

**APPROVED**

Director (Head) of Educational and  
Scientific Institute Volodymyr Chernyshov  
« \_\_\_ » \_\_\_\_\_ 2024 p.

**WORKING PLAN**  
(TECHNOLOGICAL CARD)  
for the course  
«Higher Mathematics in International Business»

for students of the Institute

International relations

study year : 2024 - 2025 term : 1

specialty 292 International economic relations

Study Programme International Business

Total number of hours: 150

year of study 1

form of final assessment: Exam

group(s) 6.01.292.010.24.1

the department that teaches: Economic and Mathematical Modelling

lecturer : Associate professor Ievgeniia Misiura

teacher: Associate professor Ievgeniia Misiura

**1. DISTRIBUTION OF HOURS BY WEEKS OF STUDY**

Forms of educational process organization		Weeks of study															Examination Session	Σ	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			16
<b>Total workload of a student, hours per week</b>																			
Types of training sessions (TS)	Lectures		2	2	2	2	2	2	2	2	2	2	2	2					24
	Practical classes		2	2		2	2		2	2									12
	Laboratory classes				2			2			2	2	2	2					12
	Consultations *		c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
<b>Training sessions</b>			4	4	4	4	4	4	4	4	4	4	4	4					48
Self-study (SS)	Studying the theoretical material		3	3	3	3	3	3	3	3	3	3	3	3					36
	Performance of practical tasks		4	4	4	4	4	4	5	5	5	5	5	5					54
	Preparation for an exam																6	6	12
<b>Self-study</b>			7	7	7	7	7	7	8	8	8	8	8	8				6	102
Final assessment (FA)	Exam																		
<b>Total hours</b>			11	11	11	11	11	11	12	12	12	12	12	12				6	150

\*current consultations are held by the teacher according to the schedule, for the student, hours for consultations are allocated due to independent work

**2. GRADING SYSTEM**

Assessment measures		Weeks of study															Examination Session	Σ	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			16
<b>Amount of points</b>																			
Current assessment	Homework			2		2	2			3									9
	Laboratory works				2			2			2	2	2	2					12
	Independent creative work									7									7
	Written tests								9					9					18
	Colloquiums							7						7					14
Final assessment	Exam																	40	40
<b>TOTAL points per week</b>				2	2	2	2	9	9	3	9	2	9	11				40	100
<b>ACCUMULATION of points</b>				2	4	6	8	17	26	29	38	40	49	60	60	60	60	100	100

Approved at the meeting of the department on September 02, 2024.

Protocol № 1

Acting Head of the department Tetiana Denisova

Week of study	Hours	Forms of educational process organization			Assessment measures	Grades
<b>Content module 1.</b>						
<b>2</b>	TS	2	Lecture	<b>Lecture 1. Elements of the theory of matrices and determinants</b>		
		2	Practical study	<b>Practical study 1. Elements of the theory of matrices and determinants</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		4	Preparation for studies	Solving tasks, performing and completing homework		
<b>3</b>	TS	2	Lecture	<b>Lecture 2. Elements of the theory of matrices and determinants (continuation). General theory of systems of linear algebraic equations</b>		
		2	Practical study	<b>Practical study 2. Elements of the theory of matrices and determinants. General theory of systems of linear algebraic equations</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		4	Preparation for studies	Solving tasks, performing and completing homework	Homework	<b>2</b>
		2	Lecture	<b>Lecture 3. Elements of vector algebra and analytic geometry. Functions and their graphs</b>		

4	TS	2	Laboratory study	<b>Laboratory study 1. Elements of the theory of matrices and determinants. General theory of systems of linear algebraic equations</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		4	Preparation for studies	Performing and designing laboratory work	Laboratory work	2
5	TS	2	Lecture	<b>Lecture 4. Simple and compound interest in economic studies</b>		
		2	Practical study	<b>Practical study 3. Elements of vector algebra and analytic geometry. Functions and their graphs</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		4	Preparation for studies	Solving tasks, performing and completing homework	Homework	2
6	TS	2	Lecture	<b>Lecture 5. Limit of a function. Continuity of a function. Differential calculus of functions of one variable</b>		
		2	Practical study	<b>Practical study 4. Simple and compound interest in economic studies</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material. Preparation for a colloquium		
		4	Preparation for studies	Solving tasks, performing and completing homework	Homework	2
		2	Lecture	<b>Lecture 6. Differential calculus of functions of many variables. Integral calculus of functions of one variable</b>	Colloquium	7

7	TS	2	Laboratory study	<b>Laboratory study 2. Functions and their graphs. Limit of a function. Continuity of a function. Differential calculus of functions of one variable</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material. Preparation for a written test		
		4	Preparation for studies	Solving tasks, performing and completing homework. Performing and designing laboratory work	Laboratory work	2
<b>Content module 2.</b>						
8	TS	2	Lecture	<b>Lecture 7. Empirical and logical foundations of probability theory. Elements of combinatorics. Basic theorems of probability theory, their economic interpretation</b>	Written test	9
		2	Practical study	<b>Practical study 5. Limit of a function. Continuity of a function. Differential calculus of functions of one variable</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		5	Preparation for studies	Solving tasks, performing and completing homework. Performing and designing laboratory work		
9	TS	2	Lecture	<b>Lecture 8. Random variables and their economic interpretation. Basic laws of distribution</b>		
		2	Practical study	<b>Practical study 6. Empirical and logical foundations of probability theory. Elements of combinatorics.</b>		
	S	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material. Preparation for an independent creative task		

	S	5	Preparation for studies	Solving tasks, performing and completing homework. Performing and designing laboratory work	Homework	3
10	TS	2	Lecture	<b>Lecture 9. Problems of mathematical statistics. Primary processing of statistical data</b>		
		2	Laboratory study	<b>Laboratory study 3. Basic theorems of probability theory, their economic interpretation. Random variables and their economic interpretation.</b>	Independent creative work	7
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		5	Preparation for studies	Solving tasks, performing and completing homework. Performing and designing laboratory work	Laboratory work	2
11	TS	2	Lecture	<b>Lecture 10. Statistical estimates of distribution parameters. Statistical evaluation methods in international trade</b>		
		2	Laboratory study	<b>Laboratory study 4. Primary processing of statistical data. Statistical estimates of distribution parameters.</b>		
	SS	3	Learning the theoretical material	Search, choice and looking through literary sources on the theme. Learning the lecture material. Preparation for a colloquium		
		5	Preparation for studies	Solving tasks, performing and completing homework. Performing and designing laboratory work	Laboratory work	2
	TS	2	Lecture	<b>Lecture 11. Relationship of random variables in economics. Correlation dependence.</b>	Colloquium	7
		2	Laboratory study	<b>Laboratory study 5. Relationship of random variables in economics. Correlation dependence</b>		

<b>12</b>	SS	3	<b>Learning the theoretical material</b>	Search, choice and looking through literary sources on the theme. Learning the lecture material. Preparation for a written test		
		5	<b>Preparation for studies</b>	Solving tasks, performing and completing homework. Performing and designing laboratory work	Laboratory work	<b>2</b>
<b>13</b>	TS	2	<b>Lecture</b>	<b>Lecture 12. Relationship of random variables in economics. Elements of regression analysis. Forecasting the characteristics of the foreign trade market</b>	Written test	<b>9</b>
		2	<b>Laboratory study</b>	<b>Laboratory study 6. Elements of regression analysis</b>		
	SS	3	<b>Learning the theoretical material</b>	Search, choice and looking through literary sources on the theme. Learning the lecture material		
		5	<b>Preparation for studies</b>	Performing and designing laboratory work. Solving tasks, performing and completing homework	Laboratory work	<b>2</b>
<b>14</b>	SS	6	<b>Preparation for exam</b>	Repetition of materials of content modules. Acquaintance with an example of an examination ticket and evaluation criteria. Solving typical tasks		
<b>Session</b>	TS		<b>Pre-exam consultation</b>	Solving practical tasks on various topics included in the final examination		
	SS	6	<b>Preparation for exam</b>	Repetition of materials of content modules. Acquaintance with an example of an examination ticket and evaluation criteria. Solving typical tasks		<b>40</b>
				<b>Exam</b>	Completing the tasks of the examination paper	
		<b>150</b>	<b>hours</b>	<b>The maximum number of points per discipline</b>		<b>100</b>

Lecturer \_\_\_\_\_

Ievgeniia MISIURA