Appx 2
to the Order of March 23, 2023 № 244

	COURSE SYLLABUS **"Applied modeling"** **Module: Econometrics**
	Degree of higher education - Bachelor **Specialty 075 Marketing** **Educational programs "Marketing"** **Year of study __2024 __, semester _4** **Form of study _____ full-time _____ (full-time, external)** **Number of ECTS credits ___3_____** **Language of teaching __English __ (Ukrainian, English, German)**
Course lecturer	**_PhD, Associate Professor Olena Volodymyrivna Bohdaniuk**
Lecturer contact information (e-mail)	**____bogdaniuk.o.v@nubip.edu.ua_____**
Course page in eLearn	**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.

Competencies of the educational programme:

General competencies (GC):

GC 4. The ability to learn and master modern knowledge.

GC 5. Certainty and perseverance regarding tasks and responsibilities.

GC 11. Ability to work in a team.

GC 14. Ability to act socially responsibly and consciously.

Program learning outcomes (PLO):

PLO 5. Identify and analyze the key characteristics of marketing systems of different levels, as well as the behavior of their subjects.

PLO 9. Assess the risks of marketing activities, establish the level of uncertainty of the marketing environment when making management decisions.

PLO 11. Demonstrate the ability to apply an interdisciplinary approach and perform marketing functions of a market entity.

PLO 14. Perform functional responsibilities in the group, offer informed marketing solutions.

PLO 27. Demonstrate the ability to use modern methods of supply chain management of goods and information.

COURSE STRUCTURE

Topic	**Hours** (lectures / laboratory, practical, seminar)	**Learning results**	**Task**	**Evaluation**
Module 1				
Topic 1. Subject, methods and objectives of discipline **Topic 2. Methods of the general linear model** **Topic 3. Multicollinearity and its impact on the estimation of the model parameters** **Topic 4. Generalized least squares** **Topic 5. Econometric model of the dynamics**	1/1 2/3 2/4 1/2 2/4	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**.**
Total for module 1	**8/14**			**100**

Module 2				
Topic 6. Empirical methods of quantitative analysis based on statistical equations **Topic 7. Construction an econometric model with the autocollinearity remains operations** **Topic 8. Methods of instrumental variables** **Topic 9. Distributed lag models**	2/4 2/4 2/4 1/4	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 instrumental variables. The concept of lag and lagged variables	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; Independent work - according to the evaluation journal in eLearn**.**
Total for module 2	**7/16**			**100**
Educational work				**70**
Exam Test				**30**
Total for Course				**100**

ASSESSMENT POLICY

Policy regarding deadlines and resits:	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).
Academic honesty policy	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
Attendance policy:	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)

SCALE OF ASSESSMENT OF STUDENT KNOWLEDGE

Student rating, points	**National grade based on exam results**	
	exams	**credits**
90-100	excellent	passed
74-89	good	
60-73	satisfactory	
0-59	unsatisfactory	not passed

RECOMMENDED SOURCES OF INFORMATION

Main

1 . Наконечний С. І., Терещенко Т. О., Романюк Т. П. Економетрія: Підручник.2-е вид. доп. та перероб. К. : КНЕУ, 2010. 296 с.
2. Економетрика [Текст] : підруч. для студ. вищ. навч. закл.; [за ред. О. І. Черняка] ; Київ. нац. ун-т ім. Т. Шевченка. К. : ВПЦ "Київський університет", 2010. 359 с.
3. Економетрія (економетрика) [Текст] : навч. посіб. [для студ. заоч. форми навч. всіх екон. спец. ВНЗ]; Терноп. нац. екон. ун-т. Т. : Підручники і посібники, 2012. 115 с.
4. Ілюстративний матеріал з навчальної дисципліни "Економетрика" для студентів галузі знань 0305 "Економіка і підприємництво" всіх форм навчання [Текст]. Харк. нац. екон. ун-т ; [уклад.: Прокопович С. В., Степуріна С. О., Чуйко І. М.]. Х. : Вид. ХНЕУ, 2012. 30 с.
5. Харламова Г. О. Прикладна економетрика : навч. посіб. для студ. екон. спец. освіт.-кваліфікац. рівня "магістр"; Київ. нац. ун-т ім. Т. Шевченка, Екон. ф-т. К. : Наук. світ, 2011. 187 с.

Additional

6. Гур'янова Л. С. Моделювання збалансованого соціально-економічного розвитку регіонів : монографія. Харків. нац. екон. ун-т. - Бердянськ: Ткачук О.В., 2013. 405 с.
7. Лугінін О. Є. Економетрика : навч. посіб. Херсон : ОЛДІ-ПЛЮС, 2014. 319 с.
8. Козьменко О. В. Економіко-математичні методи та моделі (економетрика) : навч. посіб. AdditionalСергієнко, С. В. Прокопович; Харків. нац. екон. ун-т ім. С. Кузнеця. Харків : ХНЕУ ім. С. Кузнеця, 2015. 383 с.