



Syllabus of the educational discipline
«Probability Theory and Mathematical Statistics»

Specialty	073 Management
Educational program	073.040 Business Administration
Level of education	first(bachelor)
Discipline status	Base
Teaching language	English
Course / semester	1 st course, 2 nd semester
Number of credits ECTS	5
Distribution by types of trainings and hours of study	Lectures – 24.hours. Practical studies (seminars) – 12 hours. Laboratory studies – 12 hours. Independent training – 102 hours.
Form of final assessment	Exam /Pass
Department	Department of higher mathematics, economical and mathematical methods, Simon Kuznets KNUE, room 329 (main building), +38(057)702-04-05 (or 3-33), E-mail: kafmath@hneu.edu.ua , http://www.vm.hneu.edu.ua/
Teacher (-s)	Misiura Ievgeniia Iuriivna, PhD, associate professor LebedevStepanSergovych, assistant
Teacher's contacts	misuraeu@gmail.com , Stepan.Lebedev@hneu.net
Days of the classes	according to the schedule
Consultations	distance, according to the schedule
The purpose of the discipline is	
forming future specialists' basic mathematical knowledge for solving theoretical and practical problems in professional activity of a competent specialist in any sphere of his activity, skills in analytical thinking and skills in using mathematical knowledge for formation of real processes and developments, and for solving economic problems.	
Prerequisites for learning	
<i>Assimilation of the material of the discipline "Higher Mathematics"</i>	
Content of the educational discipline	
Content module 1. Probability Theory	
Theme 1. Empirical and logical foundations of probability theory.	
Theme 2. Basic theorems of probability theory, their economic interpretation.	
Theme 3. Scheme of independent tests.	
Theme 4. Random variables and their economic interpretation.	
Theme 5. Distribution laws and numerical characteristics of a random variable.	
Theme 6. Multidimensional random variables	
Content module 2. Mathematical Statistics	
Theme 7. Limited theorems of probability theory. Primary processing of statistical data	
Theme 8. Statistical estimates of distribution parameters.	
Theme 9. Testing statistical hypotheses	
Theme 10. Elements of correlation theory.	
Theme 11. Elements of analysis of variance	
Theme 12. Elements of regression theory	
Material and technical support (software) of the discipline	
Software MS Excel	
Course page on the Moodle platform (personal training system)	Syllabus (working program), working plan (technological card), recommended literature, journal of students' attendance, materials of lectures (notes and presentations), questions to independent work, guidelines to conducting practical and laboratory studies, tasks for independent work, tests for checking students' knowledge, example of an examination paper and a



criteria of an assessment of examination work.
<https://pns.hneu.edu.ua/course/view.php?id=3742>

Recommended literature

1. Лабораторний практикум із навчальної дисципліни «Теорія ймовірностей та математична статистика»: навч. посіб. / Е. Ю. Железнякова, І. Л. Лебедева, Л. О. Норік, К. В. Степанова – Харків: ХНЕУ ім. С. Кузнеця, 2016. – 184 с. 2. Малярець Л. М. Математика для економістів. Теорія ймовірностей та математична статистика: навч. посіб. У 3-х ч. Ч.3 / Л. М. Малярець, І. Л. Лебедева, Л. Д. Широкоград – Харків: Вид. ХНЕУ, 2011. – 568 с. 3. Малярець Л. М. Практикум з теорії ймовірностей та математичної статистики в Excel: навч.-практ. посіб. / Л. М. Малярець, І. Л. Лебедева, Е. Ю. Железнякова. – Харків: Вид. ХНЕУ, 2007. – 160 с. 4. Малярець Л. М. Теорія ймовірностей і математична статистика у вправах, прикладах та задачах: навч.-практ. посіб. / Л. М. Малярець, А. В. Ігначкова, Л. Д. Широкоград – Харків: Вид. ХНЕУ, 2010. – 548 с. 5. Теорія ймовірностей та математична статистика: практикум [Електронний ресурс] / Е. Ю. Железнякова, Л. О. Норік; Харківський національний економічний університет ім. С. Кузнеця. – Електрон. текстові дан. (9,34 МБ). – Харків: ХНЕУ ім. С. Кузнеця, 2019. – 320 с. 6. Місюра Є. Ю. Теорія ймовірностей. Конспект лекцій / Є. Ю. Місюра. – Х.: Вид. ХНЕУ, 2013. – 95 с. (Англ. мов.)

Assessment system of learning outcomes

Current control is carried out on a cumulative 100-point system (the maximum is 60 points; the minimum that allows a student to take the exam is 35); final control is conducted in the form of an exam according to the schedule of the educational process (maximum is 40 points, minimum is 25 points). More detailed information on assessment is given in the technological card of the discipline.

Accumulation of rating points in the discipline (example)

Types of training	Max points
Homework	9
Competence oriented tasks	12
Written tests	18
Independent creative task	7
Colloquiums	14
Exam	40
Max points	100

Transference of Simon Kuznets KHNU Characteristics of Students' Progress into the System of the ECTS Scale

Total score on a 100-point scale	ECTS assessment scale	Assessment on the national scale	
		for exam, differentiated test, course project (work), practice, training	for pass
90 – 100	A	excellent	pass
82 – 89	B	good	
74 – 81	C	satisfactory	
64 – 73	D		
60 – 63	E	unsatisfactory	not pass
35 – 59	FX		
1 – 34	F		

Discipline policies

Policy of academic integrity (according to the Law of Ukraine "On Education") - "Teaching discipline is based on the principles of academic integrity - a set of ethical principles and statutory rules that should guide participants in the educational process during training, teaching and conducting scientific (creative) activities to ensure confidence in learning outcomes and / or scientific (creative) achievements. Violations of academic integrity are: academic plagiarism, self-plagiarism, fabrication, falsification, write-off, deception, bribery, biased evaluation. For violation of academic integrity, students may be held subject to the following academic liability: re-assessment (test, exam, test, etc.); re-passing the relevant educational component of the educational program. Write-off during control (modular) works is forbidden (including with use of mobile devices). <https://www.hneu.edu.ua/akademichna-dobrochesnist/>

More detailed information about competencies, learning outcomes, teaching methods, assessment forms, independent training is given in the Syllabus (working plan) of the educational discipline (<http://repository.hneu.edu.ua/handle/123456789/20278>).