

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Autonomous Educational Institution
higher education
NORTH CAUCASIAN FEDERAL UNIVERSITY

Methodological guidelines

on completing practical work on the discipline

"Artificial Intelligence Ethics and Safety / Этика и безопасность
искусственного интеллекта"

for students

Areas of training 02.04.01 Mathematics and computer science Focus «
Training Program for Electronic Information »

Stavropol 202 6

Introduction

In an era of unprecedented technological advances driven by the development of artificial intelligence, questions of ethics-moral principles and values-are acquiring particular relevance and significance. Moreover, ethical considerations in the field of AI will only become more complex and intensified as technology continues to advance.

Undoubtedly, artificial intelligence significantly surpasses human capabilities, which are fundamentally incapable of analyzing and systematizing enormous volumes of data, as AI does in short periods of time. Humans are often unable to objectively verify the authenticity of such information, yet humans empower technology to make decisions independently. This raises the question: how ethical and safe are the decisions and actions of artificial intelligence?

In this regard, it's entirely natural for modern society to be concerned about the safety of this rapid expansion of AI—from civilian use to military applications—as well as the degree of safety of AI for humans, the areas in which its use is generally permissible, and who will bear responsibility for the actions of artificial intelligence. These issues in the field of artificial intelligence are increasingly attracting the attention of scientists and practitioners worldwide, prompting them to actively discuss key ethical issues. The solution to these issues, first and foremost, determines ways to improve the regulation of artificial intelligence, focusing on the moralization of technology and enhancing its ethical actions in decision-making. The world has clearly moved from the question of whether artificial intelligence should be regulated to the urgent question of how to do so.

Today, it is crucial for scientists, engineers, policymakers, and ethicists to work together to address these challenges: by integrating ethics into every stage of development—from design and development to implementation—society can create responsible, intelligent robotics technologies that benefit humanity, while respecting moral principles and values.

Proper management and control of artificial intelligence are critical tasks today, requiring mutual learning based on best practices and experiences accumulated in various jurisdictions around the world.

In the context of an AI curriculum, it is crucial for students to explore the ethical implications of developing machines that can make decisions or perform tasks autonomously, as they will be at the forefront of creating technologies that will have a significant impact on society.

The course consists of nine practical assignments. This textbook is intended for students majoring in 02.04.01 "Mathematics and Computer Science."

Practical work No. 1

Artificial intelligence (AI) as a fundamental science and technology for complex technological solutions. Philosophy and the development of AI ethics. Consciousness and the moral status of AI.

Objectives of the course: To master the conceptual framework of AI and intelligent robotics, to become familiar with AI systems, and to understand the prerequisites for their emergence. To explore the main areas of research in AI and robotics. To explore the computer understanding of natural language as a crucial component of modeling human intellectual activity. To introduce the main applications of artificial intelligence. To develop students' understanding of the consciousness and moral status of AI, the need to develop AI that takes into account rights, consciousness, self-respect, and freedom, and the value of machine learning.

Preparation for the lesson:

1. Get acquainted with theoretical and lecture information.
2. Review the assignment for this practical lesson.

Exercise:

Prepare a presentation on one of the following issues:

The history of AI development and its role in the modern world	1,7,13,19,25
Ethics of AI and ethical issues associated with its use	2,8,14,20,26
Consciousness and the Moral Status of AI: Philosophical and Scientific Approaches	3,9,15,21,27
Code of Ethics for AI Developers	4,10,16,22,28
Problems and prospects for creating conscious AI	5,11,17,23,29
The impact of AI on the labor market and the economy as a whole	6,12,18,24,30

Practical work #2

Ethical issues surrounding AI-facilitated discrimination

The purpose of the course is to develop an understanding of the ethical issues surrounding discrimination arising or exacerbated by the use of artificial intelligence, and to explore approaches to preventing and eliminating this discrimination.

Preparation for the lesson:

Analyze case studies, identify the causes of discrimination, evaluate the ethical implications, and propose solutions. Students are provided with case studies demonstrating discrimination related to the use of AI:

Bias in Facial Recognition Systems: A case study describing a situation where a facial recognition system demonstrates higher accuracy for certain demographic groups and significantly lower accuracy for others, leading to false arrests or denials of service.	1,7,13,19,25
Discriminatory algorithms in credit scoring : a case in which the algorithm used by a bank to assess creditworthiness systematically denies loans to representatives of certain social groups, despite their actual solvency.	2,8,14,20,26
Recruiting Systems : A case study describing a situation where an AI system used to screen resumes filters out candidates based on gender, race, or other protected characteristics, resulting in hiring discrimination.	3,9,15,21,27
Discrimination in AI-based Pricing: A case study demonstrating how dynamic pricing algorithms can be used to discriminate against certain consumer groups by offering them higher prices for goods or services.	4,10,16,22,28
Bias in AI-based Medical Diagnostic Systems: A case study describing a situation where an AI-based diagnostic system makes inaccurate diagnoses for certain patient groups due to insufficient data or bias in the training set.	5,11,17,23,29
Discrimination in Access to AI-Based Information and Services: A case study demonstrating how content personalization algorithms can limit certain groups of users' access to important information or services, such as educational resources or job openings.	6,12,18,24,30

Practical work #3
AI-Based Data Protection and Privacy

The purpose of the course is to develop students' understanding of the privacy threats associated with the use of AI and data protection methods in the context of the development of artificial intelligence technologies.

Exercise:

Prepare a report on one method for ensuring privacy security when using AI:

Processing sensitive data with chatbots and AI	1,7,13,19,25
Ensuring account security in AI-powered services	2,8,14,20,26
Transparency and interpretability in AI model development	3,9,15,21,27
Monitoring and auditing AI model performance to detect privacy violations	4,10,16,22,28
Training AI models with privacy constraints	5,11,17,23,29
Bias checking: ensuring that the model does not discriminate against certain groups of people	6,12,18,24,30

Practical work #4

Creating and using ethical and socially acceptable AI in the modern world.

The purpose of the course is to explore issues related to identifying stakeholder groups impacted by AI systems and addressing their concerns. Minimizing environmental impacts when using AI technologies. Control over AI technologies by the state, individuals, and society. Consideration of the experience of using AI in social security. The AI market in Russia and globally. The use of AI in technology industries, public administration, business, education, and culture. The impact of AI on employment through increased automation of business processes and job creation. A study of the potential risks of using AI systems and ways to minimize their consequences. International standards containing recommendations for managing the risks organizations face when developing and applying AI methods and systems.

Exercise:

Prepare a report on one of the methods for creating safe AI models:

Anonymization and pseudonymization : replacing identifying data with pseudonyms or removing them	1,7,13,19,25
Differential Privacy: Adding Random Noise to Data	2,8,14,20,26
Federated learning: training AI models on decentralized data, without direct access to it	3,9,15,21,27
Confederate training of AI models	4,10,16,22,28
Data minimization for AI training	5,11,17,23,29
Applying Homomorphic Encryption to Developing AI Models	6,12,18,24,30

Practical work #5

Key risks and negative consequences that can be eliminated or minimized through the application of ethical practices in the field of AI

The objective of the course is to develop an understanding of the key risks and negative consequences associated with the development and use of artificial intelligence, and to explore how ethical practices and principles can help eliminate or minimize them. As a result of this course, participants will be able to: identify key ethical dilemmas arising in the field of AI; analyze the potential risks and negative consequences of using AI without adherence to ethical principles; evaluate the effectiveness of various ethical practices in minimizing risks; and formulate recommendations for the ethical use of AI in various fields.

Exercise:

Conduct an analysis of ethical practices in the field of AI and assess the strengths and weaknesses of these practices:

Fairness and impartiality and Non- discrimination	1,7,13,19,25
Accountability and Responsibility and Transparency)	2,8,14,20,26
Privacy and data protection (Privacy and Data Security)	3,9,15,21,27
Safety and reliability (Safety and Reliability)	4,10,16,22,28
Human control and supervision (Human Oversight and Control)	5,11,17,23,29
Social well-being (Social Well-being)	6,12,18,24,30

Practical work #6

Developing ethical instruments and soft law documents in the field of AI, taking into account national interests

The purpose of the course is to develop a comprehensive understanding of the development and application of ethical instruments and soft law documents in the field of artificial intelligence, taking into account the need to balance global ethical principles and national interests.

Exercise:

Develop tools (principles, regulations, and mechanisms for use) for the safe use of AI in one of the following areas:

Healthcare and Medicine	1,7,13,19,25
Education and pedagogy	2,8,14,20,26
Transport and logistics	3,9,15,21,27
Science, scientific institutions and institutes	4,10,16,22,28
Economic business, production	5,11,17,23,29
Political sphere, government	6,12,18,24,30

Practical work #7

The relationship between AI ethics and the philosophy of technology, technoscience , and technoethics

The purpose of the course is to develop an understanding of the relationship between the ethics of artificial intelligence and the philosophy of technology, technoscience , and technoethics , as well as to demonstrate how these disciplines influence the development of a responsible and ethical approach to the development and application of AI.

Exercise:

Prepare a report on one of the links between ethics in the field of AI:

Philosophical Foundations of AI Ethics: The Impact of the Philosophy of Technology on the Development of Moral Principles	1,7,13,19,25
Technoscience and AI Ethics: The Role of an Interdisciplinary Approach in Solving Moral Issues	2,8,14,20,26
Technoethics and AI: An Analysis of the Impact of Technology on Human Values and Society	3,9,15,21,27
AI Ethics in the Context of Human Rights: UNESCO's Approach and Its Implementation	4,10,16,22,28
A Critical Approach to AI Ethics: Analyzing Paradoxes and Unpredictability in the Development of Artificial Intelligence	5,11,17,23,29
The feasibility of AI with human values: A philosophical analysis of the concept of "value-based design"	6,12,18,24,30

Practical work #8

Discriminatory use of AI in law enforcement

The purpose of the course is to develop an understanding of the risks of discriminatory use of artificial intelligence in law enforcement, as well as to explore the factors that contribute to discrimination and possible ways to prevent it.

Exercise:

Prepare a presentation on one of the following issues:

Algorithmic Profiling in Law Enforcement: Issues of Bias and Discrimination	1,7,13,19,25
Racial Profiling and AI: International Guidelines to Prevent Discrimination	2,8,14,20,26
Accountability Challenges in Using AI in Law Enforcement	3,9,15,21,27
Using AI in the Judicial System: Benefits and Risks of Discrimination	4,10,16,22,28
The Social Consequences of Discriminatory Use of AI in Law Enforcement	5,11,17,23,29
The feasibility of AI with human values: A philosophical analysis of the concept of "value-based design"	6,12,18,24,30

Practical work #9

Measures to combat unfair/unlawful discrimination related to AI

The purpose of the course is to develop students' understanding of measures and strategies for combating unfair/illegal discrimination associated with the use of artificial intelligence, as well as skills in their practical application.

Exercise:

1. Introduction to the topic:

- o Start with a short lecture on discrimination issues in AI: define key concepts and provide examples of real-world cases (e.g., in lending, employment, law enforcement).
- o Discuss how algorithms may unintentionally contribute to discrimination and which populations may be affected.

2. Group work (4-5 people per group):

- o **Topic Selection:** Each group selects a specific case of AI-related discrimination or proposes its own scenario (e.g., recruitment algorithms , credit scoring systems, crime prediction algorithms).

Credit Rating Systems and Discrimination: Cases from Russia, the US, and China	1,7,13,19,25
Analyzing Discrimination in Recruitment Algorithms : The Amazon Case and Its Implications	2,8,14,20,26
Crime Prediction Algorithms: Bias and Discrimination Issues in the COMPAS System	3,9,15,21,27
Discrimination in Facial Recognition Systems: Case Studies and Solutions	4,10,16,22,28
Scenario: Discrimination in healthcare systems when using AI to diagnose diseases	5,11,17,23,29
Discrimination in Online Advertising: How AI Algorithms Affect Access to Information and Opportunities	6,12,18,24,30

- o **Research:** Groups research a selected case by analyzing:
 - Reasons for the emergence of discrimination.
 - Algorithms and data that were used.
 - Consequences for affected groups.

3. Strategy development:

- o Each group should develop three strategies or measures to combat discrimination in the selected case. Strategies may include:
 - Improving the quality and diversity of data (e.g. collecting data from different sources).
 - Developing more transparent and interpretable algorithms (e.g. using explainable AI methods).
 - Educating developers and users on ethical standards and principles (e.g., integrating AI ethics courses into educational programs).

4. Presentation of results:

- o Groups present their research and strategies in a 10-15 minute presentation format. The presentation should include:

- Brief description of the selected case.
- Analysis of the causes of discrimination.
- Proposed measures and their justification.

5. Discussion and Feedback:

- After each presentation, hold a discussion where other students can ask questions and offer their ideas for improving the proposed measures. This will help develop critical thinking and constructive feedback skills.

Expected Outcomes:

Students should learn to analyze cases of discrimination, develop practical solutions and formulate strategies that can be applied in real-world situations, and develop teamwork and presentation skills.

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Methodological guidelines
on organizing and conducting independent work
in the discipline "ARTIFICIAL INTELLIGENCE ETHICS AND SAFETY /
ЭТИКА И БЕЗОПАСНОСТЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА"
Areas of training 02.04.01 Mathematics and computer science Focus «
Training Program for Electronic Information »

Stavropol
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1. General Provisions

Independent work is the planned educational, educational and research, or scientific research work of students, carried out outside of class (in class) time, as assigned and under the methodological guidance of the teacher, but without his or her direct participation (with partial direct participation of the teacher, leaving the leading role to the students' work). To Vladislav Vyacheslavovich

Student independent work (SIW) at a university is an important form of student learning and research activity. Student independent work plays a significant role in the rating system of learning.

The main types of independent work for students include:

- формирование и усвоение содержания конспекта лекций на базе рекомендованной лектором учебной литературы, включая информационные образовательные ресурсы (электронные учебники, электронные библиотеки и др.);
- написание докладов;
- подготовка к семинарам, практическим и лабораторным работам, их оформление;
- составление аннотированного списка статей из соответствующих журналов по отраслям знаний (педагогических, психологических, методических и др.);
- выполнение учебно-исследовательских работ, проектная деятельность;
- подготовка практических разработок и рекомендаций по решению проблемной ситуации;
- выполнение домашних заданий в виде решения отдельных задач, проведения типовых расчетов, расчетно-компьютерных и индивидуальных работ по отдельным разделам содержания дисциплин и т.д.;
- компьютерный текущий самоконтроль и контроль успеваемости на базе электронных обучающих и аттестующих тестов;
- выполнение курсовых работ (проектов) в рамках дисциплин;
- выполнение выпускной квалификационной работы и др.

The methodology for organizing students' independent work depends on the structure, nature, and characteristics of the discipline being studied, the number of hours for its study, the type of assignments for students' independent work, the individual qualities of students, and the conditions of educational activities.

The process of organizing students' independent work includes the following stages:

- preparatory (defining goals, drawing up a program, preparing methodological support, preparing equipment);
- basic (implementation of the program, use of techniques for searching for information, assimilation, processing, application, transfer of knowledge, recording of results, self-organization of the work process);
- final (assessment of significance and analysis of results, their systematization, assessment of the effectiveness of the program and work methods, conclusions on areas of labor optimization).

Independent work on the course "Information technologies for teamwork and project activities" is aimed at developing the following **competencies** :

Code	Formulation
UK-5	Able to analyze and take into account cultural diversity in the process of intercultural interaction
OPK-2	Able to create and explore new mathematical models in the natural sciences, improve and develop concepts, theories and methods
PC-8	Capable of participating in the management of projects for the creation of information systems and software systems at various stages of the life cycle

2. The purpose and objectives of independent work

The main goal of organizing and implementing independent work coincides with the goal of student education – the formation of a set of general scientific, professional and universal competencies of the future bachelor.

When organizing independent work, developing the ability to work independently to acquire knowledge, skills, and the ability to organize educational and research activities is an important and essential condition. The goal of students' independent work is to master fundamental knowledge, professional skills, and relevant professional activities, as well as experience in creative and research activities. Students' independent work promotes the development of independence, responsibility, self-discipline, and a creative approach to solving academic and professional problems.

The objectives of the SRS are:

- systematization and consolidation of the acquired theoretical knowledge and practical skills of students;
- deepening and expanding theoretical knowledge;
- development of skills in using regulatory, legal, reference documentation and specialized literature;
- development of students' cognitive abilities and activity: creative initiative, independence, responsibility and organization;
- development of independent thinking, abilities for self-development, self-improvement and self-realization;
- development of research skills;
- use of material collected and obtained during independent work and laboratory classes.

3. Technological map of independent student work

Codes of implemented competencies	Type of student activity	The final product of independent work	Assessment tools and technologies	Volume of hours, including (astr.)		
				SRS	Contact work with the teacher	Total
2nd semester						
UK-5 OPK-2 PC-8	Preparing for lectures	Lecture notes	Interview	19,0	4.0	31.0
UK-5 OPK-2 PC-8	Preparation for practical classes	Electronic report	Interview	19,0	4.0	31.0
UK-5 OPK-2 PC-8	Independent study of literature	Abstract	Interview	19,0	4.0	31.0
UK-5 OPK-2 PC-8	Self-testing, preparation for testing	Testing	Test tasks	19,0	4.0	31.0
Total for 2nd semester				76,0	16.0	92,0
Total				76,0	16.0	92,0

4. Control points and types of reporting on them

Quality control and deadlines for independent work are assessed in accordance with the academic schedule and are formatted according to the assignment. The following knowledge rating is provided:

Description of the rating scale

Within the framework of the rating system, students' academic performance in each discipline is assessed during ongoing monitoring and midterm assessment.

Current control

5. Procedure for completing independent work by a student

5.1 . Methodological recommendations for working with educational literature

When working with books, you need to select literature, learn to read it correctly, and keep records. To select literature, the library uses alphabetical and systematic catalogs.

It is important to remember that rational skills in working with a book always mean great savings of time and effort.

The instructor teaching the course recommends the appropriate selection of textbooks. Required literature may also be listed in the course's teaching materials.

When studying the material in a textbook, you should move on to the next question only after correctly understanding the previous one, describing on paper all the calculations and computations (including those that are omitted from the textbook or given in the lecture for independent derivation).

When studying any discipline, independent individual work plays a large and important role.

Particular attention should be paid to defining the course's key concepts. Students should thoroughly analyze examples that illustrate these definitions and be able to construct similar examples independently. It's important to develop a clear understanding of what you're learning. Taking supporting notes is helpful. When studying the material from the textbook, it's helpful to supplement your lecture notes in the designated margins in your notebook. You should also note any questions you've identified for consultation with the instructor.

It is recommended to highlight the conclusions obtained as a result of the study in the notes so that they are better remembered when rereading the notes.

Experience shows that many students find it helpful to create a reference sheet containing the most important and frequently used formulas and concepts. Such a sheet helps students remember formulas and key points of the lecture, and can also serve as a constant reference for them.

Reading scientific text is part of cognitive activity. Its goal is to extract the necessary information from the text. The effectiveness of the action largely depends on how consciously the reader approaches the printed word (finding the necessary information, assimilating it in whole or in part, critically analyzing the material, etc.).

There are **four main attitudes towards reading scientific text** :

information retrieval (the task is to find and highlight the desired information)

assimilative (the reader's efforts are aimed at fully comprehending and remembering both the information presented by the author and the entire logic of his reasoning)

analytical-critical (the reader strives to critically comprehend the material, having analyzed it, and determined his attitude toward it)

creative (creates in the reader a readiness in one form or another - as a starting point for his own reasoning, as an image for action by analogy, etc. - to use the author's judgments, his train of thought, the result of observation, the developed methodology, to supplement them, to subject them to new testing).

The main types of systematic recording of what has been read:

Annotation is an extremely brief, coherent description of a book (article) viewed or read, its content, sources, nature and purpose;

Planning is a brief logical organization of the text, revealing the content and structure of the material being studied;

Thesis is a concise reproduction of the author's main assertions without using factual material;

Quoting is the verbatim copying of excerpts and extracts from the text that most significantly reflect a particular idea of the author;

Note-taking is a brief and sequential presentation of the content of what has been read.

A summary is a complex way of presenting the contents of a book or article in a logical sequence. A summary integrates previous notes and allows for a comprehensive understanding of the book or article's content. Therefore, the ability to create an outline, make notes, take excerpts, and other notes determines the technique of summary writing.

5.2. Methodological recommendations for compiling lecture notes:

1. Read the text carefully. Look up any unfamiliar words in reference books. When taking notes, be sure to include reference information in the margins.
2. Highlight the main points and make a plan.
3. Briefly formulate the main points of the text, note the author's argumentation.
4. Take notes on the material, strictly following the outline. When taking notes, try to express your thoughts in your own words. Keep your notes clear and concise.
5. Write quotes correctly. When quoting, keep in mind the brevity and significance of the idea.

In the summary, it is advisable to present not only thesis statements but also their evidence. When formatting the summary, strive for the conciseness of each sentence. The author's thoughts should be presented concisely, with care taken to maintain style and expressiveness. The number of additional elements in the summary should be logically justified, and entries should be arranged in a specific sequence consistent with the logical structure of the work. Leave margins for clarification and addition.

Mastering note-taking skills requires a student to be determined and to work independently on a daily basis.

5.3. Methodological recommendations for preparation for practical classes

To maximize the benefit of practical classes, it's important to remember that exercises and problem solving are based on lecture material and typically involve a detailed analysis of specific topics covered in the lecture course. It's important to emphasize that only after the lecture material has been mastered from a specific perspective (namely, the perspective from which it is presented in lectures) will it be reinforced in laboratory classes, both through discussion and analysis of the lecture material and through solving problem situations and tasks. Under these conditions, students will not only master the material well but also learn to apply it in practice, and will also receive additional incentive (and this is very important) to actively engage with the lecture.

When independently solving problems, it's important to justify each step of the solution based on the theoretical principles of the course. If a student sees several possible solutions to a problem (problem), they should be compared and the most efficient one selected. It's helpful to create a brief plan for solving the problem (problem) before beginning calculations. Solutions to problematic problems or examples should be presented in detail, with calculations arranged in strict order, separating auxiliary calculations from the main ones. Solutions should be accompanied by comments, diagrams, drawings, and illustrations, if necessary.

It's important to remember that the solution to each learning problem should be followed through to the final logical answer required by the conditions, and, if possible, with a conclusion. The resulting answer should be verified using methods specific to the nature of the problem. It's also helpful (if possible) to solve the problem in several ways and compare the results. Problem solving of this type should be continued until solid solving skills are acquired.

Practical work No. 1-5,8 are completed by students of correspondence and part-time education independently.

5.4. Guidelines for self-assessment of knowledge

After studying a specific topic using notes in the notes and textbook, as well as solving a sufficient number of relevant problems in practical classes and independently, the student is advised to conduct a self-assessment of the acquired knowledge by answering test questions on the topic studied.

If necessary, you need to carefully review the material again.

Sometimes, a lack of understanding of a particular question only becomes apparent upon further study. In this case, it's necessary to go back and review the poorly understood material. An important criterion for mastering theoretical material is the ability to answer interview questions.

Evaluation criteria:

A student receives an "excellent" grade if they have a comprehensive understanding of the fundamental concepts related to ensuring information and psychological security for individuals, society, and the state, as well as the concepts of information warfare, information confrontation, and their manifestations in the modern world. They also fully analyze sources and classify and assess information security threats.

A student is given a grade of "good" if he, Understands the fundamental concepts related to ensuring information and psychological security for individuals, society, and the state, as well

as the concepts of information warfare and information confrontation, and their manifestations in the modern world. Analyzes sources and classifies and assesses information security threats.

A "satisfactory" grade is awarded to a student who has a basic understanding of the fundamental concepts related to ensuring information and psychological security for individuals, society, and the state, as well as the concepts of information warfare, information confrontation, and their manifestations in the modern world. They primarily analyze sources and classify and assess information security threats.

A student is given a grade of "unsatisfactory" if they struggle with the basic concepts of ensuring information and psychological security for individuals, society, and the state, as well as the concepts of information warfare and information confrontation, and their manifestations in the modern world. They struggle to analyze sources and classify and assess information security threats.

Description of the rating scale

The maximum possible score for the entire ongoing assessment is set at 55. A current assessment is considered passed if the student receives at least 60% of the maximum score established for that assessment. The rating score assigned to a student for a current assessment completed within the deadlines set in the assessment schedule is determined as follows:

Level of completion of the control task	Rating score (as a percentage of the maximum score for the test task)
Great	100
Good	80
Satisfactory	60
Unsatisfactory	0

5.6. Methodological recommendations for preparation for tests

Monitoring students' independent work

Independent work is monitored by the teacher in the classroom.

The following types of control are provided: interview, assessment of the report and its presentation.

Detailed criteria for assessing competencies are provided in the Fund of Assessment Tools for Conducting Current and Interim Assessments.

6. List of literature for completing independent work

List of key literature

1. Gasparyan , D. E. Applied Problems of Implementing the Ethics of Artificial Intelligence in Russia. Industry Analysis and the Judicial System: Monograph / D. E. Gasparyan , E. M. Styrin ; Nat. Research University "Higher School of Economics". - 2nd ed. - Moscow: Publishing House of the Higher School of Economics, 2021. - 112 p. - ISBN 978-5-7598-2242-4. - Text: electronic. - URL: <https://znanium.com/catalog/product/1910949> (accessed: 11/16/2024).
2. New Laws of Robotics. Regulatory Landscape. Global Experience in Regulating Robotics and Artificial Intelligence Technologies / V.V. Bakumenko, A.D. Volynets, A.V. Neznamov [et al.]; edited by A.V. Neznamov. — Moscow: Infotropic Media , 2018. — 220 p. — ISBN 978-5-9998-0324-5. — Text: electronic // Lan: electronic library system. — URL: <https://e.lanbook.com/book/138977> (accessed: 11/16/2024).

List of additional literature

3. Legal regulation of artificial intelligence, robots and robotics objects as a condition for the formation of economic leadership in Russia: monograph / G. F. Ruchkina, M. V. Demchenko, A. V. Popova [et al.]; edited by G. F. Ruchkina. - Moscow: Prometheus, 2021. - 350 p. - ISBN 978-5-00172-197-0. - Text: electronic. - URL: <https://znanium.com/catalog/product/1851280> (accessed: 11/16/2024).
4. Artificial Intelligence Systems: A Tutorial / N. V. Zamyatin - 2018. 244 p. [Electronic resource]: - Access mode: <https://edu.tusur.ru/publications/7269> (accessed: 11/17/2024).

List of educational and methodological support for independent work of students in the discipline

1. Guidelines for organizing independent work of students in the discipline " Ethics and security of artificial intelligence ". Stavropol: SKFU, 2025 .
2. Guidelines for practical classes on the subject " Ethics and Security of Artificial Intelligence ". Stavropol: SKFU, 2025 .

List of resources of the information and telecommunications network "Internet" necessary for mastering the discipline

1. <http://biblioclub.ru/> – University online library " Biblioclub "
2. <https://4brain.ru/liderstvo/> – Leadership: Lessons from an Effective Manager
3. <https://spravochnick.ru/psihologiya/> – Psychology Handbook