



FACULTY: *Economic and Social Sciences*
COURSE: *Economics*
LEVEL OF EDUCATION: *first-level studies (bachelor)*
FORM OF EDUCATION: *full-time*
PROFILE: *practical*

SUBJECT CARD (Syllabus)

Subject Name: Econometrics					ECTS credits: 6	
Lecturer: according to the list of lecturers and the schedule of classes						
Year: 2	Lectures	Seminars	Laboratory exercises	Exercise	BUNA*	Form of credit*
Semester: 3	24	0	0	24	12	E/ZO
* E – exam; Z – credit; ZO – passing with a grade, BUNA – without the participation of an academic teacher						
Purpose of the course: <i>to acquire knowledge in the field of modeling and forecasting economic dependencies and practical skills in the use of statistical and econometric tools to describe economic dependencies and interdependencies</i>						
Didactic methods: <i>lecture with the use of audiovisual means, seminars, computer laboratory, term work – a project made in a group of 2-3 people.</i>						
Prerequisites: <i>Master in economic, statistical, mathematical terminology and skills in mathematical, statistical and spreadsheet techniques</i>						
No	Subject matter of the classes					
I	LECTURE: Economic theory and econometric modeling. Economic model, econometric model. Objectives and methods of econometrics, classification of econometric models, stages of econometric modeling, specification of model variables. Linear regression with one explanatory variable. Least squares method. Basics of time series analysis. Forecasting rules.					
II	SEMINARS: n/a					
III	LABORATORY EXERCISES: n/a					
IV	EXERCISE: Repetition of matrix calculus elements. Principles of interpretation of structural parameters in static models: assessment of structural parameters, average and marginal measures, partial elasticities. Model verification: selection of variables to the model, interpretation of measures of model adjustment to empirical data, residual variance and residual error, application of a test for attaching and removing variables. The use of the Classical Method of Least Squares for estimation of linear and reducible to linear models, estimation of the model using the KMNK method. Durbin-Watson statistics, testing the normality of the distribution of the random component, testing the constancy of the variance of the random component, analyzing the results of model estimation using the Microsoft program, Gretl.					
V	BUNA: Principles of forecasting and their application					
Learning outcomes						
Directional effects – symbol and specification				Objective effects – specification		
in the field of <u>KNOWLEDGE</u>:						



P6U_W	P6S_WG	E1_W01 Has a comprehensive knowledge of the place of economics in the system of sciences, its nature, methodology and related to other scientific disciplines, knows and understands the basic terminology of economic sciences along with the application of this practical knowledge in business activities.	<p>Has knowledge of the place of economics in the system of sciences, its character, methodology and connections with other scientific disciplines. Defines the basic concept in the field of economic sciences with particular emphasis on the terminology characteristic of econometrics.</p> <p>Knows what type of model should be used to describe or forecast a particular process or socio-economic problem. Has a basic understanding of multi-equatorial econometric models and general equilibrium models.</p> <p>Describes the relationships between phenomena, subjects and structures in econometrics. Knows standard methods and tools, including techniques for obtaining data from primary and secondary sources, allowing the application of knowledge in the field of econometrics to analyze and interpret phenomena and processes.</p> <p>Describes the use of the statistical apparatus in research in econometrics. Know the theoretical basis for the construction of econometric models, their verification and forecasting on the basis of these models.</p>
P6U_W	P6S_WG P6S_WK	E1_W02 Knows and understands economic conditions, forms and standards, as well as phenomena and processes related to the market. Has knowledge of economic structures and institutions, as well as their elements, characteristics and development.	
P6U_W	P6S_WG P6S_WK	E1_W03 Identifies mutual relations between economic phenomena, entities, structures and institutions on a microeconomic and sectoral scale, both in real and monetary terms, including in the field of selected specialization in the field of economics. Knows how to put this knowledge into practice.	
P6U_W	P6S_WG	E1_W04 Knows and understands at an advanced level the application of selected mathematical, statistical methods and IT tools for the collection, analysis and presentation of economic and social data and their practical application in professional activities.	
in terms of <u>SKILLS</u>:			



P6U_U	P6S_UW	E1_U01 Is able to correctly observe and interpret economic phenomena and economic processes in the context of legal, technological, political and cultural changes.	<p>Is able to observe the environment, determine changes in economic phenomena using econometric terminology. Can interpret observed elementary phenomena and socio-economic processes.</p> <p>Uses the basic knowledge of econometrics in practice. Uses reliable data to analyze and document the symptoms, causes, course, consequences and risks of specific phenomena. Is able to forecast processes and formulate practical conclusions for decision-makers at various decision-making levels.</p> <p>Uses argumentation by referring to relevant theories, views and results obtained from his own research.</p> <p>Has the skills to use theoretical knowledge to describe and analyze economic processes. Can make substantive and statistical assessment and interpret the obtained results of analysis, make substantive and statistical assessment of nonlinear models and interpretation of analysis results.</p>
P6U_U	P6S_UW	E1_U02 Is able to use his theoretical knowledge and effectively and effectively obtain reliable data from primary and secondary sources to analyze specific economic processes and phenomena in the field of economic disciplines.	
P6U_U	P6S_UK P6S_UO	E1_U04 Communicates efficiently using terminology from the field of economic and related sciences both in a team of employees and use the advice of specialists from various fields of knowledge. Is able to present his own ideas and views attractively and convincingly.	
P6U_U	P6S_UW P6S_UO	E1_U10 Independently identifies, diagnoses and resolves problems and applies various variants of solutions in business practice, in connection with the studied specialty.	
in the field of SOCIAL COMPETENCES:			
P6U_K	P6S_KR P6S_KK	E1_K01 Is ready to critically assess the level of their knowledge; recognizes the importance of knowledge in solving cognitive and practical problems and seeks the opinion of experts in case of difficulty in solving the problem on their own.	<p>Understands the need to improve your own analytical skills. Is able to independently supplement and improve knowledge and skills in the field of econometrics.</p> <p>Is able to cooperate in a team, he is able to be involved in the preparation of economic projects. Is open to changes in the environment and willingly shares practical experiences with other participants of task forces. Appropriately defines the priorities for achieving the specified goal.</p>
P6U_K	P6S_KO P6S_KR	E1_K02 Is able to actively cooperate in teams, including international ones, and take on various roles with respect for social, cultural and legal norms, and perform responsible roles in the team, being aware of the decisions he makes, and also takes responsibility for the results of his work and the whole team.	



P6U_K	P6S_KR	E1_K03 Is ready to recognize the importance of knowledge in solving problems related to the development, implementation, analysis and evaluation of economic processes in various types of organizations and to consult experts in this regard in the event of difficulties in solving them himself/herself.	Is prepared to independently conduct an analysis of a selected problem regarding the functioning of the economy on a micro and macroeconomic scale, taking into account econometric and prognostic methods. Thinks and acts in an entrepreneurial way. Actively and creatively combine knowledge from economics, statistics and econometrics, interpret and present the results of analyzes statistical.
P6U_K	P6S_KO P6S_KR	E1_K06 Is able to think in an entrepreneurial way and skillfully communicate with the environment; adapts to new situations and conditions, acquires resistance to failure and stress.	

Ways to verify the outcome of this learning (KNOWLEDGE, SKILLS, SOCIAL COMPETENCES)

Effects(symbol)	Written exam	Oral exam	Colloquium	Essay/Paper	Homework	Individual presentation	Group presentation	Activity in class	Participation in the discussion	Individual project	Group project
E1_W01. 04	X		X		X			X	X		X
E1_U01, E1_U02, E1_U04, E1_U10	X		X					X			X
E1_K01 E1_K02, E1_K03, E1_K06	X		X					X			X

Form and conditions of passing the subject: passing the exercises in the form of a test, open/closed/mixed questions, additionally an entrance colloquia of 5-7 minutes, an exam in written form – issues of a closed and open interpretative nature.

The student's workload needed to achieve learning outcomes in hours and ECTS credits

Contact hours with an academic teacher	
Types of classes	Number of hours
Participation in lectures	24
Participation in seminars	24
Participation in exercises	
Participation in laboratory classes	
Consultations (2 hours for the lecture, 1 hour for one training group, conv., sem.)	
Sum of	48
Student's own work divided into time (examples of student work forms)	
Form of student work	Number of hours
Preparing for classes	30
Writing a paper/project/essay	15
Gathering materials and preparing presentations	15
Self-reading	32
Preparing for colloquia/tests	12
Preparing for the written/oral exam in a subject	14
Preparation for written/oral credit in a subject	14



Sum of	132
Total (contact hours + student's own work)	180
	6 ECTS
1.including the number of ECTS credits for contact hours with the direct participation of an academic teacher	1 ECTS
2.including the number of ECTS credits for hours carried out in the form of independent work	5 ECTS
Classes with a practical profile	
Types of classes	Number of hours
Participation in laboratory exercises	
Preparing for practical credit	30
Sum of	30
Number of ECTS credits for practical classes	1 ECTS
Basic literature: (<i>up to 3 items</i>)	
1. J. H. Stock, M. W. Watson, Introduction to Econometrics, Global Edition, PEARSON Education Limited, Harlow 2019.	
2. V. Mignon, Principles of Econometrics: Theory and Applications, Springer, Berlin 2024.	
Supplementary literature: (<i>up to 5 items</i>)	
1. D. N. Gujarati, Essentials of Econometrics, SAGE Publications Ltd, Thousand Oaks 2021.	
2. D. AsterioU, S. G. Hall, Applied Econometrics, Bloomsbury Publishing, London 2021.	
Acceptance of the Vice-Rector:	