MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION OF THE REPUBLIC OF UZBEKISTAN

KARSHI STATE TECHNICAL UNIVERSITY

"APPROVED"

Rector of Karshi State Technical University

_____Sh.K.Nematov

"__" _____2025

PRACTICAL MATHEMATICS 1, 2
MODULE GUIDE

Field of knowledge: 400000 – Business, Management and Law

Field of education: 410000 – Business and Management

Field of study: 60410100 – Economics

Module links

Module Title:	Practical Mathematics
Code (if applicable):	AMAT11210
Courses (if applicable):	1
Module teaching semesters:	1.2
Language:	Uzbek
Curriculum relevance	Compulsory
Type of instruction, Contact Hours:	Lecture, practical hours
Workload:	**Total workload:** 300 hours **Auditory hours:** 120 hours • **Lecture:** 60 hours • **practical lessons:** 60 hours • **Self-study:** 180 hours
Credit points:	10
Recommended previous subjects	Basic Concepts from Mathematics School Curriculum of Algebra School Curriculum of Geometry

Module objectives / expected learning outcomes	- To develop students' abilities, as well as their logical and algorithmic thinking skills. - To teach the mathematical methods necessary for analyzing processes related to economics and for mathematical modeling. - To demonstrate the role and importance of mathematics in finding sound and optimal solutions to various problems in the field of economics. -To cultivate the ability to independently study the covered topics, find correct solutions, use various information sources (literature and the Internet), develop skills and competencies, and apply them in practice. - To ensure continuity and consistency with general secondary, vocational, and specialized education. - To teach students to master general, economic, and specialized subjects, as well as to apply mathematical methods in economic tasks. - To equip students with the mathematical tools sufficient for solving theoretical and practical problems, to apply them, and to create and analyze mathematical models of economic problems. - To develop logical, algorithmic, and abstract thinking, mathematical reasoning, and the ability to clearly and justifiably express one's own thoughts and conclusions, as well as to form skills and competencies based on the acquired knowledge.
Content	It is one of the fundamental disciplines of economics, teaching students the basic skills of mathematically analyzing practical problems, constructing mathematical models of real-life situations, selecting convenient methods to verify and solve them, evaluating the obtained results, and applying them. This subject is considered a fundamental course that enables students to analyze the material, technical, and institutional foundations of an economic system.
Study and exam requirements	**a) To achieve a score of 90–100 points, a student's level of knowledge should meet the following criteria:** • Be able to fully explain the essence and content of the subject; • Present topics in the subject with scientific accuracy and logical consistency, avoiding errors and confusion; • Have a clear understanding of the theoretical or practical significance of the subject material; • Demonstrate the ability to think independently and critically within the scope of the subject; • Provide clear and concise answers to given questions; • Prepare thorough and well-organized lecture notes; • Complete independent assignments accurately and

	fully; • Fully master the relevant laws and other normative-legal documents related to the subject; • Have published a scientific article on one of the relevant topics of the subject; • Be able to analyze and interpret historical processes. **b) To achieve a score of 70–89.9 points, a student's level of knowledge should meet the following criteria:** • Understand the essence and content of the subject and present topics scientifically and logically without confusion; • Understand the practical significance of the subject content; • Complete assigned tasks and exercises within the scope of the curriculum; • Provide correct answers to the given questions; • Prepare well-organized lecture notes; • Complete independent assignments fully; • Master the relevant laws and other normative-legal documents related to the subject. **c) To achieve a score of 60–69.9 points, a student's level of knowledge should meet the following criteria:** • Have a general understanding of the subject; • Present topics in a limited scope, allowing some inaccuracies or confusion; • Presentations may not be fully fluent; • Answers to questions may be brief and somewhat unclear; • Lecture notes may not be fully developed. **d) A score of 0–59.9 points may be given if the student's level of knowledge is considered unsatisfactory in the following cases:** • No preparation for classes has been made; • The student has no understanding of the subject-related materials; • Materials appear to be copied from others; • The text contains serious errors or inconsistencies; • Answers to assigned questions are not provided; • The student does not demonstrate knowledge of the subject.
Exam formats	- Oral - Written - Test
Assessment Tools / Methods	**Completion of assignments and assessments** Students are expected to successfully complete all assignments related to the subject, as well as participate in current (ongoing), midterm, and final assessments to demonstrate their knowledge and skills.
List of References	1. Boyd, S., & Vandenberghe, L. (2018). *Introduction to Applied Linear Algebra*. Cambridge University Press. ISBN 978-1-316-51896-0.

	2. Jo'rayev, T. J., Khudoyberganov, P. X., Vorisov, A. K., & Mansurov, X. (1995/1999). *Fundamentals of Higher Mathematics* (Parts 1 & 2). Tashkent, Uzbekistan. 3. Djurayev, N., & Eshmatov, B. E. (2020). *Theory of Probability and Mathematical Statistics*. Tashkent, Uzbekistan. 218 pp. 4. Sharaxmetov, Sh., Kurbanov, O. (2017). *Mathematics for Economists*. National Society of Philosophers of Uzbekistan, Tashkent. 384 pp. 5. Xashimov, A., Babadjanov, Sh., & Xujaniyozova, G. (2019). *Mathematics for Economists*. Textbook. Iqtisod-Moliya Publishing, Tashkent. 572 pp. 6. Minorsky, B. P. (1997). *Collection of Problems in Higher Mathematics*. Tashkent.
Editors	**1. Sh. Nodirov** – Head of the Department of *Mathematical Analysis and Differential Equations*, Karshi State University (QarDU); PhD in Physical-Mathematical Sciences, Associate Professor. **2. N. Djurayev** – Associate Professor, department of *Higher Mathematics*, Karshi State Technical University; PhD in Physical-Mathematical Sciences.
Place and Date of Approval	Developed and approved by Karshi State Technical university (Report No. 1, 26 August 2025)