БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ / BELARUSIAN STATE UNIVERSITY

СОВРЕМЕННЫЕ ОБРАЗОВАТЕЛЬНЫЕ ТЕХНОЛОГИИ/ MODERN EDUCATIONAL TECHNOLOGIES

Учебная программа учреждения образования по учебной дисциплине для специальности:

The program of the educational institution of the discipline for the speciality:

7-06-0532-03 Землеустройство, кадастры, геодезия и геоматика / 7-06-0532-03 Land Management, Cadastres, Geodesy and Geomatics

Профилизация:

Управление геоданными с использованием интеллектуальных систем / Profilization: Geodata management using intelligent systems

2024

Учебная программа составлена на основе ОСВО 7-06-0532-03-2023; учебного плана БГУ № М47а-5.7-157/уч. от 29.03.2024

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Заместитель декана
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ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Современный этап развития общества определяет развитие инновационных процессов в сфере образования. Одним из требований к высшему образованию является создание условий для развития творческих способностей студентов, чтобы они могли эффективно выполнять свои профессиональные обязанности и самостоятельно взаимодействовать с постоянно развивающимся миром труда через организацию педагогической деятельности.

Учебная дисциплина «Современные образовательные технологии» направлена на развитие способностей обучающихся применять современные технологии при организации образовательного процесса в различных образовательных учреждениях, формировать образовательную среду и использовать свои способности в реализации задач инновационной образовательной политики.

Цели и задачи учебной дисциплины

Цель учебной дисциплины состоит в формировании системы методической деятельности и инновационной практики, обогащении представлений о построении образовательного процесса за счет использования современных образовательных технологий. Образовательная технология позволяет эффективно выстраивать процесс обучения, управлять им, получать результаты в соответствии с запланированными целями.

Задачи учебной дисциплины:

1. формирование знаний о структуре, компонентах и особенностях обучения как дидактического процесса; теоретических основ образовательных технологий;

2. ознакомление с различными образовательными технологиями и обеспечение понимания их значимости в образовательной практике;

3. освоение применения современных образовательных технологий в методических разработках на учебных занятиях и готовность введения их в собственную педагогическую деятельность.

Место учебной дисциплины в системе подготовки специалиста с углубленным высшим образованием.

Учебная дисциплина «Современные образовательные технологии» относится **к модулю** «Современные информационные и образовательные технологии» государственного компонента.

Учебная дисциплина составлена с учетом межпредметных **связей** с учебной дисциплиной «Информационные технологии в профессиональной деятельности».

Требования к компетенциям

Освоение учебной дисциплины «Современные образовательные технологии» должно обеспечить формирование следующей **универсальной компетенции:**

УК. Применять психолого-педагогические методы и информационно-коммуникационные технологии в образовании и управлении.

В результате освоения учебной дисциплины обучающийся должен:

знать: дидактические основы обучения, теоретические основы современных образовательных технологий, их разнообразие и сущность;

уметь: характеризовать особенности образовательных технологий; проектировать учебное занятие по образовательной технологии и составлять технологическую карту учебного занятия; формулировать цели деятельности и эффективно использовать ресурсы для их достижения; организовать взаимодействие в различных ситуациях учебного процесса с использованием дидактического и диагностического инструментария;

иметь навык: выбора, использования и самостоятельного проектирования учебного занятия с возможностями подбора образовательной технологии для реализации конкретной цели учебного процесса.

Структура учебной дисциплины

Дисциплина изучается во 2 семестре. Всего на изучение учебной дисциплины «Современные образовательные технологии» отведено:

– для очной формы получения углубленного высшего образования – 90 часов, в том числе 48 аудиторных часов, из них: лекции – 18 часов, практические занятия – 18 часов, внеаудиторная управляемая самостоятельная работа (УСР) – 12 часов.

Трудоемкость учебной дисциплины составляет 3 зачетные единицы.

Форма промежуточной аттестации – зачет.

EXPLANATORY NOTE

The modern stage of development of society determines the evolution of innovative processes in the field of education. One of the requirements for higher education is ensuring the elaboration of the creative potential of future specialists to perform work functions and independent interaction with the innovatively developing world of professional work through the organization of pedagogical activity.

The academic discipline "Modern educational technologies" points to developing the ability of students to apply modern technologies in organizing the educational process in various educational institutions, to form an educational environment and use their abilities in decision the tasks of innovative educational policy.

Aim and tasks of the discipline

The aim of the academic discipline is to form a system of methodological activities and innovative practices, enrich ideas about the construction of the educational process through the use of modern educational technologies. Educational technology allows to effectively build the learning process, manage it, and obtain results in accordance with the planned goals.

Tasks of the academic discipline:

1. formation of knowledge about the structure, components and features of learning as a didactic process; theoretical foundations of educational technologies;

2. familiarization with various educational technologies and ensuring an understanding of their importance in educational practice;

3. mastering the use of modern educational technologies in methodological developments in classrooms and readiness to introduce them into their own pedagogical activities.

Place of the academic discipline in the system of training a specialist with advanced higher education.

The academic discipline "Modern educational technologies" refers to the module "Modern information and educational technologies" of the state component.

The academic discipline is compiled taking into account interdisciplinary connections with the academic discipline "Information technologies in professional activities".

Requirements for competences

Mastering the academic discipline "Modern Educational Technologies" should ensure the formation of the following universal competence:

UK. Apply psychological and pedagogical methods and information and communication technologies in education and management.

As a result of mastering the academic discipline, the student should:

know: the didactic foundations of training, the theoretical foundations of modern educational technologies, their diversity and essence;

be able to: characterize the features of educational technologies; design a lesson on educational technology and draw up a technological map of the lesson; formulate the goals of the activity and effectively use resources to achieve them; organize interaction in various situations of the educational process using didactic and diagnostic tools;

have skills in: methods of choosing, using and independently creating a lesson with the possibility of selection an educational technology to achieve a specific goal of the educational process.

Structure of the academic discipline

The discipline is studied in the 2nd semester. In total for studying the academic discipline "Modern Educational Technologies" is allocated:

– for full-time higher education – 90 hours, including 48 in-class hours, of them: lectures – 18 hours, practical classes – 18 hours, extracurricular controlled self-study (CSS) – 12 hours.

The labour intensity of the discipline is 3 credit units.

Form of certification is end-of-term test.

CONTENT OF THE STUDY MATERIAL

Topic 1. Didactic foundations of training

Teaching as a process. Structure of the teaching process: stages and components. Patterns of the teaching process. Characteristics of the components of the training process: goal-setting, content, forms, methods and means of training, object-subject relations. Technological approach to the teaching process.

Diagnostic tools for a teacher. Level of complexity of questions and tasks during written and oral testing. Types of questions and tasks for different forms of work. Test control of knowledge. Options for constructing tasks.

Topic 2. Theoretical foundations of modern educational technologies

The essence of teaching technology: definition, features, structure, content. Technological criteria: systematicity, controllability, efficiency, reproducibility. The main components of educational technology: conceptual, substantive, technological. Educational aims and results. Types of educational results: knowledge, skills, competence, personality quality.

Classification of educational technologies by various bases and criteria. Analysis of generalized teaching technologies. Strict and non-strict technologies. Technological map as a project of a lesson. Stages of designing a lesson on teaching technology.

Topic 3. Pedagogical methods and techniques in the structure of educational technologies

The system of pedagogical methods and techniques in the structure of pedagogical technology. Pedagogical technology: the essence of the concept. Pedagogical techniques in creating educational activities. Characteristics of individual teaching methods and techniques: discussion, case study, Bloom's cube, SWOT analysis in educational activities; cluster, mind maps, interleaving, crossens, TRIZ tasks, hexes, Descartes square, etc. Master class as a form of organizing educational activities.

Topic 4. Traditional learning technologies

The main features of traditional teaching technologies. Features of the content and methodology of traditional teaching technology. Technology of level differentiation: purpose, tasks and models of teaching. Technology of complete assimilation of knowledge: main characteristics of the technology.

Topic 5. Modular learning technology

The essence of modular learning technology. Module composition. Approaches to module formation. Recommendations for using modular technology. Positive and negative aspects of modular technology.

Topic 6. Active learning technologies

Active pedagogical technologies using problem-based learning methods. The concept of a problem situation. Levels of problem-based learning. Non-imitation pedagogical technologies: problem-based learning sessions, thematic discussions,

brainstorming, round table. Structure and stages of technology. Imitation pedagogical technologies. Non-game technologies: analysis of specific situations, simulation exercises, training. Game technologies: business games, organizational activity games, game design. Technology of conducting games.

Topic 7. Interactive learning technology

Target orientations of interactive learning technology. Features of the organization. "Interactive dialogue" as a basis for interactive learning. Methodology of organizing training. Pedagogical methods and techniques in the structure of interactive learning technology.

Topic 8. Heuristic learning technology

Heuristics as an educational methodology. The main features of heuristic learning technology. Heuristic educational situation and its elements: motivation, problematization, personal decision, demonstration of educational products, their comparison, reflection of results. Technology of implementation. Forms and methods of implementation.

Topic 9. Computer (information) technologies

Distance learning system. System modules and features of their development and use. Characteristics of means and forms of distance education, interactive learning interaction of the student and the learner. Building a distance course program. LMS systems (using Moodle as an example): creating a distance course, its implementation and support. "Flipped learning" in the practice of general and higher educational institutions. Development of electronic educational resources.

Topic 10. Activity-based educational technologies

Modeling professional activity in the educational process. Stages of development of professional activity models. Modeling principles. Strengths and weaknesses of activity technology.

Technology of teaching as educational research. Didactic requirements for the content of teaching as research. Stages of educational research. Models of educational research.

TEACHING AND METHODOLOGICAL MAP OF THE DISCIPLINE
Full-time form of higher education with the use of distance learning technologies (DLT)

Title of section, topic	Title of section, topic	In-class hours					Independent work	Form of control
		Lectures	Practical classes	Seminar classes	Laboratory classes	Other		
1	2	3	4	5	6	7	8	9
1.	Didactic foundations of training	4	2				2	open heuristic task; bank of diagnostic tasks; test
2.	Theoretical foundations of modern educational technologies	2	2				2	open heuristic task; test
3.	Pedagogical methods and techniques in the structure of educational technologies	2	2					open heuristic task; test
4.	Traditional learning technologies	2	2					technology map of lesson; test
5.	Modular learning technology	2	2					technology map of lesson; test
6.	Active learning technologies	2	2				2	technology map of lesson;

								test
7.	Interactive learning technology	2	2					technology map of lesson; test
8.	Heuristic learning technology		2				2	technology map of lesson; test
9.	Computer (information) technologies	2					2	bank of diagnostic tasks; test
10.	Activity-based educational technologies		2				2	technology map of lesson; test
	In all	18	18				12	

INFORMATION AND METHODOLOGICAL PART

List of basic literature

1. Korol', A. D. Tehnologija jevristicheskogo obuchenija v vysshej shkole: teorija i praktika (Heuristic Learning Technology in Higher Education: Theory and Practice) : [metodicheskoe posobie] / A. D. Korol'. - Minsk : Vyshjejshaja shkola, 2020. - 189 s. (in Russ)

2. Pedagogics of continuous educational and methodological guide / N.L. Shehovskaya, A.G. Klepikova, E.N. Krolevetskaya et al. – Belgorod: PH "BelSU" NRU "BelSU", 2023. – 122 p. – Access mode: https://reader.lanbook.com/book/399416#2. – Date of access: 18.10.2024.

List of additional literature

1. Kiselev G.M. Informacionnye tehnologii v pedagogicheskom obrazovanii: uchebnik (Information technologies in pedagogical education: textbook) / G.M. Kiselev, R.V. Bochkova. – Moskva : Dashkov i K°, 2020. – 304 s. (in Russ)

2. Levites D. G. Pedagogicheskie tehnologii [Jelektronnyj resurs]: uchebnik (Pedagogical technologies [Electronic resource]: textbook) / D.G. Levites. — Moskva : INFRA-M, 2019. — 403 s. (in Russ)

3. Pedagogicheskie sistemy i tehnologii : konspekt lekcij : dlja studentov pedagogicheskih special'nostej vuzov (Pedagogical systems and technologies: lecture notes: for students of pedagogical specialties of universities) / E.F.Sivashinskaja, V.N.Punchik ; pod obshhej redakciej E.F.Sivashinskoj. — 2-e izd., dopolnennoe. — Mozyr' : Sodejstvie, 2015. — 215 s. (in Russ)

4. Plaksina I.V. Interaktivnye obrazovatel'nye tehnologii (Interactive educational technologies) /I.V. Plaksina. – Moskva: Jurajt. 2018. – 151 s. (in Russ)

5. Sovremennye obrazovatel'nye tehnologii v uchebnom processe vuza: metodicheskoe posobie (Modern educational technologies in the educational process of the university: a methodological manual) / avt.-sost. N. Je. Kasatkina, T. K. Gradusova, T. A. Zhukova, E. A. Kagakina, O. M. Kolupaeva, G. G. Solodova, I. V. Timonina; otv. red. N. Je. Kasatkina. – Kemerovo: GOU «KRIRPO», 2014. – 237 s. (in Russ)

6. Sovremennye obrazovatel'nye tehnologii (Modern educational technologies) / pod red. N.V. Bordovskoj. – Moskva: KNORUS, 2018. – 432 s. (in Russ)

7. Sovremennye obrazovatel'nye tehnologii: uchebnoe posobie dlja vuzov (Modern educational technologies: a teaching aid for universities) / E. N. Ashanina [i dr.] ; pod redakciej E. N. Ashaninoj, O. V. Vasinoj, S. P. Ezhova. Moskva: Izdatel'stvo Jurajt, 2022. — 165 s. (in Russ)

8. Sokolkov E. A. Tehnologii problemno-modul'nogo obuchenija. Teorija i praktika: monografija (Technologies of problem-based and modular learning. Theory and practice: monograph) / E. A. Sokolkov. — Moskva : Logos, 2012. — 384 c. (in Russ)

List of recommended diagnostic tools and methodology for final mark formation

The object of diagnostics of master's degree students' competencies is knowledge and skills obtained by them as a result of studying the academic discipline. Identification of master's degree students' academic achievements is carried out using current monitoring and midterm assessment activities.

For current monitoring of the quality of knowledge acquisition by students, it is recommended to use the following diagnostic forms: open heuristic task; creation of a bank of diagnostic tasks; technological map of lesson; test.

Assessment for answers in lectures (survey) includes the completeness of the answer, the presence of arguments, the ability to conduct a dialogue, etc. Assessment for answers in practical classes presupposes mastery of the educational material, understanding of the processes occurring in the educational environment, the ability to argue one's own point of view. When assessing the project assignment, the following are taken into account: the originality of the created educational product, the study of the phenomenon under study from different angles, the integration of knowledge from different areas, and the personal significance of the achieved results. The project assessment includes the relevance of the problem under study, the correctness of the methods of work used, the involvement of knowledge from different areas, and the practical orientation of the results obtained.

The form of midterm assessment for the discipline "Modern educational technologies" is provided for by the curriculum as end-of-term test.

Approximate list of assignments for independent work

Lesson 1. Topic 1. Didactic foundations of training (2 hours)

Assignment "Diagnostic tools for a teacher". Develop a system of questions and tasks: 1. Closed-type test tasks of 5 difficulty levels; 2. Questions and tasks for written knowledge testing, providing for difficulty levels and compliance with a 10-point assessment system.

(Form of control – creation of a bank of diagnostic tasks).

Lesson 2. Topic 2. Theoretical foundations of modern educational technologies (2 hours)

(Form of control – test)

Lesson 3. Topic 6. Active learning technologies (2 hours).

Simulation pedagogical technologies. Non-game technologies: analysis of specific situations, simulation exercises, training. Game technologies: business games, organizational activity games, game design. Technology of conducting games.

Task: study the methodology for conducting training sessions on game technologies. Design a training module using a simulated problem situation on the academic topic of the author's discipline.

(Form of control – technology map of lesson).

Lesson 4. Topic 8. Heuristic learning technology (2 hours)
(Form of control – test)

Lesson 5. Topic 9. Computer (information) technologies (2 hours).
Distance learning system. System modules and features of their development and use. Characteristics of means and forms of distance education, interactive learning interaction between the student and the learner. Building a distance course program. "Flipped learning" in the practice of general education and higher education institutions. Development of electronic educational resources.
Task: develop the content of an online lesson.
(Form of control – creation of a bank of diagnostic tasks).

Lesson 6. Topic 10. Activity-based educational technologies (2 hours).
(Form of control – test)

Approximate list of practical classes
1. Structure of the learning process (2 hours)
2. Technological map as a project of a lesson (2 hours)
3. Pedagogical techniques in designing lessons (2 hours)
4. Traditional learning technologies (2 hours)
5. Modular learning technology (2 hours)
6. Active learning technologies (2 hours)
7. Interactive learning technologies (2 hours)
8. Heuristic learning technology (2 hours)
9. Activity-based educational technologies (2 hours)

Description of innovative approaches and methods
for teaching the discipline
When organizing the educational process, *a heuristic approach* is used, which involves:
- students making personally significant discoveries about the world around them;
- demonstrating a variety of solutions to professional tasks and life problems;
- creative self-realization of students in the process of creating educational products;
- individualization of learning through the ability to independently set goals and reflect on their own educational activities.
When organizing the educational process, *a practice-oriented approach* is used, which involves:
- mastering the content of education through solving practical problems;
- acquiring skills for the effective implementation of various types of professional activities;

- focusing on generating ideas, implementing group student projects, developing an entrepreneurial culture;

- using procedures and assessment methods that record the formation of professional competencies.

When organizing the educational process, *the project-based learning method* is used, which involves:

- a method of organizing the educational activities of master's students, developing skills of planning, self-organization, cooperation that are relevant for educational and professional activities and involves the creation of one's own product;

- acquisition of skills for solving research, creative, social, entrepreneurial and communication problems.

Methodological recommendations for the organization of independent work

To organize independent work of master's degree students on the academic discipline, it is necessary to use modern information technologies: to place in the network access a set of educational and educational-methodological materials (educational and program materials, methodological instructions for the implementation of practical work; materials of current control and midterm assessment).

Independent work of master's degree students on studying the academic discipline "Modern educational technologies" is carried out in the classroom, as well as using distance learning technologies. Students are offered independent consideration of a number of questions, which involves an in-depth study of the main and additional literature. The effectiveness of independent work of master's degree students is checked during the current and final knowledge control. To complete practical assignments, independent work of the master's degree student is necessary at each stage of work on the topic. At the first stage, it is necessary to study the content of the educational material on a specific topic (question), its structuring and comprehension. At the second stage, when performing an individual practical task, the theoretical knowledge obtained should be reflected in a practical form for possible use in the future professional and pedagogical sphere. The third stage consists of the reflexive activity of master's students, analysis of their own results.

Approximate list of questions for the end-of-term test

1. Structure and patterns of the learning process.
2. Characteristics of the components of the learning process. Technological approach to the learning process.
3. Diagnostic tools for a teacher. Level of complexity of questions and tasks during a written assessment.
4. Level of complexity of questions and tasks during an oral assessment.
5. Test control of knowledge. Options for constructing tasks.
6. The essence of learning technology. Technological criteria.
7. The main components of educational technology. Educational goals and results.

8. Classifications of educational technologies. Analysis of generalized learning technologies. Strict and non-strict technologies.

9. Stages of designing a lesson on learning technology.

10. Pedagogical technology: the essence of the concept. Pedagogical techniques in designing lessons.

11. Characteristics of pedagogical methods and teaching techniques.

12. The main features of traditional learning technologies.

13. Level differentiation technology.

14. Technology of complete knowledge acquisition.

15. Modular learning technology.

16. Active pedagogical technologies. Concept of a problem situation. Levels of problem-based learning

17. Non-imitation pedagogical technologies: problem-based learning sessions, thematic discussions, brainstorming, round table. Structure and stages of technology.

18. Simulation pedagogical technologies. Non-game technologies: analysis of specific situations, simulation exercises, training.

19. Game technologies: business games, organizational activity games, game design. Technology of conducting games.

20. Interactive learning technology.

21. Heuristic learning technology.

22. Distance learning system. "Flipped learning" in the practice of general education and higher educational institutions. Development of electronic educational resources.

23. Activity-based educational technologies.

24. Technology of teaching as educational research.

ПРОТОКОЛ СОГЛАСОВАНИЯ УЧЕБНОЙ ПРОГРАММЫ УО

Название учебной дисциплины, с которой требуется согласование	Название кафедры	Предложения об изменениях в содержании учебной программы учреждения высшего образования по учебной дисциплине	Решение, принятое кафедрой, разработавшей учебную программу (с указанием даты и номера протокола)
Дисциплина не требует согласования			

Заместитель декана
по учебной работе и
образовательным инновациям _____ Н.М.Писарчук

21.11.2024

ДОПОЛНЕНИЯ И ИЗМЕНЕНИЯ К УЧЕБНОЙ ПРОГРАММЕ ПО ИЗУЧАЕМОЙ УЧЕБНОЙ ДИСЦИПЛИНЕ

на _____/_____ учебный год

№ п/п	Дополнения и изменения	Основание

Учебная программа пересмотрена и одобрена на заседании кафедры
_____ (протокол № ____ от _____ 202_ г.)

Заведующий кафедрой

_____   _____

УТВЕРЖДАЮ
Декан факультета

_____   _____