

General information	Name, code and number of credits	ICT in Education, 6 ETCS
	Department	Education
	Program	Bachelor
	Semester	Fall semester of the 2026-2027 academic year
	Subject teacher	Vagif Fatullayev
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	Lecture room	Narimanov building
	Advice hours	Available online by appointment
Prerequisites	-	
Language of instruction	English	
Type of subject (compulsory/ elective)	Compulsory	
Resources	Reading materials: 1. UNESCO. (2023). Global Education Monitoring Report 2023: Technology in Education - A Tool on Whose Terms? Paris: UNESCO. https://doi.org/10.54676/UZQV8501 2. OECD. (2023). OECD Digital Education Outlook 2023: Towards an Effective Digital Education Ecosystem. Paris: OECD Publishing. https://doi.org/10.1787/c74f03de-en 3. Bates, A. W. (2022). Teaching in a Digital Age: Guidelines for Designing Teaching and Learning (3rd ed.). BCcampus. https://pressbooks.bccampus.ca/teachinginadigitalagev3m/ 4. Miao, F., & Cukurova, M. (2024). AI Competency Framework for Teachers. Paris: UNESCO. https://doi.org/10.54675/ZJTE2084 Note: Additional reading materials will be provided throughout the course.	
Course description	The course focuses on the role, integration, and management of information and communication technologies in teaching, learning, and educational institutions. It combines practical skills in using digital tools and platforms with key issues such as ICT planning, governance, infrastructure, digital transformation, and emerging technologies, including artificial intelligence. The course also introduces relevant international and national policy frameworks, enabling students to understand how technology can be effectively planned, implemented, and managed to support quality education.	
Course objectives	The course aims to: 1. Introduce students to the key concepts, theories, and frameworks related to the integration of ICT in education. 2. Develop students' ability to select and use digital technologies effectively	

	for teaching, learning, assessment, and educational management. 3. Enhance students' digital literacy and understanding of responsible, ethical, and safe technology use in educational contexts. 4. Provide students with practical experience in using learning management systems, digital content creation tools, artificial intelligence, and interactive learning technologies. 5. Develop students' ability to critically evaluate ICT practices, policies, emerging technologies, and digital transformation initiatives in education. 6. Enable students to design technology-enhanced learning activities and propose practical ICT-based solutions for educational settings.		
Learning outcomes	By the end of the course, students will be able to: 1. Explain key concepts, theoretical frameworks, and current trends related to ICT integration in education; 2. Apply relevant frameworks such as TPACK, SAMR, and technology adoption models to analyse the use of technology in teaching and learning; 3. Use learning management systems and digital tools to create, organize, and deliver educational content and activities; 4. Demonstrate digital literacy and apply principles of digital citizenship, ethics, privacy, and responsible technology use; 5. Evaluate the educational opportunities, limitations, and risks associated with artificial intelligence and other emerging technologies; 6. Design technology-integrated learning activities, assessments, and lesson plans appropriate for specific educational contexts; 7. Analyse ICT policies, infrastructure, and digital transformation practices and suggest appropriate improvements for educational institutions; 8. Collaborate effectively to develop and present an ICT-based project addressing a practical educational need or challenge.		
Teaching methods	Lectures	+	
	Case study analysis	+	
	Group discussions and presentations	+	
	Project-based learning	+	
Assessment	Components	Date/deadline	Percentage (%)
	Class attendance and active participation		10
	Individual assignments (reflection papers, case study analysis)		5
	Group presentations		20
	Mid-term exam		25
	Final exam		40

	Total score		100
Rules (Teaching policy and behaviour)	<u>1. Attendance and participation</u> This class meets once a week, so every session is important. Students are expected to attend all classes, contribute actively to discussions and group work, and catch up on any missed material if absent. It is crucial to notice that absences affect your grade. <i>Missing 3 classes will result in a 1-point deduction from your class attendance grade.</i> Unexcused absences may lower your participation grade, since you miss both the content and the opportunity to earn participation points. Students are expected to make class sessions a priority and to manage any absences responsibly.		
	<u>2. Preparation</u> Students must complete assigned readings before class, reflect on the content, and bring questions or ideas for discussion. Being prepared ensures active participation and deeper learning.		
	<u>3. Individual assignments and projects</u> In this course, all assignments must be submitted on time. Because timely planning and management are central to ICT in education, late submissions will not be accepted. If an assignment is turned in late, <i>1 point will be deducted for each day past the deadline.</i> Work submitted more than one week late will not be graded.		
	<u>4. Examinations</u> The course includes a midterm and a final exam. First, the midterm will cover material from the first half of the course. It will test your understanding of key concepts through short-answer and problem-solving questions. Second, the final exam will cover the entire semester’s material. It will emphasize application and synthesis of concepts. In particular, the final may include open-ended questions that require written responses, asking you to apply and connect ideas.		
	<u>5. Academic integrity</u> All assignments and exams must be original. Plagiarism, cheating, or dishonesty will result in penalties according to university regulations. Always cite sources correctly. Furthermore, you may use Generative AI tools (e.g., ChatGPT, Gemini) for ideas or exploration, but undisclosed or excessive use may lower your grade. Always indicate how AI contributed to your work, so your own learning and effort remain clear.		
	<u>6. Professional conduct</u> Students are expected to respect peers, contribute constructively to group work, and use digital technologies responsibly (laptops or smartphones only for learning purposes). Professional behavior is required throughout the course.		
Tentative schedule			
Week	Date	Topics to be covered	Tasks/Resources
1.		<u>Course orientation</u>	Tasks:

		Introduction to ICT in Education: definitions, scope, and rationale for integrating technology in teaching, basic concepts.	- Group discussion on personal experiences with educational technology <i>Resources:</i> - Syllabus - UNESCO – Global Education Monitoring Report 2023: Technology in Education. (Chapter 1, pp. 6-18) - Lecture 1
2.		<u>Foundation of ICT</u> Theoretical foundations: TPACK, SAMR model, and technology adoption theories (UTAUT).	<i>Tasks:</i> - Case study analysis - Worksheet mapping a lesson idea onto the SAMR ladder - Group work <i>Resources:</i> - https://programs.ed.lehigh.edu/articles/how-to-use-technology-in-the-classroom - Lecture 2
3.		<u>Group work presentation</u> Understanding technology in Education	
4.		<u>Digital literacy and digital citizenship for teachers and students</u>	<i>Tasks:</i> - Self-assessment quiz on digital literacy; discussion on online safety and ethics - Case study analysis: Choose one developed country (e.g., Estonia, Singapore, Finland, South Korea, UK, or China) and summarize the main ICT-in-education strategies of that country <i>Resources:</i> - UNESCO (2023), Chapter 5: Digital Skills,

			pp. 85-108; Chapter 8: Governance and Regulation, pp. 149-160 (“Digital privacy, safety and well-being need to be regulated”). - Lecture 3
5.		<u>Learning Management Systems (LMS): Moodle, Google Classroom, Microsoft Teams for Education</u>	<i>Tasks:</i> - Hands-on task: create a sample course/module in an LMS - Analyze how global strategies and policies could be applied or adapted to Azerbaijani education system and suggest 2-3 practical recommendations. <i>Resources:</i> - OECD (2023), Chapter 3: “Learning management systems and other digital tools for system and institutional management”, pp. 82-108
6.		<u>Digital content creation</u> Interactive multimedia tools for teaching and learning. AI literacy, competency frameworks, opportunities and limitations	<i>Tasks:</i> - Analysing the use of AI tools for educational settings <i>Resources:</i> Canvas https://canvas.instructure.com Padlet https://padlet.com Mentimeter https://www.mentimeter.com Google Data Studio (now Looker Studio) https://lookerstudio.google.com Canva https://www.canva.com/education/ - Republic of Azerbaijan. (2025, March 19). On approval of the “Artificial Intelligence Strategy of the Republic of Azerbaijan for 2025-2028”. Presidential Decree No. 530. - UNESCO’s AI Competency Framework for Teachers. (2018). - OECD (2023), Chapter 5: “Digital teaching and learning resources”, pp. 132-153; Miao & Cukurova (2024), Chapter 3: “Structure of

			the AI Competency Framework for Teachers”, pp. 21-26. Additional resources will be made available during class as needed.
7.		<u>Group work presentation</u> Understanding technology in Education	
Mid-term exam			
8.		<u>Prompt engineering</u> AI tools for instructional design and productivity	<i>Tasks:</i> - Students will draft and refine prompts that ask an AI to generate educational resources (e.g., quizzes, lesson plans, rubrics) for classroom use. <i>Resources:</i> - https://www.aiforeducation.io/ - Miao & Cukurova (2024), Chapter 4: “The AI CFT Specifications”, Sections 4.1-4.2, pp. 28-37. Additional resources will be made available during class as needed.
9.		<u>Artificial intelligence (AI) in education: Risks and responsibilities</u> Algorithmic bias, fairness, transparency, and responsible use	<i>Tasks:</i> - Work in groups to design a practical project that innovates Azerbaijan’s education system using ICT <i>Resources:</i> - Miao & Cukurova (2024), Chapter 2: “Key Principles”, pp. 16-20; - OECD (2023), Chapter 9: “Algorithmic bias: the state of the situation and policy recommendations”, pp. 243-257. - Lecture 4
10.		<u>Group work presentation</u>	
11.		<u>Interactive and gamified learning tools:</u> Kahoot, Quizizz, Wordwall, Classcraft <u>Digital assessment and feedback tools:</u> Google Forms, quizzes, e-portfolios	<i>Tasks:</i> - https://phishingquiz.withgoogle.com/ Resources will be made available during class as needed.

12.		Digital Transformation and Emerging Trends in Education	<i>Tasks:</i> - Discussion <i>Resources:</i> - OECD (2023), Chapter 1: “Towards a digital transformation of education”, pp. 20-50; - Bates (2022), Chapter 9, Section 9.5: “Emerging technologies: conclusion and summary”, pp. 607-612. - Lecture 5
13.		Teacher Development, ICT Evaluation, and Personalized Learning	<i>Tasks:</i> - Discussion <i>Resources:</i> - OECD (2023), Chapter 7: “Teacher digital competences: formal approaches to their development”, pp. 179-207; - UNESCO (2023), Chapter 9: “Teachers”, pp. 161-178 - Lecture 6
14.		Designing and presenting a technology-integrated lesson plan	
15.		Presentation of the final group project. Wrap-up.	Submission, peer review, and reflective discussion
Final exam			