

Table 5.2. Course specification

Study program: Advanced Data Analytics in Business			
Course title: Advanced Econometrics			
Teachers: Boris Radovanov			
Status of the course: Elective			
Number of ECTS: 7			
Condition: None			
Goal of the course Introduction of students with different methods of advanced econometric analysis, topics and methods of modern econometric analysis used in advanced data analytics and data science, training for independent empirical research. New knowledge in the field of assessment, testing and interpretation of econometric models of different kinds with use of econometric software. As software support, we are using GRETLS, EVIEWS and R language.			
Learning outcome Student is capable to identify the economic problem, to define adequate sample and to choose the best econometric model and implementing it with use of econometric software, and on the basis of obtained results to make conclusions and interpret the results.			
Content of the course <i>Theoretical part</i> 1-3. Repetitorium of basic topics in econometrics 3-4. Non-linear regression functions 5. Panel models 6. Instrumental variables 7. Experiments and quasi experiments 8. Binomial logistic regression 9. Multinomial logistic regression 10. Logistic regression with ranks 11. Models with counting data 12. Survival analysis 13. Spatial analysis 14. Tobit and Heckit models 15. Time series analysis <i>Practical part</i> Work on practical tasks, writing of seminar paper on the basis of theoretical topics and learning econometric software in computer lab.			
Literature 1. Stock, J. & Watson, M. (2015). Introduction to Econometrics, 3rd edition. Pearson Education, Inc. 2. G.S. Maddala: Introduction to econometrics, John Wiley & Sons, 3rd edition, 2001. 3. W.H.Greene: Econometric analysis, 5th ed., Prentice Hall, 2003. 4. Baltagi, B. H., Econometrics, Springer, 2002 5. Bingham, N.H., Fry, J.M., Regression (Linear models in Statistics), Springer, 2010.			
Number of hours of active teaching	Theoretical teaching: 2		Practical teaching: 2
Teaching methods Lectures and exercises are conducted in the computer laboratory.			
Assessment (maximum number of points 100)			
Pre-exam obligations	Points	Final exam	Points
Activities during semester	5	Written exam	15
Practical part	5	Oral exam	15
Colloquium (2 colloquiums times 20 points)	40	
Seminar paper	20		