Національний технічний університет України
«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ
імені ІГОРЯ СІКОРСЬКОГО»

КАФЕДРА СОЦІОЛОГІЇ
ІТУУ "КПІ імені Ігоря Сікорського"

Methodology and Methods of Sociological Research on Conflicts. Part 2. Quantitative Methods of Sociological Research

Syllabus

Short description of the discipline	
Level of higher education	*The Second (master's level)*
Field of science	*05 Social and behavioral sciences*
Speciality	*054 Sociology*
Educational program	*Conflict resolution and mediation*
Status of the discipline	*Mandatory*
Forms of study	*full-time / external / distance / mixed*
Year of study, semester	*1st year of study, second semester*
Number of credits / hours	*4 ECTS credits /120 hrs*
Form of semester control	*Exam*
Language of instruction	*English*
Informationaboutlecturers / instructors	*Lecturer: Hennadii Korzhov, Associate Professor, PhD in Sociology,korzhovga@gmail.com*
Course placement	*https://classroom.google.com/...*

Program of the discipline

1. Description of the discipline, its purpose, subject of study and learning outcomes

The purpose of the discipline is to make students knowledgeable about up-to-date methodology and methods of conflict studies used in sociology, particularly in its quantitative paradigm. In today's world, we are daily faced with huge amounts of information about various aspects of public life, much of which is presented in numerical form. Understanding what is behind these numbers, whether they really are an objective reflection of social realities, is a task that everyone must solve in order to make the right choice, plan their lives wisely and not to be a subject to subtle or cynical manipulation. The ability to find, process and analyze information becomes a vital competence for every conscious citizen and educated person.

As a result of mastering the discipline, students will learn practical skills and abilities to work with a variety of quantitative information that characterizes social conflicts, structures, processes and phenomena; the ability to use a specialized program to create their own databases and work with ready-

made large datasets of social information that are available on the Internet. Students will have the opportunity to acquire basic skills and abilities to process and analyze statistical and sociological data, as well as the ability to work critically and creatively with large amounts of information, discover hidden social connections, regularities and patterns, and to be able to see individual facts of social reality through the lens of broader socio-cultural and socio-political processes.

In accordance with the requirements of the educational-professional program, the purpose of the discipline is to form the following students' abilities (general competences – GC, professional competences – PC):

- Ability to abstract thinking, analysis and synthesis (GC 1)
- Ability to collect and analyze empirical data using modern methods of sociological research (PC4)
- Ability to observe the norms of professional ethics of sociologists in their activities and be guided by universal human values (PC 6)

The task of the discipline is to form the following learning outcomes (programme results – PR):

- Diagnosing and interpreting social problems of Ukrainian society and the world community, their causes and consequences (PR02)
- Applying scientific knowledge, sociological and statistical methods, digital technologies, specialized software to solve complex problems of sociology and related fields of knowledge (PR04)
- Solving ethical dilemmas in accordance with the norms of professional ethics of a sociologist and universal human values (PR07)

By mastering the content of the discipline, students will be able to creatively apply a variety of methods of processing and analysis of quantitative sociological information; formulate, substantiate and empirically verify research hypotheses of descriptive and explanatory type; create and modify databases (datasets), perform various transformations of variables in order to deepen the analysis; as well as to open latent, hidden social connections, to establish the causes, mechanisms and patterns of social conflicts through quantitative analysis of sociological research data; be able to correctly apply a variety of quantitative indicators to analyze the conflict-generating potential of a particular sphere of public life and on this basis to carry out early and effective prevention of social conflicts and their settlement.

In today's world of information and communication technologies, every highly qualified specialist has to deal with large amounts of diverse information. Students will be able to more effectively use a variety of numerical information about different areas of life (economic, financial, social, demographic, political processes, views, attitudes and values of people, consciousness and behavior of certain groups, etc.) in their professional activities and daily life. This will not only promote more informed and creative use of information, improve skills in collecting, processing, transforming, modifying, analyzing and interpreting information, but also improve existing and help acquire new skills and competencies that will

allow you feeling more confident in the labor market, compete more effectively for a more meaningful, creative and prestigious work.

2. Prerequisites and postrequisites of the discipline (place in the structural and logical scheme of education according to the relevant educational program)

To successfully master this discipline, students must be trained in the following disciplines: "Methodology and methods of sociological research of conflicts-1", "Sociology of conflicts and wars in the context of transformations and modernizations." In addition, it is also desirable to have basic skills in working with a specialized software for processing and analysis of quantitative social information (eg, Excel) and an average level of English language proficiency not lower than B1.

The knowledge, skills and abilities acquired during training in this discipline can be successfully applied in mastering other special and branch sociological disciplines, as well as in writing a master's dissertation.

3. The content of the discipline

Full-time form of education

Topics	Hours				
	Total	including			
		Lectures	Practical (seminar) classes	Laboratory classes (computer workshop)	Students'individual work
1	2	3	4	5	6
Topic 1. The problem of measuring social characteristics	8	2	2	2	2
Topic 2. Scales and scaling.	8	2	2	2	2
Topic 3. Sampling method in sociology	8	2	2	2	2
Topic 4. Descriptive statistics	8	2	2	2	2
Topic 5. Crosstabulation	8	2	2	2	2
Topic 6. Correlation analysis	8	2	2	2	2
Topic 7. Test of statistical hypotheses	8	2	2	2	2
Topic 8. Regression analysis	8	2	2	2	2
Topic 9. Factor and cluster analysis of sociological data	8	2	2	2	2
Examination	30	0	0	0	30
Calculation and graphic work	18	0	0	0	18
Total hours	**120**	**18**	**18**	**18**	**66**

External form of education

Topics	Hours				
	Total	including			
		Lectures	Practical (seminar) classes	Laboratory classes (computer workshop)	Students'individual work
1	2	3	4	5	6
Topic 1. The problem of measuring social characteristics	8	2	-	-	6
Topic 2. Scales and scaling.	6	-	-	-	6
Topic 3. Sampling method in sociology	8	-	2	-	6
Topic 4. Descriptive statistics	8	-	-	2	6
Topic 5. Crosstabulation	8	-	-	2	6
Topic 6. Correlation analysis	8	2	-	-	6
Topic 7. Test of statistical hypotheses	8	-	2	-	6
Topic 8. Regression analysis	9	2	-	-	7
Topic 9. Factor and cluster analysis of sociological data	9	2	-	-	7
Examination	30	0	0	0	30
Calculation and graphic work	18	0	0	0	18
Total hours	**120**	**8**	**4**	**4**	**104**

4. Educational materials and resources

4.1. Basic literature:

1. Albers M. Introduction to Quantitative Data Analysis in the Behavioral and Social Sciences. Hoboken, N.J.: Wiley, 2017.
2. Antonius R. Interpreting Quantitative Data with SPSS. London: Sage, 2003.
3. Greasley P. Quantitative Data Analysis Using SPSS An Introduction for Health & Social Science. Maidenhead: Open University Press, 2008.
4. Ho R. Handbook of univariate and multivariate data analysis and interpretation with SPSS. Boca Raton: Chapman & Hall, 2006.
5. Vanderstoep S., Johnston D. Research methods for everyday life. San Francisco: John Wiley & Sons, 2009.
6. Welch S., Comer S. Quantitative methods for public administration: Techniques and applications. 3rd ed. Long Grove: Waveland Press, 2006.
7. Gallup G.H. The Gallup poll: Public opinion, 1972-1977 / 2 Vols. Wilmington: Scholarly Resources, 1978.

8. Naresh Malhotra. Marketing Research: An Applied Orientation, Georgia Institute of Technology, 2019.
9. Seymour Sudman, Norman Bradburn. Asking Questions: A Practical guide to Questionnaire Design, San Francisco, Jossey-Bass Publishers, 1982.

9.1. Educational on-line resources:

1. http://www.socio-journal.kpi.kiev.ua – Journal „VisnykKPI. Sociology. Politicalscience. Law"
2. http://i-soc.com.ua/journal/content.php – Journal „Sociology: Theory, Methods, Marketing".
3. http://www.nbuv.gov.ua – V.I.VernadskiyNationallibraryofUkraine.
4. https://prometheus.org.ua – Online-courses.
5. https://coursera.org –Online-courses.
6. http://www.gesis.org – Archive of international comparative sociological research.
7. http://ukraine.survey-archive.com – National archive of sociological data „Kyevan archive".
8. https://forsbase.unil.ch/project/study-public-overview/15105/0/ - Internationalresearch„People on War".
9. https://data.humdata.org/ - The Humanitarian data exchange.
10. https://www.visionofhumanity.org/global-peace-index/ - Global peace index.

All the above literature and resources are available on Internet, on the Google Classroom page of the discipline or in the methodical cabinet of the department of sociology (ауд. 503, корп.7).

Content of the course

10. Methodics of studying

Lectures

№	Topics oflectures and major questions
	Topic 1. The problem of measuring social characteristics.
1	Measurement of social characteristics. The purpose of applying quantitative methods of analysis in sociology: description, explanation and prediction of social processes and phenomena. analysis of sociological data. Statistical methods of data analysis and problems solved with their application. The concept of measurement and its specifics in the study of social processes. Direct and indirect measurement. Principles of measuring extensive and intensive properties. Procedures for interpretation and operationalization of concepts. Accuracy and reliability of measurement. Systematic and random measurement errors. The concept of social indicator, its nature, features in sociology, statistics, other social sciences. Tasks for individual work: 1. Determine what indicators can be used to assess job satisfaction. 2. Define the concept of "political behavior" and suggest indicators for its measurement.
	Topic 2. Scales and scaling.
2	Sociological scales and methods of their construction The concept of measurement scale. Types of scales: nominal, ordinal, interval and scales of relations, their properties. Methods of designing scales: the use of experts, the

	search for a unidirectional continuum, multidimensional scaling. Standard sociological scales (Likert scale, Thurston scale, social distance scale, Guttman scale, values of measuring values of M. Rokich and S. Schwartz, semantic differential). Index indicators. Possibilities and limitations of using statistical procedures for different types of scales. Scale conversion procedures. Evaluation of the quality of the formed scale. Tasks for individual work: 1. Develop an index scale to measure the level of socio-political tension. 2. Get acquainted with the possibilities of measurement using the ranking method.
	Topic 3. Sampling method in sociology.
3	Application of the sampling method The concept of selective and continuous research. Characteristics and advantages of the sampling method. The concept of general and sample population. The main problems of sample research. Sample quality assurance. Probabilistic and non-probabilistic samples. Sampling errors, their calculation and consideration in data analysis. The concept of sample design effect. Features of sample construction for different types of research. Repair of the sample. Tasks for individual work: 1. Get acquainted with the essence of the nest sample and examples of its application. 2. Build a nationwide quota sample to study the political orientations of the population.
	Topic 4. Descriptive statistics.
4	Use in the analysis of descriptive statistics Object and feature. Data matrix. Frequency, part. Statistical series and their ordering. Tables of one-dimensional distribution. The problem of "compression" of social information, the selection of the most informative features. Measures of the central tendency. Arithmetic mean, its properties and calculations. Measures of the central tendency for qualitative signs: median, fashion. Measures of variation. Dispersion and its properties. Coefficient of variation. Tasks for individual work: 1. Consider the procedures for organizing statistical series. 2. Get acquainted with the requirements for the formation of intervals in the distribution series.
	Topic 5. Crosstabulation.
5	Crosstabulation: construction and analysis Conjugation table as a tool for studying the relationship of two features. The structure of tables and rules for their use. Basics of calculating percentages in the conjugation table. Location of dependent and independent variables and assessment of the corresponding impact. Situations in which the use of conjugation tables is inappropriate and ways out of them. Marginal column and marginal row. Graphical representation of conjugation tables. Tasks for individual work: 1. According to the absolute indicators given in the conjugation table, calculate the relative indicators.

	2. On the basis of tables of two-dimensional distributions to analyze the attitude of the population of Ukraine to the authorities, to various events of public life depending on age, sex, social status, region.
	Topic 6. Correlation analysis.
6	Relationship of signs and coefficients of connection The concept of statistical dependence. The power of communication. Functional - correlation. Linear - non-linear connection. Features of estimating the relationship between nominal variables. Calculation of the Chi-square coefficient. Pearson's mean square conjugation coefficient, Chuprov's and Cramer's coefficients: calculation, interpretation and application. Pearson's linear correlation coefficient. The problem of false and random correlations. Typical errors in the use and interpretation of the correlation coefficient. Rank correlation. Spearman's rank correlation coefficient: calculation, interpretation, connection with Pearson's correlation coefficient. Kendel rank correlation coefficients: calculation and interpretation. Comparison of Spearman and Kendel coefficients. Gamma ratio. Proportional reduction of errors. Lambda factor: calculations, possibilities and limitations in use. Tasks for individual work: 1. Analyze the essence of the correlation between variables. 2. Get acquainted with examples of misinterpretations of correlation coefficients.
	Topic 7. Test of statistical hypotheses.
7	Assessment of the significance of differences in indicators using the procedure of testing statistical hypotheses. The logic of testing a statistical hypothesis. Application of the principle of impossibility of realization of improbable events. Rule of three sigma, level of significance, application. Errors of the first and second type. Testing the hypothesis about the normality of the general distribution using the Chi-square criterion; testing hypotheses about the equality of two middle and two particles. Clarification method. Enter the control variable. Variables that can be used as controls. Three-dimensional tables. Partial correlation. Possible results of entering the control variable. Tasks for individual work: 1. Summarize the main content of the chapter "Statistical Hypothesis. Estimation of the parameter "of Biryukova's book" Mathematical and statistical methods of analysis in sociological research ". 2. Determine for a given data the significance of the differences between averages and percentages.
	Topic 8. Regression analysis.
8	Possibilities of regression analysis in the study of social processes Regression model. Regression curve. Varieties of regression equations. Linear pairwise regression: construction of the equation by the method of least squares, recording the equation through the Pearson correlation coefficient, interpretation of the regression coefficient. Correlation relation and its use for estimating nonlinear relations. Requirements for ascending data for regression analysis.

	Multiple linear regression. Interpretation of the coefficients of the multiple linear regression equation. Selection of independent factors based on the analysis of the correlation matrix. Binary logistic regression. Multinomial logistic regression. Implementation of regression analysis by means of the SPSS program. Tasks for individual work: 1. Illustrate with specific examples of regression analysis. 2. Get acquainted with the options of linear and nonlinear regression.
	Topic 9. Factor and cluster analysis of sociological data.
9	The concept and purpose of factor analysis. The sequence of stages of factor analysis. Problem formulation. Correlation matrix analysis. The main components method. Criteria for determining the number of factors (Kaiser, scree). Rotation method. Application of cluster analysis. Homogeneity and classification. Basic approaches to selecting homogeneous groups of objects. Typology of social objects. The relationship between typology and classification. The essence of automatic classification and grouping of objects. Building a typology of objects, studying the relationship between features. Selection of features for cluster analysis. Choice of degree of intimacy. Types of cluster analysis algorithms. Criteria for determining the number of clusters. Dendrogram as an image of the result of clustering. Comparison of different clustering algorithms. Interpretation and evaluation of reliability of cluster analysis results. Tasks for individual work: 1. Based on the data of an empirical survey of the population of Ukraine to conduct a typology and classification of spiritual and cultural needs and interests of the urban population according to their proximity. 2. Investigate ways to solve the problem of adequacy of proximity measures.

Laboratory classes

The main tasks of the laboratory classes (computer workshops) are as follows:

 To master the basic techniques, methods and approaches to quantitative measurement and analysis of social information in applied sociological research,

 To acquire skills of interpretation, explanation and generalization of the data obtained as a result of quantitative analysis.

№	Topics of laboratory classes	Nu of hrs
	Topic 1. The problem of measuring social characteristics.	
1	Laboratory work №1. Definition of indicators for measuring socio-political orientations of the population of Ukraine.	**2**
	Topic 2. Scales and scaling.	
2	Laboratory work №2. Practice skills of building scales of different types and kinds to measure certain social indicators.	**2**
	Topic 3. Selective method in sociology.	
3	Laboratory work №3. Practical practice of building a simple random, systematic, stratified, quota samples. Calculation of random errors for different types of samples.	**2**
	Topic 4. Descriptive statistics.	
4	Laboratory work №4. Practice skills of deriving distributions of features and distributions based on measures of the central tendency.	**2**
	Topic 5. Analysis of conjugacy tables.	
5	Laboratory work №5. Introduction to the methods of constructing conjugacy tables in the SPSS program. Practice skills of correct interpretation and description of data from conjugation tables.	**2**
	Topic 6. Analysis of the relationship of features using the	

	coefficients of communication.	
6	Laboratory work №6. Learn how to derive relationship factors for traits measured on different types of scales. Practice skills in interpreting the relationship coefficients for two traits.	**2**
	Topic 7. Test of statistical hypotheses.	
7	Laboratory work №7. Introduction to the form of derivation in the SPSS program of estimates of the significance of differences in averages and percentages in the compared groups using various statistical tests. Practice the skills of correct description in assessing differences in the perception of social problems by different groups.	**2**
	Topic 8. Regression analysis.	
8	Laboratory work №8. Practice skills of implementation in the SPSS program of simple linear and multiple linear, logistic and ordinal regressions, and the ability to interpret the results of regression modeling.	**2**
	Topic 9. Factor and cluster analysis of sociological data.	
9	Laboratory work №9. Introduction to the methods of ordering in the SPSS program of different types of factor and cluster analysis for the analysis of data from public opinion polls. Practice skills of interpretation of the received clusters, their use in the further analysis, the correct description of the received results.	**2**

11. Individual work of student

Topic. The problem of measuring social characteristics.

Key issues:

1. Determine what indicators can be used to assess job satisfaction.
2. Define the concept of "political behavior" and suggest indicators for its measurement.

Topic: Scales and scaling.

Key issues:

1. Develop an index scale to measure the level of socio-political tension.
2. Get acquainted with the possibilities of the ranking measurement.

Topic: Sampling method in sociology.

Key issues:

1. Get acquainted with the essence of the nest sample and examples of its application.

2. Build a nationwide quota sample to study the political orientations of the population.

Topic: Descriptive statistics.

Key issues:

1. Consider the procedures for organizing statistical series.

2. Get acquainted with the requirements for the formation of intervals in the distribution series.

Topic: Analysis of conjugation tables.

Key issues:

1. According to the absolute indicators given in the crosstabulation, calculate the relative indicators.

2. On the basis of tables of two-dimensional distributions to analyze the attitude of the population of Ukraine to the authorities, to various events of public life depending on age, sex, social status, region.

Topic: Analysis of the relationship of traits with the help of relationship factors.

Key issues:

1. Analyze the essence of the correlation between variables.

2. Get acquainted with examples of misinterpretations of correlation coefficients.

Topic: Testing statistical hypotheses.

Key issues:

1. Summarize the main content of the chapter "Statistical Hypothesis. Estimation of the parameter"of Biryukova's book"Mathematical and statistical methods of analysis in sociological research".

2. Determine the significance of the differences between averages and percentages for a given data.

Topic: Regression analysis.

Key issues:

1. Illustrate the usage of regression analysis with specific examples.

2. Get acquainted with the options of linear and nonlinear regression.

Topic: Factor and cluster analysis of sociological data.

Key issues:

1. Criteria for determining the number of factors (Kaiser normalization, scree plot).

2. Based on the data of the empirical survey of the population of Ukraine to conduct a typology and classification of spiritual and cultural needs and interests of the urban population according to their proximity.

3. Investigate ways to solve the problem of adequacy of proximity measures.

12. Rules of the classes

Attending classes and completing tasks

Attending lectures is desirable. During lectures theoretical approaches to data analysis within the quantitative paradigm, mathematical and statistical methods of processing, as well as the generalization and analysis of sociological data will be considered. In addition, the lecturer will present numerous and diverse examples of practical application of each method with a demonstration of the algorithm in a specialized software. An important component of the lecture will be the interpretation of the results obtained as a result of quantitative analysis, presentation and justification of meaningful conclusions based on statistical examination. Thus, the lecture combines both theoretical-methodological and practical components of the analytical process involving quantitative sociological information. For students who want to achieve excellent or good academic results active work at lectures is a necessary prerequisite. However, working off of the missed lectures is not required.

Attending practical classes (seminars) is mandatory. Missed practical classes (seminars) should be done independently and practiced during consultations.

The students' rating will be largely formed based on the results of their work in practical (seminar) classes. Each missed practical lesson (regardless of the reasons for absence) reduces the final rating of the student in the discipline. A student who has missed practical classes may receive a low rating, which will not allow such a student to be admitted to the test. In this case, the topics from the missed seminars must be studied, and practical tasks must be completed by the student. The control of knowledge (understanding) of the student of the missed subjects (performance of tasks) will take place during communication with the instructor according to the schedule of consultations available on theweb-site of the department of sociology, or during a break in classes. The student who completes the relevant tasks (provides answers to the questions) will receive the appropriate points for the rating depending on the quality of the answers (task completion).

Forms of work

The lectures cover the content of the basic theoretical and methodological principles of quantitative analysis of various social processes, including social conflicts, various case studies and examples of the use of specialized software to solve a specific analytical problem, algorithms for applying a particular method, as well as interpretations of the results. At the lectures, the teacher will provide a comprehensive overview of the various methods of processing and analysis of quantitative social information, focusing on the most effective methods that have gained recognition in the empirical research – both fundamental and applied. On the examples of well-known research programs and projects, students will have the opportunity to get acquainted with the best modern examples of a combination of theory and empirical research aimed at verifying hypotheses. Topics of lectures are covered in the syllabus of the discipline. Questions from students to the teacher are welcomed during lecture. The lecturer can ask questions to individual students or the audience as a whole. Dialogue between students and teacher at lectures is encouraged.

Students are taught to be able to apply theoretical principles in practical tasks and situations. The practical classes are devoted to the discussion of the problematic aspects of using different methods of computer analysis with regards to sociological data. Practical classes are aimed at developing practical skills and abilities to use a specialized computer software for processing and analysis of sociological information. During the practical classes the teacher will summarize and analyze the mistakes and shortcomings of the students' work, answer students' questions, students will work on each other's mistakes and shortcomings. The classes will use different case studies, work with various databases, active teaching methods in pairs and microgroups. During practical and laboratory classes, students will work with various sources of quantitative sociological information, learn to process and analyze it using specialized computer software. In the laboratory, students will learn to use the basic methods of descriptive statistics, two-dimensional and multidimensional analysis of sociological information.

During the semester, each student on the selected topic prepares and writes calculation and graphic work (CGW) in the form of their own research project using existing data sets. In the process of working on CGW, students will acquire competencies in writing analytical sociological texts based on their own analysis of sociological data, using descriptive statistics, one-dimensional, two-dimensional and basic multidimensional methods.

Rules of conduct in the classroom

It is recommended to turn off the phones during classes in order to achieve a greater level of attention and focus on learning activities. At the same time, by the instructor's recommendation, you can use the means of communication to search for relevant information on the Google disk of the discipline or on the Internet.

Students are expected to be active, participate in discussions, perform practical tasks, exercises and tasks, ask questions, and contribute to the collective discussion, etc. during classes – both seminars and lectures.

While answering atpractical classes, do not read from a smartphone, tablet or laptop. It is necessary to use the notes made by the student, summaries of the read educational material and the data analysis carried out independently at home or on a pair.

Rules for assigning incentive and penalty points

Incentive points		Penalty points	
Criteria	Nu of points	Criteria	Nu of points
Participation in the conference / publication of abstracts	5 / 10 points		
Participation in the 2nd round of the All-Ukrainian Student Olympic games	10 points		
Publication of a scientific article	10 points		

Policy of deadlines and rearrangements

Each written homework, which the teacher will notify in advance, must be completed before the start of the relevant practical (seminar) lesson. The completed task must be submitted the day before the date of the lesson (posted on the discipline page in Google Classroom – in the case of distance (online) learning, send to the teacher's e-mail – in the case of full-time study). Points will be deducted for late homework (see Rules for awarding incentive and penalty points).

University policy

Academic integrity

The policy and principles of academic integrity are defined in Section 3 of the Code of Honor of the National Technical University of Ukraine *Igor Sikorsky Kyiv Polytechnic Institute*. Details: https://kpi.ua/code.

Norms of ethical behavior

Norms of ethical behavior of students and employees are defined in Section 2 of the Code of Honor of the National Technical University of Ukraine *Igor Sikorsky Kyiv Polytechnic Institute*. Details: https://kpi.ua/code.

13. Types of control and rating system for evaluating learning outcomes

The table below lists all types of control components and the scores for each of them.

№	Control components	%	Nu of points	Nu	Total
1.	Speeches at seminars (practical, lab) classes, control works	25	5	5	25
2.	Calculation and graphic work (CGW)	25	25	1	25
3.	Examination	50	50	1	50
	Total				100

Calendar control

It is conducted twice a semester as a monitoring of the current state of compliance with the requirements of the syllabus. The purpose of the calendar boundary control is to improve the quality of student learning and monitor the implementation of the schedule of the educational process by students.

During the first calendar control, the student receives a ‘passed’ if his/her current rating at the time of certification is 20 or more points. During the second calendar control, the students receive a ‘passed’ if their current rating is 40 or more points. If this indicator does not meet the requirements, it is set "not certified". Practice of "non-certification" is carried out in consultation with the teacher by orally answering questions of material not mastered by students and performing missed practical work.

Semester control: exam

Conditions of admission to the semester control: enrollment of all practical tasks and semester rating not less than 40 points.

Table of correspondence of rating points to grades on the university scale:

Nu of points	Grade
100-95	Excellent
94-85	Very good
84-75	Good
74-65	Satisfactory
64-60	Enough
Менше 60	Unsatisfactory
Requirements of certificaion are not met	Not certified

9. Additional information on the discipline (educational component)

List of questions for semester control (exam):

1. Possibilities and limitations of quantitative methods for the analysis of social processes.
2. Comparative characteristics of the three paradigms of sociological research.
3. Classification of sources of social and sociological information.
4. Quantitative analysis as a modeling of social processes.
5. Factors for choosing a specific method of quantitative data analysis. One-dimensional and multidimensional analysis.
6. Logic and basic stages of computer analysis of sociological data. Levels of sociological analysis of empirical data.
7. Sources of statistical information - domestic and international. Specifics of statistical indicators, possibilities and limitations of their use in sociological research.
8. State Statistics Service of Ukraine as a source of social information. Statistics of international official and non-governmental organizations. International rankings.
9. Archives of sociological research data and the possibility of their use in secondary analysis.
10. Innovative projects of collection and analysis of sociological information.
11. Online surveys, web questionnaires: creation and application.
12. The concept of measurement and its specifics in the study of social processes.
13. Procedures for interpretation and operationalization of concepts.
14. The concept of measurement errors, their types.
15. Point and interval estimation.
16. The problem of quality and reliability of measurement.
17. The concept of measurement scale, types of scales.
18. Scales for measuring social attitudes.
19. Values for measuring values.
20. Sociological indices, methods of their calculation, scope.
21. Integral indices and their role in the quantitative analysis of sociological data.

22. Creating a new variable using different procedures.

23. Conversion of variables from one type to another.

24. Logical indices in sociology. Indices for group comparison.

25. Creating indices of total scores (R. Likert scale).

26. Basics of working with the syntax editor.

27. Data management. Merge and split files. Division of cases into groups. Selection and sorting of cases.

28. Checking the correctness of data entry.

29. Basic information about the statistical program for processing sociological data SPSS. Main menu, toolbars, data editors and variables.

30. Preparation of table for data entry. Absolute and relative frequencies.

31. Statistical series and their ordering. Tables of one-dimensional distribution, procedures for their interpretation.

32. Mean as a statistical indicator. Interpretation of averages in the analysis of social data.

33. Median and mode as statistical indicators; methods of definition, interpretation.

34. Measures of variation: calculation, interpretation, consideration in the analysis of social processes. Coefficient of variability of categories.

35. Reliable probability and confidence interval: concept and interpretation. Interval estimation for binomial distribution.

36. The use of statistical characteristics for the analysis of one-dimensional distributions. Descriptive statistics.

37. Standardization of indicators.

38. Conversion of z-scores into normalized scales.

39. Crosstabulation as a tool for studying the relationship of two features.

40. Chi-square criterion: purpose, description, constraints, calculations and interpretation.

41. Chi-square coefficients of association.

42. The method of clarification in the analysis of the relationship between the signs. False relationship method. Model with an indirect variable.

43. The concept of statistical dependence. Types of communication and strength of communication.

44. Relationship coefficients for features measured on a nominal scale: calculation and interpretation of values.

45. Relationships for features measured on an ordinal scale: calculation and interpretation of values.

46. Relationships for traits measured on a metric scale: calculation and interpretation of values.

47. The essence of the procedures for testing statistical hypotheses.

48. Characteristics of comparison measures. Medium. T-test for one sample.

49. T-test to compare two independent samples.

50. T-test for paired samples.

51. Procedure for analysis of variance.

52. One-way analysis of variance (ANOVA).

53. Methods of multiple comparisons.

54. Kraskel-Wallis analysis of variance.

55. General algorithm for analyzing the relationship between variables. Functional and correlation.

56. Linear and nonlinear connection. Covariance. The concept of statistical dependence. The power of communication.

57. Pearson's pairwise correlation coefficient: formula, calculation rules, range of values, conditions of application, interpretation, level of significance. Typical errors in the use and interpretation of the correlation coefficient.

58. Rank correlation. Spearman's rank correlation coefficient: rank covariance, calculation rules, range of values, interpretation.

59. Kendel's rank correlation coefficient: calculation and interpretation.

60. Graphical representation of the behavior of a variable. Construction of graphs and their editing. Varieties of graphs. The value of graphical data presentation.

Informal distance and online courses

It is possible for students to enroll in distance or online courses on relevant topics. In particular, it is recommended to study the online course "Data Analysis. Applied tasks of statistical data analysis: relationships, trends, forecasts, classifications "(in Russian) (Novosibirsk State University). The course is posted on the Coursera educational platform at: https://www.coursera.org/specializations/analiz-dannykh?#courses. It is possible to use other mass open online courses (in whole or partly) provided that their subject matter and content are agreed with the lecturer.

Inclusive education

Allowed

The working program of the discipline (syllabus) is:

Compiled by: Associate Professor of Sociology, Ph.D. Korzhov Hennadii Olexandrovich

Approved: by the Department of Sociology (protocol № 12 from 23.06.2023)

Agreed: by the Methodical Commission of the Faculty (protocol № 11 from 27.06.2023)

Annex A.

RATING SYSTEM FOR EVALUATION (RSE) OF LEARNING RESULTS

RSEof the discipline ‘Methodology and methods of sociological research of conflicts-2’ provides for the evaluation of students’ work on the following types of work:
1) Speeches at seminars (practical, lab) classes, control works(G sem)
2) Calculation and graphic work (CGW) (G cgw)
3) Oral exam (G exam)

1. Calculation of weight points
RSO on discipline consists of the sum of points a student received for the various studying activities during a semester (RD):

RD = G sem + G cgw + G exam = 100 points

1) Speeches at seminars (practical, lab) classes, control works(G sem)

Weight point - 5 points for the correct answer (addition to the answer) to one question. The maximum number of points for activity in seminars is approximately equal
G sem = 5 points * 5 from. = 25 points
When answering each question, the student receives:
- "excellent", complete answer (at least 90% of the required information, if in response the student demonstrates a deep knowledge of the material, logically and consistently teaches it, gives sound conclusions, freely operates with specific data, easily and convincingly answers questions; active participation in class - 5 points;
- "very good" and "good", a fairly complete answer (at least 75% of the required information), or a complete answer with minor inaccuracies, answers most of the questions - 3-4 points;
- "satisfactory" and "sufficient", incomplete answer (not less than 60% of the required information) and significant errors, answers to the questions poorly, or does not answer at all, addition to the answer of other students - 1-2 points.
- "unsatisfactory", no work at the seminar, the student was not ready to answer the question - 0 points.

2) Calculation and graphic work (CGW) (G cgw)

Weight point - 25 points.
A ("marked") - for 23-25 points
B ("good") - for 20-22 points
C ("good") - for 16-19 points
D ("set") - for 13-15 points
E ("sufficient") - for 10-12 points
Fx (admission to the test) - for 10 points

If student receives less than 10 points, his/herCGWis not credited.
Evaluation criteria:
The work is evaluated in accordance with the completeness of the task, the correctness of the description of the results, theoretical and factual saturation, the depth of analysis.

3) The exam is conducted orally, 3 questions are taken on the. Each question is evaluated according to the evaluation system:
"Excellent", complete answer (not less than 90% of the required information) - 16-17 points;
"Good", a fairly complete answer (at least 75% of the required information, or minor inaccuracies) - 12-15 points;
"Satisfactory", incomplete answer (not less than 50% of the required information and some errors) - 8-11 points;
"Enough", incomplete answer, significant errors - 4-7 points;
"Unsatisfactory", unsatisfactory answer - 0-3 points.

Incentive points
For participation in scientific and practical conferences held at the FSP or in other educational and research institutions, the student receives additional points.

Conditions for admission to the exam:
The condition for admitting a student to the exam is to obtain a preliminary rating of at least 40 points. Students who scored less than 40 points during the semester are not allowed to take the exam.

Conditions of positive intermediate certification:
To receive "passed" from the first intermediate attestation the student must have not less than 20 points, to receive "passed" from the second intermediate attestation the student must have not less than 40 points.
The translation of the values of rating scores in ECTS and traditional grades for putting them in the test sheet and record book is carried out in accordance with table 1

Table 1

Nu of points	**Grade**
100-95	Excellent
94-85	Very good
84-75	Good
74-65	Satisfactory
64-60	Enough
Less than 60	Unsatisfactory

AnnexB.

Requirements for calculation and graphic work

The work is performed using the statistical program for processing sociological data SPSS / PSPP. The recommended length of work should be 12-15 pages of text, 1.5 intervals, 14 point Times New Roman (excluding tabular and graphic material).

1. Formulate a sociological problem that you would like to investigate through the secondary analysis of empirical research data. It is recommended to choose a topic that is related to the research issues that are planned to be carried out as part of the work on the future master's dissertation. Review the available datasets of sociological research and choose the one that will allow you to investigate your problem. The dataset can be obtained from any open archive of sociological information known to you, for example, the National Sociological Data Bank "Kyiv Archive". To make the right choice, you need to be well acquainted with the content and nature of the data contained in this archive. Briefly substantiate the scientific problem, formulate a research question. It is necessary to describe in detail the research methodology, dataset, as well as provide a data source (website). Download a selected dataset. Tools and dataset must be added to the CGW.
2. Select several variables from the downloaded dataset (eg, 8-10) that you can use to conduct a small self-study. Some of the variables should correspond to the main topic of your research, and the rest should contain the socio-demographic characteristics of the respondents.
3. Come up with several hypotheses (eg, 3-5) that would reflect the scientific problem, tothe study of which your mini-study will be devoted. The hypotheses and the variables you select must match. There should be at least one causal (explanatory) hypothesis.
4. Consider a model of empirical verification of your hypotheses using methods of both descriptive statistics and statistical analysis.
5. Test your hypotheses using various methods of analysis, including one-dimensional and two-dimensional, correlation, regression, discriminant, factor, cluster, and so on. Give a statistical and meaningful interpretation of the results. Make conclusions about the validity of your hypotheses. Summarize.