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**The Federal state autonomous educational institution of higher  
the education «Peoples' Friendship University of Russia»**

**Faculty of Philology**

(наименование основного учебного подразделения (ОУП)-разработчика ОП ВО)

## **PROGRAM OF DISCIPLINE**

**Data Journalism**

(Name of the Discipline / Module)

**Recommended for the direction of training/specialty:**

**42.03.02 Journalism**

(Code and Name of the field of study, the direction of training/specialty)

**The discipline is carried out within the framework of the main professional  
educational program of higher education (EP HE):**

**Multimedia Journalism**

(Name of the educational program)

**2024 г.**

## 1. OBJECTIVE OF THE DISCIPLINE

This course explores the skills and techniques necessary for the field of data journalism through the exploration of the process of obtaining, interpreting, visualizing and displaying data as additional essential skills for journalists in the 21st Century. Students will learn how to use brainpower and software to work on raw data in different forms to do investigative reporting.

The main objectives are

1. Students will understand the basics of data and data journalism, the history of the practice and its importance of it in today's world.
2. Students will learn how to identify steps in the reporting process for using the right data in identifying, gathering, analysing, and exploring datasets in a basic news story and for an investigative story.
3. Students will learn how to present data in appropriate visual formats such as tables, charts and maps

## 2. REQUIREMENTS TO STUDENTS ON FINISHING THE COURSE

Students are expected to master the following competencies:

*Table 2.1. The list of competencies formed in the mastering of the discipline (the results of the discipline)*

Code	Competence	Indicators of competence achievement (within the discipline)
GC-1.	Able to search, critically analyze and synthesize information, apply a systematic approach to solve problems.	GC-1.1 - Analyzes the task, identifying its basic components
		GC-1.2 - Determines, interprets and ranks the information required to solve the task
		Researches information for solving a task by different types of requests
		GC-1.4 - Distinguishes facts from opinions, interpretations, estimations, forms own opinions and judgments, argues his/her conclusions and point of view when processing information
GC-12.	Able to search for necessary sources of information and data, comprehend, analyze, memorize, and transfer information using digital tools and algorithms when working with data obtained from various sources to effectively use the	GC-12.1 - Knows basic technology, software, and hardware for digital communication (including SMAAC=Social, Mobile, Apps, Analytics, and Cloud technologies) and considers information security, confidentiality, and ethical and legal requirements
		GC-12.2 - Uses a variety of digital tools to enable interactions with others to achieve goals

Code	Competence	Indicators of competence achievement (within the discipline)
	information to solve problems; assess information, its reliability, build logical conclusions based on the incoming information and data.	GC-12.3 - Master modern technologies, software and hardware for digital communications; communicates in the digital environment (including using SMAAC=Social, Mobile, Apps, Analytics, Cloud technologies) with consideration of information security, confidentiality, ethical and legal requirements
GPC-2.	Able to consider trends in the development of public and state institutions for their diverse coverage in created media texts and (or) media products, and (or) communication products.	GPC-2.1 - Knows the system of public and state institutions, mechanisms of their functioning and development trends
		GPC-2.2 - Observes the principle of objectivity in journalistic texts and (or) products when reporting on public and state institutions
GPC-3.	Able to use the diversity of achievements of national and world culture in the process of creating media texts and (or) media products, and (or) communication products.	GPC-3.1 - Demonstrates an awareness of the national and global cultural process
		GPC-3.2 - Applies the means of artistic expression in journalistic texts and (or) products
GPC-5.	Able to consider current trends in the development of media communication systems on regional, national, or international level, based on political and economic mechanisms of their functioning, legal and ethical norms of regulation.	GPC-5.1 - Knows the range of political, economic factors, legal and ethical norms regulating the development of different media and communications systems at global, national, and regional levels
		GPC-5.2 - Carries out professional journalistic activities, considering the mechanisms of a particular media and communications system
GPC-6.	Able to use modern technical tools and information and communication technologies in professional activity.	GC-6.1 - Uses time management tools and techniques to accomplish specific tasks, projects, and goals
		GC-6.3 - Assesses the requirements of the labor market and offer of educational services to build a trajectory of own professional development
GPC-8.	Able to understand the principles of modern information technologies and use them to meet the challenges of professional activity.	GPC-8.1 - Knows digital technologies, methods and techniques of technical processing and placement of information resources and materials in classical and digital resources and media
		GPC-8.2 - Knows how to insert and process textual data, scan and process graphic information; use digital technologies, methods and techniques of technical processing and placement of information resources and materials in classical and digital resources and media

Code	Competence	Indicators of competence achievement (within the discipline)
		GPC-8.3 - Knows how to use digital technologies, methods and techniques of technical processing and placement of information resources and materials in classical and digital resources and media; knows how to create and maintain information databases; knows how to place information in the digital space
PC-1.	Able to participate in the development and implementation of an individual and (or) collective project in the field of journalism.	PC-1.1 - Proposes creative solutions to an individual and (or) collective media project
		PC-1.2 - Solves assigned problems while working on an individual and (or) collective journalistic project
		PC-1.3 - Implement a journalistic project within their authority and are responsible for the result

### 3. THE DISCIPLINE (MODULE) IN THE STRUCTURE OF EP HE

The discipline “Data Journalism” belongs to the Compulsory Module of Block 1 of the curriculum. Table 1 shows preceding and subsequent subjects aimed at forming competence discipline by the matrix of competencies.

*Table 3.1. The list of components of the EP HE, contributing to the achievement of the planned results of the discipline*

Code	Competence	Previous discipline	Subsequent disciplines
GC-1.	Able to search, critically analyze and synthesize information, apply a systematic approach to solve problems.		
GC-12.	Able to search for necessary sources of information and data, comprehend, analyze, memorize, and transfer information using digital tools and algorithms when working with data obtained from various sources to effectively use the information to solve problems; assess information, its reliability, build logical conclusions based on the incoming information and data		
GPC-2.	Able to consider trends in the development of public and state institutions for their diverse coverage in created media texts and (or) media		

Code	Competence	Previous discipline	Subsequent disciplines
	products, and (or) communication products.		
GPC-3.	Able to use the diversity of achievements of national and world culture in the process of creating media texts and (or) media products, and (or) communication products.		
GPC-5.	Able to consider current trends in the development of media communication systems on regional, national, or international level, based on political and economic mechanisms of their functioning, legal and ethical norms of regulation		
GPC-6	Able to use modern technical tools and information and communication technologies in professional activity.		
GPC-8	Able to understand the principles of modern information technologies and use them to meet the challenges of professional activity.		
PC-1.	Able to participate in the development and implementation of an individual and (or) collective project in the field of journalism.		

#### 4. THE SCOPE OF THE DISCIPLINE AND TYPES OF ACTIVITIES

The overall workload of the discipline is **4** credits.

Types of activities	Total hours	Semesters					
		1	2	3	4	5	
<b>Classroom activities (total)</b>							
<i>Lectures</i>	15		x	x	15		
<i>Practical lessons/Seminars</i>	30		x	x	30		
<i>Laboratory activities/</i>	-		-	-	-		
<i>Control</i>	12		-	-	12		
<b>Independent work (total)</b>	87				87		
<b>Overall workload hours</b>	144				144		
<b>Credits</b>	4				4		

#### 5. CONTENT OF THE DISCIPLINE

*Table 5.1 Content of the discipline (module) by type of activity*

<b>Name of the Unit</b>	<b>Content of the Units (topics)</b>	<b>Type of activity</b>
Introduction	- Concepts, Glossary, Syllabus	Lecture
Data Journalism	- What is Data Journalism? What makes Data Journalism different from traditional journalism? - How to do Data Journalism - Using 5Ws and H questions for data journalism.	Lecture
Data-Driven Storytelling	- Strategies(the place of journalist, collaboration, tools for presentation, ), Researching your audience, - Data-driven interview, data-driven writing, solution journalism - Solution Journalism	Lecture
Structured data	- Data gathering, Data Scraping, - Data sourcing(techniques for finding data), Spreadsheet/Google spreadsheet - Data sorting Data cleaning(Using google refine)	Lecture
Investigative Data Journalism	- Follow the money trail - Investigating public information	Lecture
Visualisation and data analysis	- Rpurpose of data visualisation, - visual storytelling, drawing a conclusion from data - Design and colour basics	Lecture
Mapping	- What is mapping? - Basis uses of maps, - the idea of geocoding	
Unit 2	Data Journalism in the Age of Big Data	Seminar
Unit 3	Assembling Data: Google spreadsheet workshop	Workshop
Unit 4	Follow The Money: The Investigative Data Journalism	Seminar
Unit 5	Data visualisation workshop	Workshop
Unit 6	Guest speaker(Jouranlist, fellow) Solution journalism as a key of data journalism	Seminar

## 6. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE

The discipline is implemented using e-learning and distance learning technologies

*Table 6.1. Material and technical support of the discipline*

Type of classroom	Classroom equipment	Specialized educational/laboratory equipment, software and materials for the mastering the discipline (if necessary)
Digital Classroom	computer, TV VCR and a transparency projector. CD players and DVD players	
Lecture room	Computer, internet, TV VCR and a transparency projector	
Home for independent work	Computer, internet,	
Library for independent work	Computer, internet	

*\* The classroom for students' independent work **MUST be indicated!***

## 7. EDUCATIONAL AND METHODOICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

### *Main readings*

1. Bounegru, L., & Gray, J. (2021). *The Data Journalism Handbook: Towards a Critical Data Practice* (p. 415). Amsterdam University Press.
2. Gray, J., Chambers, L., & Bounegru, L. (2012). *The data journalism handbook: How journalists can use data to improve the news.* " O'Reilly Media, Inc."

### Other recommended readings

1. <https://www.theguardian.com/news/datablog/2010/oct/01/data-journalism-how-to-guide>
2. Bradshaw, P. (2017, December 14). Data journalism's AI opportunity: The 3 different types of machine learning & how they have already been used. Online Journalism Blog. <https://onlinejournalismblog.com/2017/12/14/data-journalismsai-opportunity-the-3-different-types-of-machine-learning-how-they-havealready-been-used/>
3. Anderson, C. W. (2018). *Apostles of certainty: Data journalism and the politics of doubt.* Oxford University Press
4. Ausserhofer, J., Gutounig, R., Oppermann, M., Matiasek, S., & Goldgruber, E. (2020). The datafication of data journalism scholarship: Focal points, methods, and research propositions for the investigation of data-intensive newswork. *Journalism*, 21,(7) 950–973. <https://doi.org/10.1177/1464884917700667>

5. Hermida, A., & Young, M. L. (2019). *Data journalism and the regeneration of news*. Routledge
6. Bradshaw, P. (2017). Data journalism. In *The Online Journalism Handbook* (pp. 250-280). Routledge.
7. Steele and Illiinsky, *Designing Data Visualizations*, Chapter 4: Choose Appropriate Visual Encodings
8. Jonathan Stray, *The Curious Journalist's Guide to Data*, 2016.
9. Howard, A. B. (2014). The art and science of data-driven journalism.
10. Mutsvauro, B., Bebawi, S., & Borges-Rey, E. (Eds.). (2020). *Data journalism in the Global South*. Springer Nature.

#### *Web-sites and online resources*

1. ЭБС РУДН и сторонние ЭБС, к которым студенты университета имеют доступ на основании заключенных договоров:
  - <http://www.rad.pfu.edu.ru/>
  - [www.libfl.ru](http://www.libfl.ru)
  - [www.portalus.ru](http://www.portalus.ru)
  - [www.project.phil.pu.ru](http://www.project.phil.pu.ru)
  - [www.lib.fl.ru](http://www.lib.fl.ru)
  - [www.gutenberg.net](http://www.gutenberg.net)
  - [www.ipl.org](http://www.ipl.org)
  - [www.the.European.library.org](http://www.the.European.library.org); [www.epoch-net.org](http://www.epoch-net.org)
  - <http://gabro.ge/biblio/0707/3066/filosof.historic.ru/books/item/f00/s00/z00358/st000/htm/>
2. Databases and search systems:
  - web search engine google.com
  - online encyclopedia wikipedia.org
  - news aggregation website drudgereport.com
  - Googlescholar.com

#### *Teaching materials for students' independent work while mastering the discipline/module\*:*

1. A course of lectures on the discipline.
2. Practical assignments and their brief contents;
3. Questions for self-check, and test assignments.

\* - all educational and methodical materials for students' independent work are published in the current order on the page of the discipline in TUIS!

## **8. GRADING MATERIALS AND GRADING-RATING SYSTEM FOR ASSESSING THE LEVEL OF COMPETENCE FORMED IN THE DISCIPLINE**

The grading materials and grading-rating system\* for assessing the level of competence (part of competencies) for the discipline are presented in the Appendix to this Working program of the discipline.

\* - are formed based on the requirements of the corresponding local normative act of RUDN University.