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PEDAGOGICAL CONDITIONS AND INFORMATION-DIDACTIC PROVISION OF TEACHING THE SUBJECT "FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE" IN HIGHER EDUCATIONAL INSTITUTIONS

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Annotation. *This article presents considerations on the necessity, pedagogical conditions and information and didactic support of teaching the subject "Fundamentals of Artificial Intelligence" in higher educational institutions.*

Keywords: *artificial intelligence, fundamentals of artificial intelligence, project-based education, problem-based learning, gamification, pedagogical conditions, information and didactic support.*

Introduction. The rapid development of artificial intelligence (AI) technologies in modern society is causing huge changes in various fields. Therefore, teaching the subject "Fundamentals of Artificial Intelligence" in higher educational institutions has become a pressing issue. The formation of pedagogical conditions and improvement of information-didactic support for the effective teaching of this subject are of great importance. This article analyzes the pedagogical aspects and information-didactic support of teaching the subject "Fundamentals of Artificial Intelligence".

The need to teach the subject of fundamentals of artificial intelligence.

Today, artificial intelligence technologies are used in production, medicine, transport, finance, education and many other areas. This subject should be taught in higher education institutions for the following reasons:

Forming fundamental knowledge of modern technologies in students;

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Orientation to conducting new scientific research in the field of AI;

Training competitive and innovative specialists;

Explaining the ethical and legal aspects of artificial intelligence.

Pedagogical conditions. The following pedagogical conditions are necessary to organize an effective educational process in this subject: Use of innovative teaching methods.

Along with traditional teaching methods, it is important to use the following innovative methods:

Project-based learning - students gain practical experience by developing projects based on AI.

Problem-based learning - students develop creative thinking skills by solving problems related to artificial intelligence technologies.

Gamification - involving students in the learning process through game elements.

Engineering thinking and algorithmic approach. To develop algorithmic thinking in students, it is necessary to effectively use programming languages and artificial intelligence algorithms. Programming languages such as Python, R and MATLAB serve as the main tools in this process.

Organization of laboratory and practical classes. Practical classes play an important role in studying the basics of artificial intelligence. The following technical bases are required to test AI algorithms:

Computers equipped with GPUs;

AI platforms such as TensorFlow, PyTorch;

Cloud computing systems for working with large amounts of data.

Information and didactic support. Modern information resources and didactic materials are necessary for the high-quality organization of the educational process in science.

Electronic learning platforms. It is advisable to use platforms such as Coursera, Udacity, edX, as well as local educational systems to deliver educational materials.

Interactive and multimedia resources. Interactive textbooks, simulators, visual programs (Jupyter Notebook, Google Colab) on AI make it easier for students to master the material.

Development of curricula and textbooks. It is necessary to develop a curriculum for higher education institutions consisting of the following components:

Theoretical foundations: History, classification, basic methods of artificial intelligence;

Software: AI programming languages and libraries;

Practical exercises: Real projects and problem solving.

Conclusion. Teaching the subject "Fundamentals of Artificial Intelligence" in higher education institutions is one of the urgent issues for the modern education system. Innovative teaching methods, a modern laboratory base, information and didactic support, and interactive educational materials are important for organizing an effective educational process in this subject. By providing students with high-quality AI education, competitive and qualified specialists will be prepared in the future.

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