



Course Lecturer

**Contact Information
(e-mail)
Virtual Office Hours
(eLearn)**

SYLLABUS OF THE ACADEMIC DISCIPLINE

«Probability Theory and Statistics»

Module «Probability Theory»

Level of Higher Education - "Bachelor"

Field of Knowledge: 07 "Management and Administration".

Specialty: 075 "Marketing "

Educational and professional program of Study "Marketing"

Year of Study: **1**, Semester: **2**

The form of study: Full-time study

The number of ECTS credits: **5 (3)**

Language of instruction: English

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<https://elearn.nubip.edu.ua/course/view.php?id=1827>

DESCRIPTION OF THE COURSE

The course "The Theory of Probability and Statistics", the module "The Theory of Probability" belongs to series of disciplines that form the profile of a future specialist, equipping him with the basic knowledge of the theory and practice in the application of mathematical methods with the aim of studying the patterns of random phenomena, the analysis of mass economic, social and other processes and is the basis for the study of disciplines related to stochastic elements.

The purpose of the course is to develop future specialists in modern thinking and a system of fundamental theoretical knowledge of probability theory and statistics, as well as applied practical skills using information technology tools (MS Excel, SPSS, etc.); acquisition of skills for research and analysis of stochastic processes and phenomena for making effective management decisions.

The task of studying the discipline is the theoretical and practical training of students in the methodology and methods of research and analysis of mass statistical data using the tools of probability theory and mathematical statistics.

The discipline provides the formation of a number of competencies:

Integral Competence (IC):

The ability to solve complex specialized tasks and practical problems in the field of marketing activities or in the learning process, which involves the application of relevant theories and methods and is characterized by complexity and uncertainty of conditions.

General Competencies (GC):

GC4. Ability to learn and master modern knowledge.

GC5. Determination and perseverance in the assigned tasks and responsibilities.
 GC6. Knowledge and understanding of the subject area and professional activities.
 GC10. Ability to communicate in a foreign language.

Program Learning Outcomes (PLO):

PLO5. Identify and analyze the key characteristics of marketing systems of different levels, as well as the characteristics of the behavior of their subjects.

PLO9. Assess the risks of marketing activities, establish the level of uncertainty of the marketing environment when making management decisions.

PLO10. Explain information, ideas, problems and alternatives for management decisions to specialists and non-specialists in the field of marketing, representatives of various structural units of the market entity.

COURSE STRUCTURE

Topics	Hours (lectures / laboratory classes)	Learning outcomes	Tasks	Know ledge assess ment
Semester # 5				
Module # 1				
Topic 1. Introduction to Probability. Concepts of Probability Research.	3/3	Understand the place of the discipline in professional training. Know the basic concepts and categories of probability theory. Understand the patterns of random phenomena, their properties and be able to perform operations on them and analyze the results. Justify the choice of methods and approaches for solving theoretical and applied problems and effectively use the modern mathematical apparatus in professional activities.	Performing practical tasks on each topic in elearn. Performing Self-Study in elearn.	5
Topic 2. Conditional Probability; the Law of Total Probability and Bayes' Theorem.	2/2			5
Topic 3. Rules of Probability Distributions.	2/2			10
Topic 4. Discrete Random Variables (DRV).	2/2			10
Topic 5. Continuous Random Variables (CRV).	2/2			10
Topic 6. Probability Distributions.	3/3			5
Topic 7. Systems of independent random variables.	Self-Study		Performing Self-Study in elearn.	10
Topic 8. Law of large numbers and central limit theorem.	1/1		Performing Self-Study in elearn.	5
Total, hours	15/15			60
Test to Module # 1				30
Total (on the content of module # 1)				100

Total for educational work	$R_{EW} = \frac{0,7 \cdot (R_{M1} + R_{M2} + R_{M3})}{3}$	70
Certification (Exam)		30
Total	$R_{COURSE} = R_{EW} + R_{Exam}$	100

EVALUATION POLICY

Deadline and reassembly policy:	Works that are submitted in violation of deadlines without good reason are evaluated at a lower grade. Relocation of modules takes place with the permission of the teachers who provide the course, if there are serious reasons (for example, hospital).
Academic Integrity Policy:	Copying of the text during written tests and exams is prohibited. The use of mobile devices is allowed only with the permission of the teacher during online testing and preparation of practical tasks. Self-Study works in the form of abstracts, reports, presentations must have correct text links to the information sources used.
Attendance Policy:	Attendance is mandatory. For objective reasons (for example, illness, international internship) training can take place individually at a distance (online form in agreement with the dean of the faculty and the lecturer of the course).

STUDENT EVALUATION SCALE

National Grade	Rating of the Higher Education Learners, Score
“Excellent”	90 - 100
“Good”	74 - 89
“Satisfactory”	60 - 73
“Failed”	0 - 59