



APPROVED

«05» 01 2026 y.

Chairman
of the Admissions Committee,
Rector of Yanka Kupala State
University of Grodno

I. Kiturka
(signature)

THE LIST OF TOPICS OF EDUCATIONAL DISCIPLINES
for an additional interview with applicants
from among foreign citizens and stateless persons,
temporarily staying or temporarily residing in the Republic of Belarus,
for obtaining advanced higher education in the specialty
7-06-0311-01 «Economics»
(English language of tuition)

Name of the educational discipline	The list of topics of the educational discipline
Theory of probability and mathematical statistics; Optimization methods; Fundamentals of information technology; Technologies of organization and data processing; Economic-mathematical methods and models; Econometrics	1. Straight line in the plane. 2. The concept of a definite integral and its geometric meaning. The Newton-Leibniz formula. 3. Matrices. Operations over matrices. The determinant of a square matrix and methods of its calculation. Finding the inverse matrix. Eigenvalues and vectors. 4. Microsoft Word word processor. Main features of Microsoft Word for text processing. 5. Microsoft Word word processor. Additional features. 6. Databases in Microsoft Excel. 7. Using the built-in functions of MS Excel to solve the problems of processing economic information. 8. Additional MS Excel tools (parameter selection, scenario manager, lookup table) during financial analysis. 9. Functions of two variables. 10. Probability distribution function. Discrete and continuous random variables. 11. Extremum of a function of two variables. 12. Types of distribution of variables. 13. Numerical characteristics of a random variable. 14. Limit theorems of probability theory. 15. Game theory. Basic concepts: game, strategy. Examples. Antagonistic games. Solution of the matrix game in pure strategies, mixed strategies. Statistical games. Example. Criterion of Wald, Savage, Bayes, Hurwitz. 16. Fundamentals of graph theory. Network models and their application for planning and management (STC). 17. Transport problem and its application. 18. Information system.

Name of the educational discipline	The list of topics of the educational discipline
	19. Vectors. Operations on vectors. Scalar product of vectors. Orthogonality criterion and the criterion of collinearity of two non-zero vectors. 20. General formulation and mathematical model of the problem of mathematical programming. 21. Leontiev's economic-mathematical model of inter-branch balance and its application. 22. The problem of linear programming. Its economic and geometric interpretation. 23. Game models of decision-making in conflict situations. 24. The duality theory in the analysis of optimal solutions to economic problems. 25. Queuing Systems.