Course Syllabus for the 2nd Year of Study

Title of the course	Research seminar "Analytical sociology and big data" (offered in English)		
Title of the Academic Programme	“Sociology and Social Informatics”		
Type of the course	Elective		
Prerequisites	Sociological theory; Methodology and methods of sociological research; Theory of argumentation and academic writing; Philosophy		
ECTS workload	4		
Total indicative study hours	Directed Study	Self-directed study	Total
	42	110	152
Course Overview	The purpose of the course is to provide students with skills necessary for conducting social research based on big data analysis. During the course different features of analytical approach towards big data will be covered as well as a variety of examples of reports and articles relevant for the field.		
Intended Learning Outcomes (ILO)	As a result of the course the students should understand modern features and issues of big data analytics; should learn basic methodological principles and major methods applicable for big data analysis. They should be able to apply the methods of analytical sociology and social statistics to the analysis of big data; to use basic rules of statistical inference; to employ major sociological concepts as instruments of sociological research. The students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.		
Teaching and Learning Methods	During the course students are expected to read and discuss journal articles and book chapters; participate in group research projects; give presentations on their research projects and topics of their interest.		

Content and Structure of the Course

№	Topic / Course Chapter	Total	Directed Study		Self-directed Study
			Lectures	Tutorials	
1	Introduction to analytical sociology and applications	12		2	10
2	Sources of big data; quality of data	14		4	10
3	Literature review: basic principles and search for the articles	14		4	10
4	Operationalization of theoretical concepts and measurement	14		4	10
5	Research design for the big data analysis	14		4	10

6	Studying stratification and intergenerational mobility using big data	14		4	10
7	Social movements analysis using big data	14		4	10
8	Educational research using big data	14		4	10
9	Health research using big data	14		4	10
10	Ethical issues of the big data research	14		4	10
11	Presentation of the research results	14		4	10
Total study hours		152	-	42	110

Indicative Assessment Methods and Strategy	2nd year The final grade will be based on participation in class discussions (40%); in-class assignments (30%) and research proposal (30%). **Participation in class discussion** is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. **In-class assignments** grade will be calculated as an average score for all types of written activities during the seminars. **Research proposal** is a short paper that includes a description of the future course paper of student. It should contain general description of proposed topic, rationale for the research, description of research methods and methodology and a brief literature review. The final grade is rounded according to algebra rules.
Readings / Indicative Learning Resources	Mandatory Van Rijmenam, M. (2014). *Think bigger: Developing a successful big data strategy for your business*. Amacom. Authorized access: https://library.books24x7.com/toc.aspx?bookid=62572 Hedström, P., Bearman, P., & Bearman, P. S. (Eds.). (2009). *The Oxford handbook of analytical sociology*. Oxford University Press. Authorized access: https://ebookcentral.proquest.com/lib/hselibrary-ebooks/detail.action?docID=800880

Indicative Self- Study Strategies	**Type**	**+/–**	**Hours**
	Reading for seminars / tutorials (lecture materials, mandatory and optional resources)	+	60
	Assignments for seminars / tutorials / labs	+	10
	E-learning / distance learning (MOOC / LMS)	-	0
	Fieldwork	-	0

	Project work	+	30
	Other (please specify)	-	0
	Preparation for the exam	+	10
Academic Support for the Course	Academic support for the course is provided via LMS, where students can find: guidelines and recommendations for doing the course; guidelines and recommendations for self-study; samples of assessment materials		
Facilities, Equipment and Software	Computer (notebook) with Internet access; projector; white board		
Course Instructor	Daniel Alexandrov Valeria Ivanushina Olesya Volchenko		

Intended Learning Outcomes (ILO) Delivering

Programme ILO(s)	Course ILO(s)	Teaching and Learning Methods for delivering ILO(s)	Indicative Assessment Methods of Delivered ILO(s)
UC-2 - Ability to identify the scientific essence of problems in one's professional area.	students should understand modern features and issues of big data analytics	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-7 - Ability to work as part of a team	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion
UC-8 - Ability to communicate efficiently based on communication goals and situations	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-9 - Ability to critically evaluate and reassess accumulated experiences (personal and others'), reflect on professional and social activities	students should understand modern features and issues of big data analytics; to use basic rules of statistical inference;	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;

	to employ major sociological concepts as instruments of sociological research.		
PC-1 - Ability to solve standard professional tasks on the basis of information and bibliographic culture while using information and communication technology and taking into account the basic requirements for information security	should learn basic methodological principles and major methods applicable for big data analysis	In-class discussion	Participation in class discussion
PC-2 - Ability to critically perceive, summarize, and analyze professional information	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion

Course content

Introduction to analytical sociology and applications

Basic principles of analytical sociology
Key authors in the field of analytical sociology

Sources of big data; quality of data

Typology of data sources
Principles of data collection
Big data quality assessment

Literature review: basic principles and search for the articles

Basic principles
Logic of literature review
Sources of literature

Operationalization of theoretical concepts and measurement

Operationalization
Measurement principles in sociology

Research design for the big data analysis

Typology of research designs
Most common research designs for big data researches

Studying stratification and intergenerational mobility using big data
General idea of social stratification analysis
Big data sources
Example article

Social movements analysis using big data
General idea of social movements analysis
Big data sources
Example article

Educational research using big data
General idea of education research
Big data sources
Example article

Health research using big data
General idea of health research
Big data sources
Example article

Ethical issues of the big data research
General ethical principles
Ethical issues in big data research

Presentation of the research results
General principles of good presentation
Practical session

Assessment Methods and Criteria

Assessment Methods

Types of Assessment	**Forms of Assessment**	**Modules**			
		1	**2**	**3**	**4**
Formative Assessment	Test				
	Essay				
	Report/Presentation				*
	Project				
	In-class Participation	*	*	*	*
	Other (write appropriate control forms for the course)				
Interim Assessment (if required)	Assignment (e.g. written assignment)	*	*	*	*
Summative Assessment	Exam				

Assessment Criteria

Participation in class discussion is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. After each seminar students will receive a raw score which will be standardized into 10-points scale at the end of the course. If a student misses a class due to valid excuse, the grade will be re-calculated for the student.
In-class assignments grade will be calculated as an average score for all types of written activities during the seminars. If a student misses an assignment due to a valid excuse, he/she will get an average score for the assignments that he/she had taken.
Presentation of the individual project includes final presentation on the topic of student's course work and should represent a solid presentation of research framework, literature review, data description, data analysis and main conclusions. If a student misses a class due to a valid excuse, he/she has to make a presentation during one of following classes or make an individual appointment with course instructors.

In-class Participation

Grades	Assessment Criteria
«Excellent» (8-10)	A critical analysis which demonstrates original thinking and shows strong evidence of preparatory research and broad background knowledge.
«Good» (6-7)	Shows strong evidence of preparatory research and broad background knowledge. Excellent oral expression.
«Satisfactory» (4-5)	Satisfactory overall, showing a fair knowledge of the topic, a reasonable standard of expression. Some hesitation in answering follow-up questions and/or gives incomplete or partly irrelevant answers.
«Fail» (0-2)	Limited evidence of relevant knowledge and an attempt to address the topic. Unable to offer relevant information or opinion in answer to follow-up questions.

Project Work

Grades	Assessment Criteria
«Excellent» (8-10)	A well-structured, analytical presentation of project work. Shows strong evidence and broad background knowledge. In a group presentation all members contribute equally and each contribution builds on the previous one clearly; Answers to follow-up questions reveal a good range and depth of knowledge beyond that covered in the presentation and show confidence in discussion.
«Good» (6-7)	Clearly organized analysis, showing evidence of a good overall knowledge of the topic. The presenter of the project work highlights key points and responds to follow up questions appropriately. In group presentations there is evidence that the group has met to discuss the topic and is presenting the results of that discussion, in an order previously agreed.
«Satisfactory» (4-5)	Takes a very basic approach to the topic, using broadly appropriate material but lacking focus. The presentation of project work is largely unstructured, and some points are irrelevant to the topic. Knowledge of the topic is limited and

	there may be evidence of basic misunderstanding. In a group presentation, most of the work is done by one or two students and the individual contributions do not add up.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

In-class assignments

Grades	Assessment Criteria
«Excellent» (8-10)	Has a clear argument, which addresses the topic and responds effectively to all aspects of the task. Fully satisfies all the requirements of the task; rare minor errors occur;
«Good» (6-7)	Responds to most aspects of the topic with a clear, explicit argument. Covers the requirements of the task; may produce occasional errors.
«Satisfactory» (4-5)	Generally addresses the task; the format may be inappropriate in places; display little evidence of (depending on the assignment): independent thought and critical judgement include a partial superficial coverage of the key issues, lack critical analysis, may make frequent errors.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

Recommendations for students about organization of self-study

Self-study is organized in order to:

- Systemize theoretical knowledge received at lectures;
- Extending theoretical knowledge;
- Learn how to use legal, regulatory, referential information and professional literature;
- Development of cognitive and soft skills: creativity and self-sufficiency;
- Enhancing critical thinking and personal development skills;
- Development of research skills;
- Obtaining skills of efficient independent professional activities.

Self-study, which is not included into a course syllabus, but aimed at extending knowledge about the subject, is up to the student's own initiative. A teacher recommends relevant resources for self-study, defines relevant methods for self-study and demonstrates students' past experiences. Tasks for self-study and its content can vary depending on individual characteristics of a student. Self-study can be arranged individually or in groups both offline and online depending on the objectives, topics and difficulty degree. Assessment of self-study is made in the framework of teaching load for seminars or tests.

In order to show the outcomes of self-study it is recommended:

- Make a plan for 3-5 presentation which will include topic, how the self-study was organized, main conclusions and suggestions and its rationale and importance.
- Supply the presentation with illustrations. It should be defined by an actual task of the teacher.

Special conditions for organization of learning process for students with special needs

The following types of comprehension of learning information (including e-learning and distance learning) can be offered to students with disabilities (by their written request) in accordance with their individual psychophysical characteristics:

1. *for persons with vision disorders:* a printed text in enlarged font; an electronic document; audios (transferring of learning materials into the audio); an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
2. *for persons with hearing disorders: a* printed text; an electronic document; video materials with subtitles; an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
3. *for persons with muscle-skeleton disorders: a* printed text; an electronic document; audios; individual assignments and advising.

Course Syllabus for the 3rd Year of Study

Title of the course	Research seminar "Analytical sociology and big data" (offered in English)		
Title of the Academic Programme	“Sociology and Social Informatics”		
Type of the course	Elective		
Prerequisites	Sociological theory; Methodology and methods of sociological research; Theory of argumentation and academic writing; Philosophy		
ECTS workload	4		
Total indicative study hours	Directed Study	Self-directed study	Total
	42	110	152
Course Overview	The purpose of the course is to provide students with skills necessary for conducting social research based on big data analysis. During the course different features of analytical approach towards big data will be covered as well as a variety of examples of reports and articles relevant for the field.		
Intended Learning Outcomes (ILO)	As a result of the course the students should understand modern features and issues of big data analytics; should learn basic methodological principles and major methods applicable for big data analysis. They should be able to apply the methods of analytical sociology and social statistics to the analysis of big data; to use basic rules of statistical inference; to employ major sociological concepts as instruments of sociological research. The students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.		
Teaching and Learning Methods	During the course students are expected to read and discuss journal articles and book chapters; participate in group research projects; give presentations on their research projects and topics of their interest.		

Content and Structure of the Course

№	Topic / Course Chapter	Total	Directed Study		Self-directed Study
			Lectures	Tutorials	
1	Introduction to analytical sociology and applications	12		2	10
2	Sources of big data; quality of data	14		4	10
3	Literature review: basic principles and search for the articles	14		4	10
4	Operationalization of theoretical concepts and measurement	14		4	10
5	Research design for the big data analysis	14		4	10
6	Studying stratification and intergenerational mobility using big	14		4	10

	data				
7	Social movements analysis using big data	14		4	10
8	Educational research using big data	14		4	10
9	Health research using big data	14		4	10
10	Ethical issues of the big data research	14		4	10
11	Presentation of the research results	14		4	10
Total study hours		152	-	42	110

Indicative Assessment Methods and Strategy	3rd year The final grade will be based on participation in class discussions (40%); in-class assignments (30%) and presentation of the individual project (30%). **Participation in class discussion** is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. After each seminar students will receive a raw score which will be standardized into 10-points scale at the end of the course. **In-class assignments** grade will be calculated as an average score for all types of written activities during the seminars. **Presentation of the individual project** includes final presentation on the topic of student's course work and should represent a solid presentation of research framework, literature review, data description, data analysis and main conclusions. The final grade is rounded according to algebra rules.
Readings / Indicative Learning Resources	**Mandatory** Van Rijmenam, M. (2014). *Think bigger: Developing a successful big data strategy for your business*. Amacom. Authorized access: https://library.books24x7.com/toc.aspx?bookid=62572 Hedström, P., Bearman, P., & Bearman, P. S. (Eds.). (2009). *The Oxford handbook of analytical sociology*. Oxford University Press. Authorized access: https://ebookcentral.proquest.com/lib/hselibrary-ebooks/detail.action?docID=800880

Indicative Self- Study Strategies	**Type**	**+/–**	**Hours**
	Reading for seminars / tutorials (lecture materials, mandatory and optional resources)	+	60
	Assignments for seminars / tutorials / labs	+	10
	E-learning / distance learning (MOOC / LMS)	-	0
	Fieldwork	-	0
	Project work	+	30
	Other (please specify)	-	0

	Preparation for the exam	+	10
Academic Support for the Course	Academic support for the course is provided via LMS, where students can find: guidelines and recommendations for doing the course; guidelines and recommendations for self-study; samples of assessment materials		
Facilities, Equipment and Software	Computer (notebook) with Internet access; projector; white board		
Course Instructor	Daniel Alexandrov Valeria Ivanushina Olesya Volchenko		

Intended Learning Outcomes (ILO) Delivering

Programme ILO(s)	Course ILO(s)	Teaching and Learning Methods for delivering ILO(s)	Indicative Assessment Methods of Delivered ILO(s)
UC-2 - Ability to identify the scientific essence of problems in one's professional area.	students should understand modern features and issues of big data analytics	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-7 - Ability to work as part of a team	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion
UC-8 - Ability to communicate efficiently based on communication goals and situations	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-9 - Ability to critically evaluate and reassess accumulated experiences (personal and others'), reflect on professional and social activities	students should understand modern features and issues of big data analytics; to use basic rules of statistical inference; to employ major sociological concepts as	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;

	instruments of sociological research.		
PC-1 - Ability to solve standard professional tasks on the basis of information and bibliographic culture while using information and communication technology and taking into account the basic requirements for information security	should learn basic methodological principles and major methods applicable for big data analysis	In-class discussion	Participation in class discussion
PC-2 - Ability to critically perceive, summarize, and analyze professional information	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion

Course Content

Introduction to analytical sociology and applications

Basic principles of analytical sociology
Key authors in the field of analytical sociology

Sources of big data; quality of data

Typology of data sources
Principles of data collection
Big data quality assessment

Literature review: basic principles and search for the articles

Basic principles
Logic of literature review
Sources of literature

Operationalization of theoretical concepts and measurement

Operationalization
Measurement principles in sociology

Research design for the big data analysis

Typology of research designs
Most common research designs for big data researches

Studying stratification and intergenerational mobility using big data

General idea of social stratification analysis
Big data sources
Example article

Social movements analysis using big data

General idea of social movements analysis
Big data sources
Example article

Educational research using big data

General idea of education research
Big data sources
Example article

Health research using big data

General idea of health research
Big data sources
Example article

Ethical issues of the big data research

General ethical principles
Ethical issues in big data research

Presentation of the research results

General principles of good presentation
Practical session

Assessment Methods and Criteria

Assessment Methods

Types of Assessment	Forms of Assessment	Modules			
		1	2	3	4
Formative Assessment	Test				
	Essay				
	Report/Presentation				
	Project		*		*
	In-class Participation	*	*	*	*
	Other (write appropriate control forms for the course)				
Interim Assessment (if required)	Assignment (e.g. written assignment)	*	*	*	*
Summative Assessment	Exam				

Assessment Criteria

Participation in class discussion is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. After each seminar students will receive a raw score which will be standardized into 10-points scale at the end of the course. If a student misses a class due to a valid excuse, the grade will be re-calculated for the student.

In-class assignments grade will be calculated as an average score for all types of written activities during the seminars. If a student misses an assignment due to a valid excuse, he/she will get an average score for the assignments that he/she had taken.

Presentation of the individual project includes final presentation on the topic of student's course work and should represent a solid presentation of research framework, literature review, data description, data analysis and main conclusions. If a student misses a class due to a valid excuse, he/she has to make a presentation during one of following classes or make an individual appointment with course instructors.

In-class Participation

Grades	Assessment Criteria
«Excellent» (8-10)	A critical analysis which demonstrates original thinking and shows strong evidence of preparatory research and broad background knowledge.
«Good» (6-7)	Shows strong evidence of preparatory research and broad background knowledge. Excellent oral expression.
«Satisfactory» (4-5)	Satisfactory overall, showing a fair knowledge of the topic, a reasonable standard of expression. Some hesitation in answering follow-up questions and/or gives incomplete or partly irrelevant answers.
«Fail» (0-2)	Limited evidence of relevant knowledge and an attempt to address the topic. Unable to offer relevant information or opinion in answer to follow-up questions.

Individual project

Grades	Assessment Criteria
«Excellent» (8-10)	A well-structured, analytical presentation of project work. Shows strong evidence and broad background knowledge. In a group presentation all members contribute equally and each contribution builds on the previous one clearly; Answers to follow-up questions reveal a good range and depth of knowledge beyond that covered in the presentation and show confidence in discussion.
«Good» (6-7)	Clearly organized analysis, showing evidence of a good overall knowledge of the topic. The presenter of the project work highlights key points and responds to follow up questions appropriately. In group presentations there is evidence that the group has met to discuss the topic and is presenting the results of that discussion, in an order previously agreed.
«Satisfactory» (4-5)	Takes a very basic approach to the topic, using broadly appropriate material but lacking focus. The presentation of project work is largely unstructured, and some points are irrelevant to the topic. Knowledge of the topic is limited and there may be evidence of basic misunderstanding. In a group presentation, most of the work is done by one or two students and the individual contributions do not add up.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

In-class assignments

Grades	Assessment Criteria
«Excellent» (8-10)	Has a clear argument, which addresses the topic and responds effectively to all aspects of the task. Fully satisfies all the requirements of the task; rare minor errors occur;
«Good» (6-7)	Responds to most aspects of the topic with a clear, explicit argument. Covers the requirements of the task; may produce occasional errors.
«Satisfactory» (4-5)	Generally addresses the task; the format may be inappropriate in places; display little evidence of (depending on the assignment): independent thought and critical judgement include a partial superficial coverage of the key issues, lack critical analysis, may make frequent errors.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

Recommendations for students about organization of self-study

Self-study is organized in order to:

- Systemize theoretical knowledge received at lectures;
- Extending theoretical knowledge;
- Learn how to use legal, regulatory, referential information and professional literature;
- Development of cognitive and soft skills: creativity and self-sufficiency;
- Enhancing critical thinking and personal development skills;
- Development of research skills;
- Obtaining skills of efficient independent professional activities.

Self-study, which is not included into a course syllabus, but aimed at extending knowledge about the subject, is up to the student's own initiative. A teacher recommends relevant resources for self-study, defines relevant methods for self-study and demonstrates students' past experiences. Tasks for self-study and its content can vary depending on individual characteristics of a student. Self-study can be arranged individually or in groups both offline and online depending on the objectives, topics and difficulty degree. Assessment of self-study is made in the framework of teaching load for seminars or tests.

In order to show the outcomes of self-study it is recommended:

- Make a plan for 3-5 presentation which will include topic, how the self-study was organized, main conclusions and suggestions and its rationale and importance.
- Supply the presentation with illustrations. It should be defined by an actual task of the teacher.

Special conditions for organization of learning process for students with special needs

The following types of comprehension of learning information (including e-learning and distance learning) can be offered to students with disabilities (by their written request) in accordance with their individual psychophysical characteristics:

4. *for persons with vision disorders:* a printed text in enlarged font; an electronic document; audios (transferring of learning materials into the audio); an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
5. *for persons with hearing disorders: a* printed text; an electronic document; video materials with subtitles; an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
6. *for persons with muscle-skeleton disorders: a* printed text; an electronic document; audios; individual assignments and advising.

Course Syllabus for the 4TH Year of Study

Title of the course	Research seminar "Analytical sociology and big data" (offered in English)		
Title of the Academic Programme	“Sociology and Social Informatics”		
Type of the course	Elective		
Prerequisites	Sociological theory; Methodology and methods of sociological research; Theory of argumentation and academic writing; Philosophy		
ECTS workload	3		
Total indicative study hours	Directed Study	Self-directed study	Total
	30	84	114
Course Overview	The purpose of the course is to provide students with skills necessary for conducting social research based on big data analysis. During the course different features of analytical approach towards big data will be covered as well as a variety of examples of reports and articles relevant for the field.		
Intended Learning Outcomes (ILO)	As a result of the course the students should understand modern features and issues of big data analytics; should learn basic methodological principles and major methods applicable for big data analysis. They should be able to apply the methods of analytical sociology and social statistics to the analysis of big data; to use basic rules of statistical inference; to employ major sociological concepts as instruments of sociological research. The students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.		
Teaching and Learning Methods	During the course students are expected to read and discuss journal articles and book chapters; participate in group research projects; give presentations on their research projects and topics of their interest.		

Content and Structure of the Course

№	Topic / Course Chapter	Total	Directed Study		Self-directed Study
			Lectures	Tutorials	
1	Introduction to analytical sociology and applications	12		2	10
2	Sources of big data; quality of data	14		4	10
3	Literature review: basic principles and search for the articles	14		4	10
4	Operationalization of theoretical concepts and measurement	14		4	10
5	Research design for the big data analysis	14		4	10
6	Studying stratification and intergenerational mobility using big	14		4	10

	data				
7	Social movements analysis using big data	14		4	10
8	Presentation of the research results	18		4	14
Total study hours					

Indicative Assessment Methods and Strategy	**4th year** The final grade for the 4th year will be based on participation in class discussions (25%); in-class assignments (25%); presentation of their individual project (25%); and Final exam (25%). The final grade for the course equals the final grade for the 4th year. **Participation in class discussion** is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. After each seminar students will receive a raw score which will be standardized into 10-points scale at the end of the course. **Presentation of the individual project** includes final presentation on the topic of student's thesis and should represent a solid presentation of research framework, literature review, data description and preliminary analysis **In-class assignments** grade will be calculated as an average score for all types of written activities during the seminars. **Final exam** will consist of a set of questions related to student's thesis. Answer to all questions will be cross-graded by several instructors and the final grade for the exam will be calculated as an average score for all grades for all exam items. The grade for the final exam is rounded according to algebra rules. The final grade is rounded according to algebra rules.
Readings / Indicative Learning Resources	**Mandatory** Van Rijmenam, M. (2014). *Think bigger: Developing a successful big data strategy for your business*. Amacom. Authorized access: https://library.books24x7.com/toc.aspx?bookid=62572 Hedström, P., Bearman, P., & Bearman, P. S. (Eds.). (2009). *The Oxford handbook of analytical sociology*. Oxford University Press. Authorized access: https://ebookcentral.proquest.com/lib/hselibrary-ebooks/detail.action?docID=800880

Indicative Self- Study Strategies	**Type**	**+/–**	**Hours**
	Reading for seminars / tutorials (lecture materials, mandatory and optional resources)	+	34
	Assignments for seminars / tutorials / labs	+	10
	E-learning / distance learning (MOOC /	-	0

	LMS)		
	Fieldwork	-	0
	Project work	+	30
	Other (please specify)	-	0
	Preparation for the exam	+	10
Academic Support for the Course	Academic support for the course is provided via LMS, where students can find: guidelines and recommendations for doing the course; guidelines and recommendations for self-study; samples of assessment materials		
Facilities, Equipment and Software	Computer (notebook) with Internet access; projector; white board		
Course Instructor	Daniel Alexandrov Valeria Ivanushina Olesya Volchenko		

Intended Learning Outcomes (ILO) Delivering

Programme ILO(s)	Course ILO(s)	Teaching and Learning Methods for delivering ILO(s)	Indicative Assessment Methods of Delivered ILO(s)
UC-2 - Ability to identify the scientific essence of problems in one's professional area.	students should understand modern features and issues of big data analytics	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-7 - Ability to work as part of a team	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion
UC-8 - Ability to communicate efficiently based on communication goals and situations	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion; Written Assignments; Individual projects presentation;
UC-9 - Ability to critically evaluate and reassess accumulated experiences (personal and others'), reflect on	students should understand modern features and issues of big data analytics;	In-class discussion	Participation in class discussion; Written Assignments; Individual projects

professional and social activities	to use basic rules of statistical inference; to employ major sociological concepts as instruments of sociological research.		presentation;
PC-1 - Ability to solve standard professional tasks on the basis of information and bibliographic culture while using information and communication technology and taking into account the basic requirements for information security	should learn basic methodological principles and major methods applicable for big data analysis	In-class discussion	Participation in class discussion
PC-2 - Ability to critically perceive, summarize, and analyze professional information	students will be able to read and critically discuss articles from the field of the big data analysis and conduct empirical research using different sources of the data.	In-class discussion	Participation in class discussion

Course Content

Introduction to analytical sociology and applications

Basic principles of analytical sociology
Key authors in the field of analytical sociology

Sources of big data; quality of data

Typology of data sources
Principles of data collection
Big data quality assessment

Literature review: basic principles and search for the articles

Basic principles
Logic of literature review
Sources of literature

Operationalization of theoretical concepts and measurement

Operationalization
Measurement principles in sociology

Research design for the big data analysis

Typology of research designs
Most common research designs for big data researches

Studying stratification and intergenerational mobility using big data

General idea of social stratification analysis
Big data sources
Example article

Social movements analysis using big data

General idea of social movements analysis
Big data sources
Example article

Presentation of the research results

General principles of good presentation
Practical session

Assessment Methods and Criteria

Assessment Methods

Types of Assessment	Forms of Assessment	Modules			
		1	2	3	4
Formative Assessment	Test				
	Essay				
	Report/Presentation				
	Project		*	*	
	In-class Participation	*	*	*	
	Other (write appropriate control forms for the course)				
Interim Assessment (if required)	Assignment (e.g. written assignment)				
Summative Assessment	Exam				

Participation in class discussion is evaluated by instructors after each seminar and is based student's contribution in a discussion during the class. Answers to instructor questions, valid examples and thought-provoking questions may be considered as three main forms of contribution to discussion. After each seminar students will receive a raw score which will be standardized into 10-points scale at the end of the course. If a student misses a class due to valid excuse, the grade will be re-calculated for the student.
In-class assignments grade will be calculated as an average score for all types of written activities during the seminars. If a student misses an assignment due to a valid excuse, he/she will get an average score for the assignments that he/she had taken.

Presentation of the individual project includes final presentation on the topic of student's thesis and should represent a solid presentation of research framework, literature review, data description and preliminary analysis. If a student misses an assignment due to a valid excuse, he/she will get an average score for the assignments that he/she had taken.
Final exam will consist of a set of questions related to student's thesis. Answer to all questions will be cross-graded by several instructors and the final grade for the exam will be calculated as an average score for all grades for all exam items. The grade for the final exam is rounded according to algebra rules. In a case if student misses a class due to valid excuse, he/she will have an opportunity to take an exam during retake period.

The final grade is rounded according to algebra rules.

In-class Participation

Grades	Assessment Criteria
«Excellent» (8-10)	A critical analysis which demonstrates original thinking and shows strong evidence of preparatory research and broad background knowledge.
«Good» (6-7)	Shows strong evidence of preparatory research and broad background knowledge. Excellent oral expression.
«Satisfactory» (4-5)	Satisfactory overall, showing a fair knowledge of the topic, a reasonable standard of expression. Some hesitation in answering follow-up questions and/or gives incomplete or partly irrelevant answers.
«Fail» (0-2)	Limited evidence of relevant knowledge and an attempt to address the topic. Unable to offer relevant information or opinion in answer to follow-up questions.

Individual project

Grades	Assessment Criteria
«Excellent» (8-10)	A well-structured, analytical presentation of project work. Shows strong evidence and broad background knowledge. In a group presentation all members contribute equally and each contribution builds on the previous one clearly; Answers to follow-up questions reveal a good range and depth of knowledge beyond that covered in the presentation and show confidence in discussion.
«Good» (6-7)	Clearly organized analysis, showing evidence of a good overall knowledge of the topic. The presenter of the project work highlights key points and responds to follow up questions appropriately. In group presentations there is evidence that the group has met to discuss the topic and is presenting the results of that discussion, in an order previously agreed.
«Satisfactory» (4-5)	Takes a very basic approach to the topic, using broadly appropriate material but lacking focus. The presentation of project work is largely unstructured, and some points are irrelevant to the topic. Knowledge of the topic is limited and there may be evidence of basic misunderstanding. In a group presentation, most of the work is done by one or two students and the individual contributions do not add up.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

Final exam

Grades	Assessment Criteria
«Excellent» (8-10)	Has a clear argument, which addresses the topic and responds effectively to all aspects of the task. Fully satisfies all the requirements of the task; rare minor errors occur;
«Good» (6-7)	Responds to most aspects of the topic with a clear, explicit argument. Covers the requirements of the task; may produce occasional errors.
«Satisfactory» (4-5)	Generally addresses the task; the format may be inappropriate in places; display little evidence of (depending on the assignment): independent thought and critical judgement include a partial superficial coverage of the key issues, lack critical analysis, may make frequent errors.
«Fail» (0-2)	Fails to demonstrate any appropriate knowledge.

Recommendations for students about organization of self-study

Self-study is organized in order to:

- Systemize theoretical knowledge received at lectures;
- Extending theoretical knowledge;
- Learn how to use legal, regulatory, referential information and professional literature;
- Development of cognitive and soft skills: creativity and self-sufficiency;
- Enhancing critical thinking and personal development skills;
- Development of research skills;
- Obtaining skills of efficient independent professional activities.

Self-study, which is not included into a course syllabus, but aimed at extending knowledge about the subject, is up to the student's own initiative. A teacher recommends relevant resources for self-study, defines relevant methods for self-study and demonstrates students' past experiences. Tasks for self-study and its content can vary depending on individual characteristics of a student. Self-study can be arranged individually or in groups both offline and online depending on the objectives, topics and difficulty degree. Assessment of self-study is made in the framework of teaching load for seminars or tests.

In order to show the outcomes of self-study it is recommended:

- Make a plan for 3-5 presentation which will include topic, how the self-study was organized, main conclusions and suggestions and its rationale and importance.
- Supply the presentation with illustrations. It should be defined by an actual task of the teacher.

Special conditions for organization of learning process for students with special needs

The following types of comprehension of learning information (including e-learning and distance learning) can be offered to students with disabilities (by their written request) in accordance with their individual psychophysical characteristics:

7. *for persons with vision disorders:* a printed text in enlarged font; an electronic document; audios (transferring of learning materials into the audio); an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
8. *for persons with hearing disorders: a* printed text; an electronic document; video materials with subtitles; an individual advising with an assistance of a sign language interpreter; individual assignments and advising.
9. *for persons with muscle-skeleton disorders: a* printed text; an electronic document; audios; individual assignments and advising.