

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE NATIONAL
TECHNICAL UNIVERSITY OF UKRAINE
"Igor Sikorsky Kyiv Polytechnic Institute"**

**APPROVED by:
Academic Council of
Igor Sikorsky Kyiv Polytechnic Institute
(protocol № ___ from _____)
Head of Academic Council
_____ Mykhailo Ilchenko**

SOCIAL DATA ANALYTICS

EDUCATIONAL SCIENTIFIC PROGRAM

second (Master's) level of higher education in

speciality

054 Sociology

field of knowledge

05 Social and behavioral sciences

qualification

Master of Sociology

Put into effect by order of the Rector
from « ____ » _____,
protocol No _____

PREAMBLE

DEVELOPED by the project team:

Head of the project team:

Igor PYGOLENKO, PhD in Philosophical Sciences, Associate Professor, Associate Professor at the Department of Sociology _____

Project team members:

Anna Ishchenko, Director of the Educational and Scientific Center of Applied Sociology "Socioplus", on a part of employers _____

Alina VOLKOVA, student, first (bachelor) level of higher education, bachelor of sociology _____

Anatoly MELNYCHENKO, PhD in Philosophical Sciences, professor, vice-rector for educational matters of Igor Sikorsky Kyiv Polytechnic Institute _____

Olena Akimova, PhD in Philosophical Sciences, Associate Professor, Dean of the Faculty of Sociology and Law _____

Pavlo FEDORCHENKO-KUTUEV, Doctor of Sociological Sciences, Professor, Chair of the Sociology Department _____

Yuriy PERGA, PhD in History, Associate Professor, Associate Professor of the Department of History _____

Lyubov PANCHENKO, Doctor of Sciences in Education, Professor, Professor of the Sociology Department _____

Maksym Yenin, Associate professor, PhD in Sociological Sciences, Associate Professor of the Sociology Department _____

Hennadii KORZHOV, PhD in Sociological Sciences, Associate Professor, Associate Professor at the Department of Sociology _____

Tatiana KOLOMIETS, PhD in Philosophical Sciences, Associate Professor, Associate Professor at the Department of Sociology _____

The Department of Sociology is responsible for training students of higher education according to the educational program

AGREED UPON:

Changes and additions to the educational program are approved by the Scientific and Methodical Commission of the University in the speciality 054 Sociology

(protocol No ___ date « ___ » _____ 2023 p.)

Head of the SMCU 054

_____ Pavlo FEDORCHENKO-KUTUEV

Head of the Methodical Council

_____ Anatoly MELNYCHENKO

(protocol No _____ date « ___ » _____ 2023 p.)

INCLUDES:

Recommendations and suggestions: specialists in the field of Sociology, Department of Sociology, students enrolled into the program "Conflict Resolution and Mediation", recommendations of SMCU.

Professional expertise was conducted by:

Vil BAKIROV – Doctor of Sociological Sciences, Professor, Member of the National Academy of Sciences of Ukraine, Corresponding Member of the National Academy of Sciences of Ukraine, Honored Worker of Science and Technology of Ukraine

Evgeny HOLOVAKHA – Director of the Institute of Sociology of the National Academy of Sciences of Ukraine, Doctor of Philosophical Sciences, Professor, Corresponding Member of the National Academy of Sciences of Ukraine

The educational program was discussed after receiving all the wishes and suggestions from stakeholders and was approved by extended meeting of the Department of Sociology

(protocol No ____ date _____ 2023 p.)

CONTENT

1. Profile of the educational program	5
2. List of components of the educational program	11
3. Structural and logical scheme of the educational program	12
4. Form of final certification of higher education applicants	13
5. Matrix of correspondence of program competences to components of educational program	14
6. Matrix of correspondence of programmatic results of study to components of educational Programs	16

1. PROFILE OF THE EDUCATIONAL PROGRAM

Speciality 054 Sociology

1 – General information	
Full name of the Institution of Higher Education and institute / faculty	National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", faculty of sociology and law
Degree of higher education and title of qualification	Degree - Master Qualification – Master's degree in Sociology
Level of National Qualifications Framework	NQF of Ukraine – 7th Level, FQ-EHEA – 2nd cycle, EQF-LLL – 7th Level
Official title of educational program	Social Data Analytics
Type of diploma and scope of educational program	Master's degree, single, 120 credits, term of study: 1 year and 9 months
Availability of accreditation	License for educational services AE № 527265 Order of the Ministry of education and science of Ukraine issued on 31.07.2014, № 2657Л, 2014-2024.
Prerequisites	Bachelor's degree
Language (s) of teaching	Ukrainian, English
Term of educational program	Until the next accreditation
Internet address of permanent educational location programs	https://osvita.kpi.ua/node/216 http://www.sociology.kpi.ua/educational-programs
2 – The purpose of the educational program	
<p>Training of highly qualified specialists (masters) in sociology who demonstrate the presence of a highly developed sociological imagination and mastery of modern theories, methodology and methods of sociological research, as well as competencies in the field of multidimensional analysis of social data, processing and analysis of large arrays of quantitative and qualitative information using statistical software (OSA, SPSS / PSPP), use of programming languages R and Python in statistical calculations, work with open data sources (OSINT), data visualization.</p> <p>The goal of the educational program fully corresponds to the strategy of development of Igor Sikorsky Kyiv Polytechnic Institute for 2020-2025.</p>	

3 – Characteristics of the educational and professional program	
Subject area	<p>Objects of study: social relations and interaction; personality, social groups, communities and societies; social phenomena and processes; Public Opinion; culture; social institutions; social structures and inequalities; social changes and influences; social problems and conflicts in society at the local, regional, national and global levels.</p> <p>Learning goals: training specialists capable of solving complex tasks and problems of sociology of a research and/or innovative nature.</p> <p>Theoretical content of the subject area: social relations and interaction; personality, social groups and communities; macro-social phenomena and processes; social mechanisms; social practices; social institutions; culture; social structures and inequalities; social changes and influences; social problems and conflicts in society, both at the national and global levels.</p> <p>Methods, techniques and technologies: modern methods of collecting, processing and analyzing social data, methods of diagnosis, expertise and forecasting, digital technologies, modern technologies of artificial intelligence and data mining, data visualization.</p> <p>Tools and equipment: information systems and software products used in professional activities.</p>
Orientation of the educational program	Educational scientific program for the preparation of students of higher education of the second (master's) level.
The main focus of the educational program and specialization	<p>The program is focused on educational components based on the specifics of modern sociological surveys, methods of multidimensional analysis of social data, tools for processing and analyzing large arrays of quantitative information using statistical software (OSA, SPSS / PSPP); use of programming languages R and Python in statistical calculations, work with open data sources (OSINT), processing and analysis of arrays of qualitative information, data visualization tools.</p> <p>Keywords: modern sociological theories, analysis of social phenomena and processes, analytical sociology, sociological surveys, program of sociological research, methods of collecting primary information, the latest technologies in sociology, quantitative and qualitative information, data processing and analysis, SPSS / PSPP, artificial intelligence, programming languages R and Python, OSINT technologies in sociological surveys, analysis of social networks, modeling, foresight, anti-crisis management.</p>

Peculiarities of the program	<p>The program is based on the experience of the Department of Sociology's implementation of the educational program "Conflict Resolution and Mediation", which was established in cooperation with the Ministry of Temporarily Occupied Territories and Internally Displaced Persons and the Embassies of Great Britain and Switzerland, as well as achievements of the World Data Center for Geoinformatics and Sustainable Development of Igor Sikorsky Kyiv Polytechnic Institute.</p> <p>The program is based on the requirements of the European Qualifications Framework for lifelong learning (EQF for LLL).</p> <p>The program involves the participation of students in certificate programs.</p> <p>Students receive special knowledge of modern methods of multidimensional analysis of social data, tools for processing and analyzing large arrays of social information using statistical software (OSA, SPSS / PSPP), use of programming languages R and Python in statistical calculations.</p> <p>The program involves in the educational process leading sociologists, specialists in the field of social data analysis from Ukraine and foreign countries, interacting with employers' representatives. The program offers plenty of opportunities to participate in academic mobility programs with the world's leading institutions of higher education,.</p>
4 – Suitability of graduates for employment and further study	
Suitability for employment	<p>Classifier of professions DK 003:2010</p> <p>1232 Chief sociologist</p> <p>2310.2 Teacher of an institution of higher education</p> <p>224 Professionals in the field of economics, sociology, archeography, archaeology, geography, criminology and paleography</p> <p>2442 Professionals in the field of archeography, archeology, geography, criminology, paleography and sociology</p> <p>2442.1 Research staff archeology, geography, criminology, paleography, sociology)</p> <p>2442.2 Archeographers, archaeologists, geographers, criminologists, paleographers and sociologists.</p> <p>2442.2 Sociologist</p> <p>2443.2 Consultant on social and political issues (in parties and other public organizations)</p> <p>2443.2 Expert on socio-political issues</p> <p>2419.3 Consultant (in the apparatus of state authorities, executive committee)</p> <p>2122.1 Researcher (statistics)</p> <p>2122.1 Consultant researcher (statistics)</p> <p>2433.1 Research staff (information analytics)</p> <p>2433.2 Information professionals and information analysts</p> <p>2433.2 Analyst of consolidated information.</p>
Further education	Continuation of education at the third educational and scientific level of higher education.

5 – Teaching and assessment	
Teaching and learning	Student-centered learning, self-study and project-oriented learning style. Teaching is carried out in the form of lectures, seminars, independent projects under lecturers supervision, individual work, the use of information and communication technologies (online lectures, online courses) for individual educational components. Participation in the development and implementation of sociological research projects.
Evaluation	Current control in the form of modular assessment, tests, individual assignments, etc. and semester control in the form of oral and written examinations, tests and defense of qualifying work are assessed in accordance with the defined criteria of the Rating system.
6 – Program competencies	
Integral competence	The ability to solve complex problems of sociology of a research and/or innovative nature.
General competencies (GC)	
GC01	Ability to abstract thinking, analysis and synthesis.
GC02	Ability to work autonomously.
GC03	Ability to communicate with representatives of other professional groups at different levels (with experts from other fields of knowledge / types of economic activity).
GC04	Ability to work in an international context.
GC05	Ability to evaluate and ensure the quality of work that has been performed.
GC06	Ability to make informed decisions.
Professional competencies of the speciality (PC)	
PC01	Ability to analyze social phenomena and processes.
PC02	Ability to identify, diagnose and interpret social problems of Ukrainian society and the world community.
PC03	Ability to design and conduct sociological surveys, develop and justify their methodology.
PC04	Ability to collect and analyze empirical data using modern methods of sociological surveys.
PC05	Ability to discuss the results of sociological surveys and projects in in Ukrainian and foreign languages.
PC06	Ability to adhere to the norms of professional ethics of a sociologist and to be guided by universal values.
PC07	Ability to develop and evaluate social projects and programs.
PC08	Ability to cooperate with European and Euro-Atlantic institutions.
PC09	Ability to prepare analytical texts and reports.
PC10	Ability to present the results of scientific research and prepare academic reports and publications
PC11	Ability to perform open source data analysis (OSINT), analyze qualitative information, textual data, use data mining for social data
PC12	Ability to apply modern statistical methods, models, digital technologies, specialized software for modeling social processes.
PC13	Ability to use SPSS statistical package and programming languages R and Python to analyze social data.

7 – Program learning outcomes	
PL01	Analyze social phenomena and processes using empirical data and modern concepts and sociological theories.
PL02	Carry out diagnostics and interpretation of social problems of the Ukrainian society and the world community, the reasons of their occurrence and consequences.
PL03	Develop and implement social and interdisciplinary projects according to social, economic, legal, environmental and other aspects of public life
PL04	Apply scientific knowledge, sociological and statistical methods, digital technologies, specialized software to solve complex problems of sociology and related fields of knowledge
PL05	Search, analyze and evaluate the necessary information in the scientific literature, data banks and other sources.
PL06	Fluently communicate orally and in writing in English when discussing professional issues, research and innovation in the sociology and related sciences, including in the context of cooperation with European and Euro-Atlantic institutions.
PL07	Solve ethical dilemmas in accordance with the norms of professional ethics of the sociologist and universal human values.
PL08	To deliver information / knowledge, one's own conclusions and arguments on sociology and related fields of knowledge to professionals and non-specialists, in particular to people who are learning, in a clear and unambiguous manner.
PL09	To plan and conduct research in the sphere of sociology, to analyze the results, to defend the conclusions.
PL10	To teach sociology and related disciplines / courses.
PL11	Summarize the results of one's own research and present them in academic reports and publications
PL12	Conduct open source data analysis (OSINT), analyze qualitative information, text data, use data mining for social data.
PL13	Apply the latest modern methods of sociological surveys in the conditions of digitalization of social relations
PL14	Apply programming languages R and Python to analyze social data.
8 – Resource support for program implementation	
Staff	3 Habilitated Doctors, 6 Doctors of Philosophy are involved in teaching and in the overall implementation of the program. Systematic work is being carried out to improve the level of teaching and training of teaching staff. The program stresses the involvement in the educational process of leading sociologists, specialists in the field of social data analysis from Ukraine and foreign countries, academic mobility programs at the world's leading institutions of higher education, interacting with employers and industry leaders.
Material and technical support	Material and technical support of educational activities meets the licensing requirements (Annex 4 to the Licensing Conditions), approved by the Resolution of the Cabinet of Ministers of Ukraine № 1187 from 30.12.2015 with changes made in accordance with the Resolution of the Cabinet of Ministers of Ukraine №347 from 10.05.2018 and the Resolution of the Cabinet of Ministers of Ukraine № 180 from 03.03.2020. (https://zakon.rada.gov.ua/laws/show/1187-2015-%D0%BF#Text)

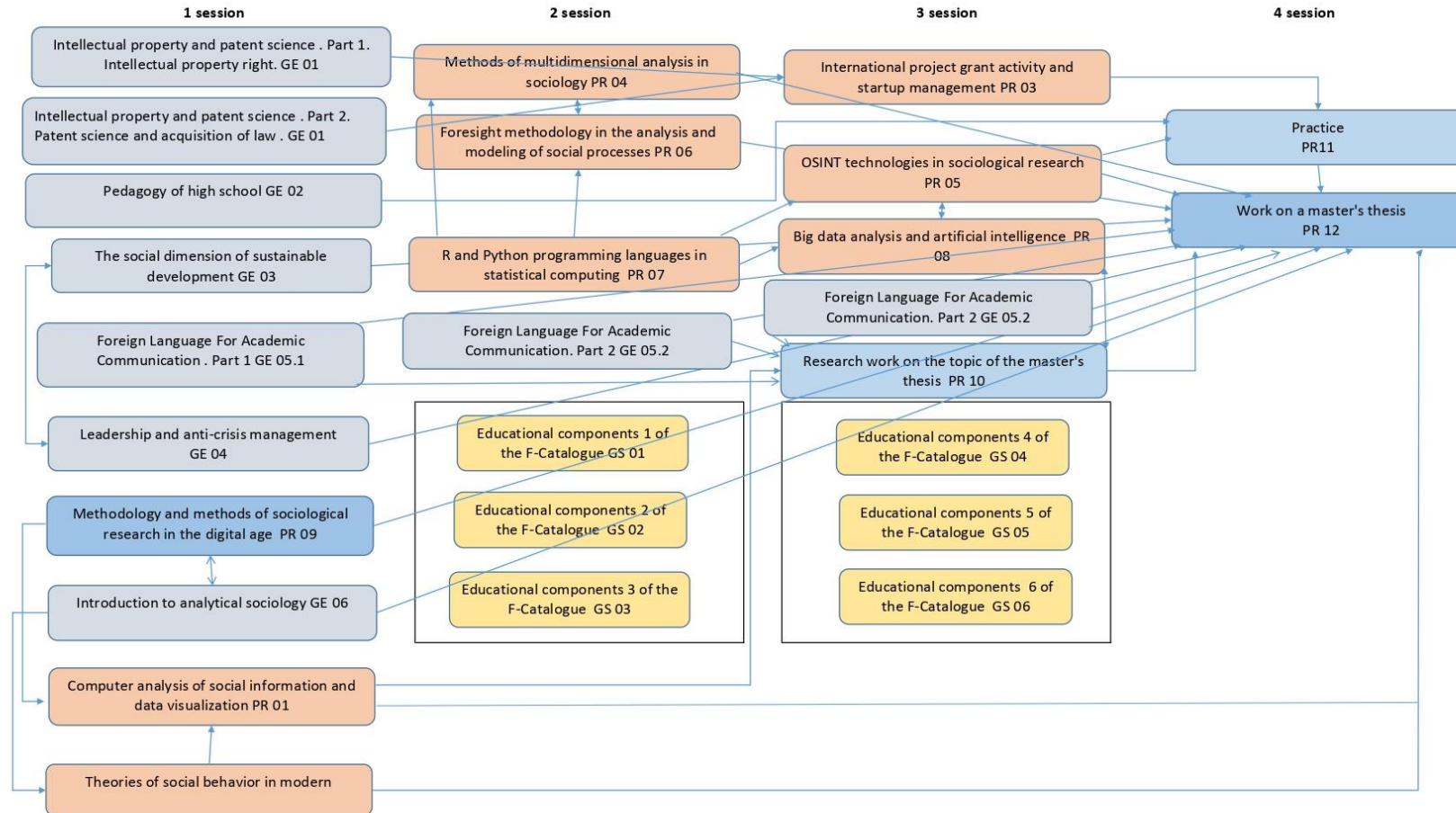
Information support	<p>Information and educational support for the implementation of the program meets the licensing requirements (Annex 4 to the Licensing Conditions), approved by the Resolution of the Cabinet of Ministers of Ukraine № 1187 from 30.12.2015 with changes made in accordance with the Resolution of the Cabinet of Ministers of Ukraine №347 from 10.05.2018 and the Resolution of the Cabinet of Ministers of Ukraine № 180 from 03.03.2020. (https://zakon.rada.gov.ua/laws/show/1187-2015-%D0%BF#Text)</p> <p>Use of the Denisenko Scientific and Technical Library of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"</p>
9 – Academic mobility	
National credit mobility	Possibility of concluding credit mobility agreements with other IHE of Ukraine involved in master’s programs instruction.
International credit mobility	<p>Provided in accordance with international academic agreements mobility under the ERASMUS + program:</p> <p>Casimir the Great University (Poland)</p> <p>University of Groningen (Netherlands)</p> <p>Friedrich Schiller University of Jena (Germany)</p> <p>Tomar Polytechnic Institute (Portugal)</p>
Training of foreign applicants for higher education	It can be conducted in Ukrainian or English, provided that their fluency in the language of instruction is at least at B2 level

2. LIST OF COMPONENTS OF THE EDUCATIONAL PROGRAM

Social Data Analytics

Code	Components of the educational program (academic disciplines, practices, qualification work)	Number of credits	Form of final control
1	2	3	4
1. Normative educational components			
1.1. Cycle of general training			
GE 01.1	Intellectual property and patent science. Part 1. Intellectual property right	2	credit
GE 01.2	Intellectual property and patent science. Part 2. Patent science and acquisition of law	1	credit
GE 02	Pedagogy of higher education	2	credit
GE 03	The social dimension of sustainable development	2	credit
GE 04	Leadership and anti-crisis management	3	credit
GE 05.1	Foreign Language For Academic Communication. Part 1	3	credit
GE 05.2	Foreign Language For Academic Communication. Part 2	1,5	credit
GE 06	Introduction to analytical sociology	3	exam
1.2. Cycle of professional training			
PR 01	Computer analysis of social information and data visualization	5	credit
PR 02	Theories of social behavior in modern sociology	5	exam
PR 03	International project grant activity and startup management	4	exam
PR 04	Methods of multidimensional analysis in sociology	5	exam
PR 05	OSINT technologies in sociological research	3,5	exam
PR 06	Foresight methodology in the analysis and modeling of social processes	5	exam
PR 07	R and Python programming languages in statistical computing	4	exam
PR 08	Big data analysis and artificial intelligence	4	exam
Research scientific component			
PR 09	Methodology and methods of sociological research in the digital age	5	exam
PR 10	Research work on the topic of the master's thesis	2	credit
PR 11	Internship	12	credit
PR 12	Writing the master's dissertation	18	
2. Selective educational components			
GS 01	Educational components 1 of the F-Catalogue	5	credit
GS 02	Educational components 2 of the F-Catalogue	5	credit
GS 03	Educational components 3 of the F-Catalogue	5	credit
GS 04	Educational components 4 of the F-Catalogue	5	credit
GS 05	Educational components 5 of the F-Catalogue	5	credit
GS 06	Educational components 6 of the F-Catalogue	5	credit
Normative educational components		90	
Selective educational components		30	
TOTAL VOLUME OF THE EDUCATIONAL PROGRAM		120	

3. STRUCTURAL AND LOGICAL SCHEME OF THE EDUCATIONAL PROGRAM



4. FORM OF GRADUATE CERTIFICATION OF HIGHER EDUCATION APPLICANTS

Attestation of applicants for higher education in an educational scientific program is carried out in the form of a public defense of the qualification work (dissertation).

The qualification work should involve the independent solution of a complex task of a research and/or innovative nature in the field of sociology.

There should be no academic plagiarism, fabrication, or falsification in the qualification work.

Defense of qualification work is carried out openly and publicly. The qualification work must be published on the official website of the institution of higher education or its division, or in the repository of the institution of higher education.

	GE01.1	GE01.2	GE02	GE03	GE04	GE05.1	GE05.2	GE06	PR01	PR02	PR03	PR04	PR05	PR06	PR07	PR08	PR09	PR10	PR11	PR12
PC06	+	+								+							+	+		+
PC07					+						+									
PC08						+	+				+									
PC09			+																	
PC010	+	+							+		+						+	+		
PC011												+	+			+				
PC012												+		+		+			+	
PC013															+				+	

6. MATRIX OF CONFORMITY OF PROGRAM COMPETENCIES TO THE COMPONENTS OF THE EDUCATIONAL PROGRAM

	GE01.1	GE01.2	GE02	GE03	GE04	GE05.1	GE05.2	GE06	PR01	PR02	PR03	PR04	PR05	PR06	PR07	PR08	PR09	PR10	PR11	PR12
PL01. Analyze social phenomena and processes using empirical data and modern concepts and theories of sociology.								+	+	+			+	+						
PL02. Carry out diagnostics and interpretation of social problems of the Ukrainian society and the world community, the reasons of their occurrence and consequences.				+	+			+		+				+			+			
PL03. Develop and implement social and interdisciplinary projects according to social, economic, legal, environmental and other aspects of public life											+			+			+			
PL04. Apply scientific knowledge, sociological and statistical methods, digital technologies, specialized software to solve complex problems of sociology and related fields of knowledge				+				+	+			+	+		+	+	+	+		+

	GE01.1	GE01.2	GE02	GE03	GE04	GE05.1	GE05.2	GE06	PR01	PR02	PR03	PR04	PR05	PR06	PR07	PR08	PR09	PR10	PR11	PR12
PL05. Search, analyze and evaluate the necessary information in the scientific literature, data banks and other sources.			+	+		+	+	+					+			+		+		+
PL06. Fluently communicate orally and in writing in Ukrainian and one of the foreign languages when discussing professional issues, research and innovation in the sociology and related sciences, including in the context of cooperation with European and Euro-Atlantic institutions.						+	+				+									
PL07. Solve ethical dilemmas in accordance with the norms of professional ethics of the sociologist and universal human values.	+	+								+							+	+		+
PL08. To deliver information / knowledge, one's own conclusions and arguments on sociology and related fields of knowledge to professionals and non-specialists, in particular to people who are learning, in a clear and unambiguous manner.			+			+	+													

	GE01.1	GE01.2	GE02	GE03	GE04	GE05.1	GE05.2	GE06	PR01	PR02	PR03	PR04	PR05	PR06	PR07	PR08	PR09	PR10	PR11	PR12
PL09. To plan and conduct research in the sphere of sociology, to analyze the results, to substantiate the conclusions.												+					+	+	+	+
PL10. To teach sociological and related disciplines in educational institutions.			+																	
PL11. Summarize the results of one's own research and present them in academic reports and publications	+	+							+		+						+	+		
PL12. Conduct open source data analysis (OSINT), analyze qualitative information, text data, use data mining for social data.													+			+			+	
PL13. Apply cutting edge modern methods of sociological research in the conditions of digitalization of social relations														+			+			
PL14. Apply programming languages R and Python to analyze social data.												+			+	+				