering Statistics Using SPSS	Sage Publications, Inc.	2009