



Course lecturer
Lecturer contact information (e-mail)

Course page in eLearn

SYLLABUS OF DISCIPLINE **«Probability theory and mathematical statistics»**

Degree of higher education - Bachelor
Specialty 073 Management
Educational programs "Management"
Year of study __2022 __, semester _2
Form of study _____ full-time _____ (full-time,external)
Number of ECTS credits __4_____
Language of teaching __English __ (Ukrainian, English, German)

__PhD, Associate Professor Olena Volodymyrivna Bohdaniuk

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<https://elearn.nubip.edu.ua/course/view.php?id=2165>

DESCRIPTION OF THE COURSE

(up to 1000 printed characters)

Statistics is the science and art of making sense of both quantitative and qualitative data. Statistical thinking now dominates almost every field in science, including social sciences such as business, economics, management, and marketing. It is virtually impossible to avoid data analysis if we wish to monitor and improve the quality of products and processes within a business organization. This means that economists and managers have to deal almost daily with data gathering, management, and analysis.

The subject of statistics may be presented at various levels of mathematical difficulty, and it may be directed toward applications in various fields of inquiry. In this sequel we will keep the mathematical background to a minimal. Statistics is that branch of science which deals with: collection of data, organizing and summarizing the data, analysis of data, and making inferences, or decisions and predictions.

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
1 Semester				
Module 1. Descriptive Statistics				
Theme 1. Methodological bases of statistics	1/1	Students should know: object of Statistics, its main category. Statistical methodology. Program-methodology questions of statistical observation. Organize questions of statistical observation. Principles of forming groups. Statistical tables. Essence and kind of statistical indexes. Absolute statistical value. Relative values. Average indexes. System of statistical indexes.	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.
Theme 2. Statistical observation				
Theme 3. Summary and grouping of statistical data. Statistical tables	1/1			
Theme 4. Analysis of distribution series				
Theme 5. Summarizing statistical indicators	2/2			
	2/2			
	2/2			
Total for module 1	8/8			100
Module 2. Inferential Statistics				
Theme 6. Variation rates	2/2	Students should know: sampling kinds, statistical verification of hypothesis. Kinds of interconnections. Regression analysis. Value of tightness and verification of the essence of correlation connection. Rang correlation. Conformity value of attributive rows variation.	Tasks of practical work. Writing tests, essays. Doing independent work (including in elearn) Problem solving,	Execution and delivery of laboratory works - credited. Module: descriptive part 100; test part 30 * 0.1; Independent work - according to the evaluation journal in
Theme 7. Selective method	2/2			
Theme 8. Statistical hypotheses				
Theme 9. Statistical methods for measuring interconnections	2/-			

	4/4		presentations etc.	eLearn.
Total for module 2	10/8			100
Educational work 1 Semester				70
Credit Test				30
Total for 1 Semester				100
Module 3. Statistical methods of studying the dynamics of the development of socioeconomic phenomena				
Theme 10. Time Series	1/2	Students should know: essence and compound elements of dynamic row.	Tasks of practical work.	Execution and delivery of laboratory works - credited.
Theme 11. Analysis of development trends and fluctuations	1/2	Characteristics of dynamic intensity. Average absolute and relative indicators of Time Series. Essence and functions of indexes. Aggregate form of indexes and average weighted indexes. Average indexes. Kinds of statistical graphs.	Writing tests, essays. Doing independent work (including in elearn)	Module: descriptive part 100; test part 30 * 0.1; Independent work - according to the evaluation journal in eLearn.
Theme 12. Index Analysis	2/2		Problem solving, presentations etc.	
Theme 13. Statistical Graphics	1/1			
Total for module 3	5/7			100
Module 4. Basic of Statistics of Agriculture and Environment				
Theme 14. Agriculture statistics	1/-	Students should know: object, tasks and system of statistics for crop production indexes. Statistics of area under crop. Statistics of gross yield of agrarian cultures.. Statistics of agro-technical.	Tasks of practical work. Writing tests, essays. Doing independent work (including in elearn)	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.
Theme 15. Crop statistics	2/2		Problem solving, presentations etc.	
Theme 16. Livestock Statistics	2/2	Object, tasks and system of statistics for animal husbandry. Statistics of quantity and structure of agrarian animals. Indexes of movement and reproduction of animals. Natural indexes of livestock production.		
Total for module 4	5/4			100
Module 5. Basic of Economic Statistics				
Theme 17. Production statistics and production efficiency	1/2	Students should know: statistics of fixed assets. Statistics of production		Execution and delivery of laboratory

Theme 18. Basics of socioeconomic statistics	1/2	and energetic equipment. Statistics of productivity and remuneration. Statistics of agricultural production efficiency. Methodological bases of economic and social statistics. Statistics of natural movement and population reproduction.	works - credited. Module: descriptive part 100; test part 30 * 0.1; Independent work - according to the evaluation journal in eLearn.
Total for module 5	2/4		100
<i>Educational work 2 Semester</i>			70
Exam Test			30
<i>Total for 2 Semester</i>			100

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