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

DATA ANALYSIS IN ECONOMICS

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:	Data analysis in Economics
Code (if applicable):	IQMT1305
Courses (if applicable):	2
Module teaching semesters	3
Language	Uzbek
Curriculum relevance	Compulsory
Type of Instruction, Contact Hours:	Lectures, Practical sessions
Workload	Total academic workload: 150 hours. Auditory hours: 60
Credit points:	5
Recommended previous subjects	Economic theory, Economic analysis, History of Economic thought, Academic skills and Professional competence

Module objectives / expected learning outcomes	The module aims to provide students with a comprehensive understanding of the theoretical, methodological, and practical aspects of data analysis in economics under market economy conditions. It enables students to apply correlation and regression analysis to identify cause-and-effect relationships between market phenomena, solve analytical problems using computer software, and formulate conclusions and recommendations based on the obtained results. It also aims to develop knowledge, skills, and competencies aligned with the program profile for effective managerial decision-making. The objectives of the module enable students to: • Gain an understanding of economic analysis problems, classification of analytical methods, and interpretation of their specific features; • Organize analytical observation of economic processes, construct clear tables and graphs, understand types of grouping, and develop basic System of National Accounts (SNA) calculations and their indicators, as well as apply them in practice; • Understand absolute and relative indicators, study average values and variation measures, calculate the volume and index of national wealth, and apply methods of national income distribution; • Develop skills in analyzing indicators reflecting a country's participation in the international division of labor. **Expected Learning Outcomes of the Module** **1. Theoretical knowledge and understanding** Students will understand the main categories of theoretical statistics, the foundations of statistical science, and the essence of statistical observation, data aggregation, grouping, generalization, and comparison methods. They will also gain knowledge of the structure and role of the main accounts of the System of National Accounts (SNA) in describing economic processes. In addition, students will acquire knowledge of statistical indicator classification, content, indicators reflecting the international division of labor, and the theoretical foundations of living standards statistics. **2. Analytical skills** Students will acquire the ability to solve statistical problems, calculate absolute and relative indicators, determine average

	values and measures of variation, interpret time series and their types, and compute national wealth, its structure, and indices. They will also be able to apply correlation, regression, and other statistical methods to identify interrelationships between socio-economic processes. **3. Use of research and analytical tools** Students will be able to organize the analytical process, correctly construct tables and graphs, and apply grouping methods in practice to describe economic phenomena and processes. Students will also develop practical skills and competencies in calculating economic indices such as the GDP deflator, price indices, and aggregate indices. In addition, they will be able to perform statistical analysis of state budget execution, apply methods of national income distribution, and develop and use System of National Accounts (SNA) indicators. **4. Knowledge and skills for managerial decision-making** The module aims to equip students with the ability to analyze the use of material, financial, and labor resources of economic entities, evaluate production efficiency and financial performance, identify factors influencing changes, and perform relevant calculations and assessments required for managerial, financial, and investment decision-making. It focuses on developing the necessary knowledge and practical skills for these purposes. **5. Practical application and implementation** Students will acquire competencies in evaluating economic data analysis under market economy conditions, determining the dynamics of economic processes, and analyzing statistical indicators reflecting a country's participation in the international division of labor. They will also develop skills in analyzing indicators related to monetary circulation statistics, evaluating socio-economic indicators of living standards, and applying statistical methods to analyze state budget execution, including income and expenditure structures.
Content	The discipline *Data Analysis in Economics* is one of the fundamental fields of economics. It studies the scientific foundations of measuring, analyzing, and evaluating economic processes, social phenomena, and their development trends. This subject is a key area that enables the formation of a reliable data base ensuring the stable and consistent functioning of the national economic system. It also provides the use of trustworthy statistical information in the process of

	economic decision-making. The discipline *Data Analysis in Economics* is aimed at enabling students to study in depth the material, institutional, and social structure of the economy, identify interrelationships between economic phenomena, and conduct scientifically based analysis of the dynamics of economic processes.
Study and exam requirements	**Study and examination requirements** **a) 90–100 points** A student's knowledge level must meet the following criteria: • fully understands and can comprehensively explain the essence and content of the course; • presents topics in a scientifically sound and logically consistent manner without errors or confusion; • has a clear understanding of the theoretical and practical significance of the course materials; • demonstrates independent and critical thinking within the subject area; • provides clear and concise answers to questions; • maintains well-prepared lecture notes; • completes all independent assignments fully and accurately; • has fully mastered relevant laws and regulatory/legal documents related to the course; • has published a scientific article on one of the course topics; • is able to interpret historical processes. **b) 70–89.9 points** A student's knowledge level must meet the following criteria: • understands the essence and content of the course and presents topics without major scientific or logical errors; • understands the practical significance of the course content; • completes tasks and assignments within the framework of the curriculum; • answers questions correctly; • maintains well-organized lecture notes; • completes independent assignments fully; • has mastered relevant laws and regulatory documents. **c) 60–69.9 points** A student's knowledge level must meet the following criteria:

	• has a general understanding of the subject; • presents topics in a limited scope with some inaccuracies or confusion; • presentation is not fluent; • gives vague or partially incorrect answers to questions; • lecture notes are not well structured. **d) 0–59.9 points** A student's knowledge level is considered unsatisfactory in the following cases: • no preparation for classes; • no understanding or knowledge of the course material; • evidence of copying from others in submitted work; • serious errors and confusion in course-related materials; • inability to answer basic questions; • lack of knowledge of the subject.
Exam formats	Oral, written, and test-based assessment.
Assessment Tools / Methods	Successful completion of course assignments and passing the current (ongoing), midterm, and final assessment types.
List of References	**LIST OF RECOMMENDED LITERATURE** 1. Melnik M.V., Pozdeev V.L. *Economic Analysis: Textbook and Practical Guide*. Moscow: Yurayt, 2020. – 261 p. 2. Pardayev M.K. *Theory of Economic Analysis*. Textbook. Tashkent: "Innovative Development Publishing House" State Unitary Enterprise, 2020. – 588 p. 3. Rakhimov M.Y., Qalandarova N.N. *Financial Analysis*. Textbook. Tashkent: Iqtisod-Moliya, 2019. – 736 p. 4. Hasanov B.A., Rakhimov M.Y., Muqumov Z.A. et al. *Financial Analysis*. Textbook. Tashkent: IQTISODIYOT, 2020. – 736 p. 5. Jumayeva G.J. *Economic Analysis and Audit*. Study guide. Karshi: Intellekt, 2021. – 337 p. 6. Hasanov B.A., Abdurakhmanova F.F., Kadyrova Z.N., Norboev O.A. *Analysis of Economic Activity*. Study guide. Tashkent: Sano-standart, 2017. – 284 p.
Editors	1. Xudoynazarov S.S. – Assistant, Department of Accounting and Auditing, Karshi State Technical University.

	2. Egamberdiyeva S.R. – Acting Professor, Department of Accounting and Auditing, Karshi State Technical University, Candidate of Economic Sciences.
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