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

TASHKENT STATE UNIVERSITY OF ECONOMICS

"APPROVED"

Rector prof. T. Teshabayev

"___" _____ 2024 year

STATISTICS

SYLLABUS OF THE SUBJECT

Field of knowledge:	300000- Social sciences, journalism and information 400000 - Business, management and law
Specialties:	310000 - Subjects related to behavior and social areas 410000 - Business and management
Directions of education	60310100 - Economics ("Green" economy) 60310100- Economics (development economics) 60310100- Economics (by branches and areas) 60310100-Iqtisodiyot (Economy of cities) 60410200-Taxes and taxation (by type of activity) 60310300-Regional economy 60310400-Economic security 60310500-Digital economy (by branches and areas) 60410100-Accounting and audit (by industry) 60410400-Finance and financial technologies 60410500-Banking and audit 60410600- Insurance business 60410700-Budget control and treasury 60410900-Stock market 60411000- Investment support servicing and financing 60411100- World economy and international economic relations 60610200- Information systems and technologies (in the financial and banking system) 60411200-Management (by branches and areas) 60411201- Management: Tourism Business Management 60411300- Business Management (Sustainable Business) 60411300- Business management (by industry) 60411500-Business analysis 60411600- Corporate management 60411700-Logistics: by destination 60412100-International monetary and credit relations 60112400-Professional education (60310100- Economics) 60412500-Marketing (by industry and branch) 60412700-Valuation case

Tashkent– 2024

This syllabus has been approved by the Council of Tashkent State University of Economics in its resolution dated "27" 06. №11 2024.

Approved by the order of Tashkent State University of Economics Rector No.____

This syllabus has been approved by the resolution of the meeting number 21 of the Department of Economic Statistics at Tashkent State University of Economics, dated "21 06 2024.

Head of Economic Statistics department ________ **B. Utanov**

Developer(s):	F. Sattoriy - E. Yuldashev -	Senior lecturer, TSUE, Department of Economic Statistics Senior lecturer, TSUE, Department of Economic Statistics
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	P.Allayarov -	Head of the Department of Mathematical Methods in Economics, Tashkent State University of Economics, Doctor of Economics (DSc).

Approved:

S.U. Mekhmanov	________ signature	TSUE, First Vice-Rector for Academic Affairs Doctor of Economics (DSc)., Professor
S.S. Mirzaev	________ signature	Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIIAME)-National Research University, Head of the "Information Technologies" department, Candidate of technical sciences., Associate professor.
I. Mirsaidov	________ signature	Head of Tashkent City Statistics Department

SUBJECT INFORMATION

Scientific code: Stat 205

Subject Name: **Statistics**

Semester/Year: 3/4-semester/ 2024-2025 academic year

Department: Economic statistics

Number of hours/credits 5 ECTS

Lecture	Workshops	Laboratory studies	Independent education	Total
30	30	0	90	150

Location of classes*:*

Audience and time: According to the class schedule

Prerequisites*:* In order to successfully master this subject, students should have sufficient knowledge of "Economic theory", "Applied mathematics", "Information and communication technologies in economics" and systems sciences.

Department responsible for the subject: Economic statistics

INFORMATION ABOUT THE TEACHER

Teachers: Lecturer: Fayzullokh Sattoriy, Senior lecturer, TSUE, Department of Economic Statistics

Seminar teacher: Eldor Yuldashev, Senior lecturer, TSUE, Department of Economic Statistics

Address: TSUE, 3rd academic building, room 403

Tel. (office): 71-239-28-06

Email: sattoriy.fayz97@gmail.com

Organization of additional classes: students can schedule a meeting with the instructor outside of class by emailing the instructor.

I. Subject Description

As a result of studying this subject, students will acquire the following wide range of skills: solving statistical problems, organizing statistical observations on problems, making understandable statistical tables and graphs, types of grouping, statistical classification and its characteristics. interpretation, making the main calculations of the System of National Accounts and determining their indicators, determining absolute and relative indicators, studying average amounts and variation indicators, studying the methodology of interconnection between economic events development, determination of dynamic series and types, evaluation, analysis and interpretation of statistical indicators in the market economy, calculation of economic indices used in statistical practice, use of gross domestic product deflator and aggregate indices, development of the system of statistical indicators representing money circulation to determine the specific characteristics, to analyze the socio-economic indicators representing the standard of living of the population.

The subject “Statistics” provides students with in-depth knowledge of the subject and method of statistics, its importance and role, statistical verification of scientific and

experimental hypotheses about events occurring in socio-economic processes, and reporting forms used in the practice of statistics. It includes teaching to provide an understanding of the problem and effective use of statistical methods and modern information technologies in solving practical problems that may arise in this field.

II. Subject Objectives

– explanation of essence and theoretical and methodological foundations of the science of statistics;

– providing insights on personal academic activity and its effective organization;

– sheding light on specific aspects of statistical assessment of socio-economic potential in statistics, in-depth professional knowledge and necessary educational qualifications in the field of statistical science, method and practice;

– giving recommendations to students on ways to use statistical methods;

– instilling in students a sense of responsibility for performance of practical and situational tasks and efficiency;

– formation of students' skills to effectively organize the process of independent education;

– assisting students develop teamwork skills;

– independent reading of textbooks or other sources, conducting research based on the obtained theoretical knowledge and conducting presentations based on the obtained scientific results.

III. Learning Outcomes

By successfully mastering this subject, students will acquire the following skills:

1. Statistical analysis and interpretation of mass socio-economic events and processes from the point of view of economic statistics.

2. Understand the process of collecting, grouping and interpreting bibliographic sources related to a given topic based on the theoretical knowledge obtained from the science of statistics.

3. Know how to use statistical methods to develop skills.

4. Descries the skills of filling out electronic reports and the specific aspects of the process of their formation.

5. A sense of responsibility for the acceptance of reports on statistical activity and efficiency is formed.

6. The skills of effective organization of the process of independent education in statistics will be developed.

7. Learn creative thinking and ways to develop it within science.

8. Learns the general and professional skills required for the major of Statistics

IV. Teaching methods

- performing practical work based on a real situation;
- writing essays, theses and articles;

- solving situational tasks (case studies);
- process-oriented education;
- participation in discussions;
- work in small groups;
- execution of design work;
- performing independent work;
- preparing a presentation;
- solving tests of different levels;
- conducting a survey;
- problem solving.

V. Structure of the subject:

T/r	Topics	Plan of lecture, practical and seminar training	Hours		
			Lectures	Practical and seminar activities	Self-study
1.	Introduction to Statistics	1. Understanding of statistics 2. The subject of statistics and its characteristics 3. Basic elements and categories of statistics 4. Tasks of statistics in the context of economic development and liberalization	**2**	**2**	**6**
2.	Theory and practice of statistical data collection	1. The concept, nature and importance of statistical observation 2. Forms, types, methods of statistical observation and their specific aspects 3. Organization of statistical monitoring in the Republic of Uzbekistan and its components and tasks 4. Statistical tracking error and its types. Methods of receiving and checking statistical monitoring data	**2**	**2**	**6**
3.	Statistical summary and grouping	**1.** The essence and functions of summary and grouping in statistics. 2. The method of statistical grouping, its importance in the study of socio-economic phenomena and processes. 3. Problems solved using the grouping method 4. The essence, structural elements and types of distribution series in statistics	**2**	**2**	**6**
4.	Presentation of statistical data in tables and graphs	1. The essence and importance of statistical tables 2. Types of statistical tables. Simple, group and combination tables 3. The concept, types, importance and rules of creating statistical graphs 4. Types of graphs depicting variational series: polygon, histogram, cumulative, ogive.	**2**	**2**	**6**
5.	Indicators of descriptive statistics	1. The essence and importance of statistical indicators. 2. Classifications and types of statistical indicators. 3. Types of absolute and relative quantities 4. The need to use absolute and relative indicators together (complex) in the statistical study of socio-economic phenomena	**2**	**2**	**6**
6.	Average values	1. Average values and their classification. 2. Issues of using averages in socio-economic processes 3. Types of structural averages and their use in statistical research 4. Quantitative measures of relative location: quartile; quintile; decile; percentile.	**2**	**2**	**6**

7.	Methods of variance estimation in statistics and basics of dispersion analysis	1. Variation of the values of a character in a set. 2. Qualitative accuracy and characteristics of mass events and processes. 3. Quantitative measures of variation. 4. Interpretation of standard deviation.	**2**	**4**	**6**
8.	Dispersion. Types of dispersion	1. Properties of variance and standard deviation and their uses 2. Method of calculation of dispersion and standard deviation in "conditional moment" and "summary" methods 3. The rule of addition of variances and its application in the study of connections between socio-economic phenomena 4. Empirical correlation relationship	**2**	**2**	**6**
9.	Application of selective observation in statistical research	1. The essence of selective observation, reasons and advantages of its use. 2. Determination and evaluation of target parameters. 3. Collection marks in selection tracking. 4. The representativeness of the selection and the selection methods that ensure it	**2**	**2**	**6**
10.	Sampling error, ways to determine the required amount of the sample set and distribution of the results of the sampling	1. Types of selective observation and error. 2. Ways to distribute the results of selective observation to the main set. 3. Confidence interval for population mean: Student (t) statistic. 4. Determining the necessary amount of the selected set.	**2**	**2**	**6**
11.	Methods of statistical study of dynamics	1. Understanding of dynamics series. 2. Types of dynamics series. 3. Indicators of analytical analysis of dynamics series. 4. Methods of calculating the level of averages in dynamic series.	**2**	**2**	**6**
12.	Statistical methods of processing dynamics series	1. Identifying and evaluating the trend in the dynamic series. 2. Criteria for determining the presence of a trend in the dynamic series. 3. Range expansion, moving average, analytical testing methods. 4. Measuring seasonality in dynamics series.	**2**	**2**	**6**
13.	Economic indices	1. Concept, essence, importance of economic indices. 2. Individual and general indices. 3. Laspeyres and Paashe indices. 4. Average arithmetic and average harmonic indices.	**2**	**2**	**6**
14.	Directions of using economic indices in statistical practice	1. Regional indices and the issue of weight selection in their composition. 2. Interregional comparison indices and issues of their creation. 3. Analysis of assortment shifts and their impact using the index method. 4. Index analysis of the role of factors influencing the absolute additional growth of the output indicator.	**2**	**2**	**6**

15.	Statistical study of inter-connections	1. Necessity and methods of statistical study of connections between socio-economic phenomena and processes. 2. Understanding of connections and their types: functional and correlational connection. 3. Grouping, comparison of parallel lines, representation in graphs, dispersion and correlation-regression methods. 4. Methods of studying the density of dependence: Fechner and Spearman correlation coefficients.	**2**	**2**	**6**
	Total		**30**	**30**	**90**

VI. Independent education

Recommended topics for Independent education:

1. Introduction to statistics
2. Theory and practice of statistical data collection
3. Statistical aggregation and grouping
4. Representation of statistical data in tables and graphs
5. Descriptive statistics indicators
6. Average amounts
7. Variation estimation methods and dispersion analysis basics in statistics
8. Dispersion. Types of dispersions
9. Application of selective observation in statistical research
10. Sampling error, ways to determine the required amount of the sample set and distribute the results of the sample set to the main set
11. Methods of statistical study of dynamics
12. Statistical methods of processing dynamics series
13. Economic indices
14. Directions of using economic indices in statistical practice
15. Statistical study of interconnections

It is recommended that students write essays, theses, or scientific articles, prepare project work, abstracts, and presentations on independently studied topics, and present them.

VII. Literature

Main literature

1. Statistics for Business and Economics, 14th Edition by James T. McClave, P. George Benson, and Terry Sincich. 2022. (This book is available in PDF format from the university's IRC.)

Additional literature

1. McClave, James T., and Terry Sincich. Statistics, 12th Edition. 2019. (This book is available in PDF format from the university's IRC.)

2. Newbold, Paul, William L. Carlson, and Betty M. Thorne. Statistics for Business and Economics, 10th Edition. 2023. (This book is available in PDF format from the university's IRC.)
3. Ulitina E.V. and other trade statistics. Tutorial. - M.: Market DS, 2019. - 312 pages (This book is available in PDF format at the university's IRC).
4. Trade statistics. Workshop. Tutorial. / Ed. V.N. Salina. - M.: KNORUS, 2018. - 496 pages (This book is available in PDF format at the university's IRC).
5. I. Yeliseeva. Statistics. Textbook. 2012 year. 559 pp. (This book is available in PDF format from the university's IRC.)

Sources of information

1. www.gov.uz- The Government portal of the Republic of Uzbekistan
2. www.lex.uz– National database on legal documents of the Republic of Uzbekistan.
3. www.president.uz - Official website of the President of the Republic of Uzbekistan
4. www.stat.uz– Official site of the Statistics Agency under the President of the Republic of Uzbekistan.
5. www.imv.uz – Official website of Ministry of Economy and finance of the Republic of Uzbekistan.

VIII. Assessment of student knowledge

Assessment of students' knowledge of this subject (module) is based on the completion of study materials (tests and written work) during the semester. During the lesson, students are evaluated on a 100-point system. From this, 20 points are given for current control, particularyly, the student's participation in classes, independent work and current results, 30 points for midterm control, and 50 points for final control. Final control is done in writing. Current, midterm and control tasks are divided as follows:

STUDENTS' KNOWLEDGE ASSESSMENT PROCEDURE			
Types of rating evaluation	**Max. score**	Tasks to be completed	**Assignments due date**
current control, therefore	**20**	According to the schedule of the educational process	
- Activity in practical training	**10**	depending on the nature of the subject, oral inquiry, test, interview, control work, colloquium, case study, casus or fable situation assignments, project, coursework, homework in seminars, laboratories and practical training	According to the audience time in the science lesson schedule
Independent education, therefore	**10**	independent work of students is organized in two directions - in the auditorium and outside the auditorium	
1st independent work	5	Writing an essay or thesis on one of the subjects of independent education (must not be less than 1000-1200 words)	Until the last week of classes according to the curriculum schedule

2nd independent work	5	preparation and defense of project work on one of the topics of independent study	Until the last week of classes according to the curriculum schedule
Midterm control	**30**	written form of an exam	In accordance with the schedule of the educational process, mid-term control is organized during the week through the HEMIS information system or directly in the educational auditorium.
Final control	**50**	written form of an exam	During the final control weeks according to the study schedule
Total	**100**		

The total score of the student in the subject during the semester is calculated by the following formula in accordance with the established rules for each control type:

FG =CC+MC+FC

where: CC – current control; MC – midterm control; FC is the final control.

where, (CC+MC)≥ 30 points; FC≥30 points are required.

Note: *A student who fails to achieve at least 60% (30 points) of the total 50 points allocated for the current assessments and midterm evaluation will not be permitted to take the final exam. Additionally, a student who participates in the final exam but does not earn at least 60% (30 points) of the 50 points allocated for the final exam (resulting in an unsatisfactory grade) will not receive the corresponding credits for the subject and will be considered an academic debtor.*

IX. Academic requirements

The interaction between the teacher and the student should be sincere and unbiased, and the student will send the tasks completed independently by e-mail or educational platform in the prescribed order and receive the answer in the same order. Assignments that are not completed within the specified period will not be accepted again. The teacher checks the tasks completed by the student in the anti-plagiarism program, the works with a level of originality below 70 percent are not accepted for evaluation. It is possible to check the completed assignment of the student in the anti-plagiarism program up to 2 times, if the result is not at the required level, the work will not be accepted.

X. This syllabus is developed for full-time education, based on which syllabi are developed for correspondence, evening and distance education.