

COURSE OUTLINE

1. OVERVIEW

FACULTY	FACULTY OF HUMANITIES AND SOCIAL SCIENCES		
SECTION	DEPARTMENT OF PRIMARY EDUCATION		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE TITLE			
Artificial Intelligence in Teaching and Learning			
COURSE CODE	HY1408	SEMESTER	4
HOURS per WEEK	2	ECTS	4
COURSE CATEGORY	Elective	COURSE TYPE	Scientific area, Skills development
LANGUAGE OF INSTRUCTION AND EXAMINATIONS	Modern Greek	PREREQUISITES	HY0601
OFFERED TO ERASMUS	NO	ECLASS PAGE	https://eclass.uth.gr/courses/PRE_U_xxx/

2. LEARNING OUTCOMES

Learning Outcomes
Upon successful completion of the course, students will be able to: Explain the basic principles, capabilities, and limitations of Artificial Intelligence (AI) and its main subfields related to education (e.g., Machine Learning, Natural Language Processing, Generative AI). Identify and critically evaluate various AI tools and applications that can be used to support teaching and learning in Primary School. Design and develop simple teaching activities or educational material for Primary School, appropriately incorporating AI tools. Analyze and discuss ethical challenges, biases, and social implications of AI use in education, especially for primary school students. Ethically justify their stance regarding the integration of AI into educational practice.
General Competencies
Data and information search, analysis and synthesis, using IT as needed Decision-making Autonomous work Teamwork Project design and management Critical and self-critical thinking Demonstration of social, professional and moral responsibility and sensitivity to gender issues Critical and self-critical thinking Advancement of free, creative and inductive thinking

3. CONTENT

Basic types of AI (symbolic, machine learning). Examples of AI in everyday life. Generative AI: Introduction. Large Language Models (LLMs). What are prompts? Capabilities and limitations. Applications of LLMs for educators. Prompt engineering strategies. AI-based image generation (Text-to-Image): Software examples, capabilities and limitations, copyright issues. Combined use of LLMs and image tools to create educational material. Critical approach: How do we teach students to evaluate AI-generated content? Personalized learning with AI: Adaptive Learning Systems, Intelligent Tutors. Examples, opportunities, and challenges for Primary Education. AI and Assessment: Automated grading (limitations), quiz/test generation tools, analysis of student responses to identify difficulties.
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AI Ethics: Student data privacy, safety, algorithmic transparency, biases and their impact on educational equity. Risks of overreliance on AI, the role of human interaction, fostering students' critical thinking about AI. Responsible classroom integration. European framework for AI (AI Act) and education.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING MODE	In person		
USE OF ICT	Multifaceted, inherent in the course		
COMPULSORY ATTENDANCE	YES	MAXIMUM NUMBER OF ABSENCES:	2
TEACHING ORGANIZATION	Activity		Semester Workload (hours)
	Lectures		8
	Laboratory exercise		18
	Literature study & analysis		15
	Implementation of a study (project)		35
	Essay writing		14
	Preparation for weekly activities		10
	Course total		100
EVALUATION			
	Type	Format	Weighting
	Written assignment / report / performance / portfolio		40%
	Public presentation / viva examination		20%
	Active Participation		10%
	Short Assignments		30%

5. RECOMMENDED BIBLIOGRAPHY

Core textbooks (available through the Eudoxus service)
Τεχνητή Νοημοσύνη στην εκπαίδευση, Εργαλεία και η εφαρμογή τους στην τάξη Σοφός Αλιβίζος - Κώστας Απ., Σπανός Δημ., Τζόρτζογλου Φιλ. 2025 Γρηγορης
Εργαλεία Τεχνητής Νοημοσύνης για την Εκπαίδευση και την Έρευνα, Ηλίου Θόδωρος, 2024, ΔΙΣΙΓΜΑ
Τεχνητή Νοημοσύνη, Μαυρόπουλος Αντ., 2024 MOTIBO Εκδοτική
Other books / Notes
Scientific journals
Computers & Education
British Journal of Educational Technology (BJET)
Educational Technology Research and Development (ETR&D)
Journal of Research on Technology in Education (JRTE).
Scientific articles
Other