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Course lecturer  
Lecturer contact information (e-mail)

Course page in eLearn

## SYLLABUS OF DISCIPLINE

«\_Econometrics\_»

Degree of higher education - Bachelor

Specialty 073 Management

Educational programs "Management"

Year of study \_\_2022 \_\_, semester \_4

Form of study \_\_\_\_\_ full-time \_\_\_\_\_ (full-time, external)

Number of ECTS credits \_\_3\_\_

Language of teaching \_\_English \_\_ (Ukrainian, English, German)

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\_PhD, Associate Professor Olena Volodymyrivna Bohdaniuk

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<https://elearn.nubip.edu.ua/course/view.php?id=1744>

## DESCRIPTION OF THE COURSE

(up to 1000 printed characters)

Econometric models and methods are applied in the daily practice of virtually all disciplines in business and economics like finance, marketing, microeconomics, and macroeconomics. Decision making in business and economics is often supported by the use of quantitative information. Econometrics is concerned with summarizing relevant data information by means of a model. Such econometric models help to understand the relation between economic and business variables and to analyse the possible effects of decisions.

Econometrics is an interdisciplinary field. It uses insights from economics and business in selecting the relevant variables and models, it uses computerscience methods to collect the data and to solve econometric models, and it uses statistics and mathematics to develop econometric methods that are appropriate for the data and the problem at hand.

The result of studying the discipline is the acquisition by students of such *General competence*: ability to exercise their rights and responsibilities as a member society, aware of the values of civil (democratic) society and the need for its sustainability development, the rule of law, human rights and freedoms and citizen in Ukraine; ability to abstract thinking, analysis, synthesis ability to apply knowledge in practical situations; ability to communicate in a foreign language; information and communication skills technologies; ability to learn and master modern knowledge; ability to conduct research at the appropriate level. *Special (professional) competence*: ability to analyze the results of the organization, compare them with external and internal factors environment; ability to choose and use modern management tools; ability to analyze and structure problems organizations, to form reasonable decisions; ability to work in a team and debug interpersonal interaction in solving professional tasks.

## COURSE STRUCTURE

Theme	Hours (lectures / laboratory, practical, seminar)	Learning results	Task	Evaluation
<b>Module 1</b>				
<b>Theme 1. Subject, methods and objectives of discipline</b>	1/1	Students should know: the role of econometric studies in economics. Object, subject, goals, tasks and structure of the course. Place and course importance among basic disciplines. General view of a linear econometric model, its structure and stages of construction. The concept of the main principles of the classical correlation econometric analysis. The concept of multicollinearity, methods and characteristics of its identification. The concept of heteroscedasticity and methods of its study. The impact of heteroscedasticity on the properties of parameter estimates.	Students will enhance their understanding and acquire practical skills by working through the exercises, which are of three types. Theory exercises on derivations and model extensions. Simulation exercises illustrating statistical properties of econometric models and methods. Empirical exercises on applications with business and economic data sets to solve questions of practical interest.	Execution and delivery of laboratory works - credited. Module: descriptive part 100; test part 30 * 0.1; Independent work - according to the evaluation journal in eLearn.
<b>Theme 2. Methods of the general linear model</b>	2/3			
<b>Theme 3. Multicollinearity and its impact on the estimation of the model parameters</b>	2/4 1/2			
<b>Theme 4. Generalized least squares</b>	2/4			
<b>Theme 5. Econometric model of the dynamics</b>				
<b>Total for module 1</b>	<b>8/14</b>			<b>100</b>
<b>Module 2</b>				
<b>Theme 6. Empirical methods of quantitative analysis based on statistical equations</b>	2/4	Students should know: concept of autocorrelation. The nature and consequences of autocorrelation in econometric models. Check for autocorrelation. Durbin-Watson criterion. Causes of correlation appearance between explanatory variables and residues. Estimation of model parameters using	Tasks of practical work. Writing tests, essays. Doing independent work (including in elearn) Problem solving, presentations etc.	Execution and delivery of laboratory works - credited. Module: descriptive part 100; test part 30 * 0.1;
<b>Theme 7. Construction an econometric model with the autocollinearity remains operations</b>	2/4			

<b>Theme 8. Methods of instrumental variables</b>	2/4	instrumental variables. The concept of lag and lagged variables	Independent work - according to the evaluation journal in eLearn.
<b>Theme 9. Distributed lag models</b>	1/4		
<b>Total for module 2</b>	<b>7/16</b>		
<i>Educational work</i>			
<i>Exam Test</i>			<b>100</b>
<i>Exam Test</i>			<b>70</b>
<i>Exam Test</i>			<b>30</b>
<i>Total for Course</i>			<b>100</b>

### EVALUATION POLICY

<i>Deadline and recompilation policy:</i>	Works that are submitted in violation of deadlines without good reason are evaluated at a lower grade. Rearrangement of modules takes place with the permission of the lecturer if there are good reasons (for example, hospital).
<i>Academic Integrity Policy:</i>	Write-offs during tests and exams are prohibited (including the use of mobile devices). Course papers, abstracts must have correct text references to the literature used
<i>Visiting policy:</i>	Attendance is mandatory. For objective reasons (for example, illness, international internship) training can take place individually (in online form in consultation with the dean of the faculty)

### GRADING SCALE

Rating of the applicant of higher education, points	National assessment for the results of examinations	
	Exam	Credit
90-100	excellent	credited
74-89	good	
60-73	satisfactorily	
0-59	unsatisfactorily	not credited