SUBJECT DATASHEET

Artificial Intelligence and Education

BMEGT51XX95501-03

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Artificial Intelligence and Education

ID (subject code) BMEGT51XX95501-03

Type of subject
contact hour

Course types and lessons

Type	*Lessons*
Lecture	0
Practice	8
Laboratory	0

Type of assessment
semester grade

Number of credits
5

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Manojlovic Heléna	university assistant professor	manoljovic.helena@gtk.bme.hu

Educational organisational unit for the subject
Department of Technical Education

Subject website
https//edu.gtk.bme.hu

Language of the subject
magyar - HU

Curricular role of the subject, recommended number of terms
Programme: **Mentor teacher programme**
Subject Role: **Compulsory**
Recommended semester: **1**

Programme: **Measurement-assessment teacher programme**
Subject Role: **Compulsory**
Recommended semester: **1**

Programme: **Adult Education Expert**
Subject Role: **Compulsory**
Recommended semester: **1**

Direct prerequisites

Strong	Nincs
Weak	Nincs
Parallel	Nincs
Exclusion	Nincs

Validity of the Subject Description
Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580466/11/2025registration number. Valid from: 2025.06.25.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The course explores the impact and role of artificial intelligence (AI) in education. Students will learn how to integrate AI tools into teaching practices effectively. Emphasis is placed on understanding both the opportunities and challenges AI presents in the educational context, preparing future educators to use intelligent technologies in a pedagogically sound and responsible manner.

Academic results

Knowledge

1. Understands the principles and functioning of generative artificial intelligence.
2. Is aware of current digital and technological challenges in education.
3. Knows the supportive role of generative AI in teaching and learning across educational levels.
4. Understands how generative AI can be applied in educational content development.
5. Knows the role of generative AI in educational assessment and feedback.
6. Understands the possibilities of combining gamification with generative AI in educational settings.
7. Is aware of the ethical and data privacy considerations related to the use of generative AI in education.
8. Understands current trends and future opportunities of generative AI in the field of education.

Skills

1. Able to select and apply generative AI tools aligned with educational objectives.
2. Able to create educational content using generative AI (e.g., exercises, learning materials, feedback).
3. Able to identify the advantages and limitations of generative AI in various learning environments.
4. Able to integrate AI tools into teaching and learning support processes.
5. Able to evaluate and adapt AI-generated content from a pedagogical perspective.
6. Able to use generative AI in education responsibly and with consideration of ethical principles.
7. Able to design collaborative learning situations where generative AI plays an active role.

Attitude

1. Open to the application and development of generative AI in education.
2. Committed to the pedagogically grounded and intentional use of digital tools.
3. Sensitive to ethical, legal, and data privacy issues related to AI use.
4. Receptive to technological innovations in education, especially in the field of generative AI.
5. Supports responsible and creative collaboration of learners with AI tools.
6. Strives to critically interpret and reflectively apply AI in educational contexts.
7. Open to rethinking teaching and learning processes in light of generative AI opportunities.

Independence and responsibility

1. Capable of independently applying generative AI tools in educational contexts.
2. Takes responsibility for the pedagogically justified and ethical use of AI tools.
3. Able to critically assess the outcomes and impacts of generative AI on learning processes.
4. Independently reflects on their own practices and development opportunities related to AI use.
5. Acts responsibly toward students' use of AI, supporting autonomy and awareness.

Teaching methodology

The course uses modern, active learning methods that enable students to gain hands-on experience with generative AI tools. It is based on project-based learning, case study analysis, and collaborative group work. Students engage in the development and experimentation of educational applications using generative AI, followed by reflective evaluation. The methodology includes elements of blended learning and online collaborative activities.

Materials supporting learning

- Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial Intelligence in Education. Promise and Implications for Teaching and Learning. https://www.researchgate.net/publication/332180327_Artificial_Intelligence_in_Education_Promise_and_Implications_for_Teaching_a
- UNESCO. (2021). AI and education: Guidance for policy-makers. UNESCO. https://doi.org/10.54675/PCSP7350 https://unesdoc.unesco.org/ark:/48223/pf0000376709
- U.S. Department of Education, Office of Educational Technology, Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations, Washington, DC, 2023. https://www2.ed.gov/documents/ai-report/ai-report.pdf
- Wayne Holmes, Jen Persson, Irene-Angelica Chounta, Barbara Wasson and Vania Dimitrova (2022). Artificial intelligence and education - A critical view through the lens of human rights, democracy and the rule of law. Council of Europe. ISBN 978-92-871-9237-0 https://rm.coe.int/artificial-intelligence-and-education-a-critical-view-through-the-lens/1680a886bd
- Európai Bizottság, Oktatásügyi, Ifjúságpolitikai, Sportügyi és Kulturális Főigazgatóság, Etikai iránymutatások oktatók számára a mesterséges intelligencia (mi) és az adatok oktatási és tanulási célú felhasználásáról, Az Európai Unió Kiadóhivatala, 2022, **https://data.europa.eu/doi/10.2766/613916**

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The achievement of the objectives and learning outcomes defined in sections 2.1 and 2.2 is documented based on active participation in practical sessions (partial performance assessment).

Performance assessment methods

Active participation in individual and group assignments. Development or application of AI-supported pedagogical tools and methods during the semester.

Percentage of performance assessments, conducted during the study period, within the rating

- **részteljesítmény értékelés (házi feladat)**: 60
- **részteljesítmény értékelés (aktív részvétel)**: 40

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

The course signature is granted upon attendance of at least 70% of the classes and the completion of all mandatory assignments during the semester. Students must present at least one educational application or development based on generative AI during the cours

Issuing grades

Excellent	96
Very good	88-95%
Good	76-87%
Satisfactory	63-75%
Pass	50-62%
Fail	0-49%

Retake and late completion

Assignments and project tasks due during the semester may be made up or improved until the end of the teaching period, in consultation
with the course coordinator. Incomplete or insufficient performances may be corrected during the make-up period. The make-up may involve revising, expanding, or replacing the original task with an equivalent alternative. The course coordinator informs students about available retake options and procedures.

Coursework required for the completion of the subject

részteljesítmény értékelés (házi feladat)	142
részteljesítmény értékelés (aktív részvétel)	8

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 02.06.2025.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

1 The basics of artificial intelligence and generative AI
2 Challenges in education and potential roles of AI
3 Supporting teaching and learning with generative AI
4 The changing role of teachers – new competences in the age of AI
5 Using ChatGPT and other generative AI tools in the classroom
6 The role of AI in assessment and feedback
7 Integrating gamification and generative AI in education
8 Ethical and social considerations in the educational use of generative AI

Additional lecturers

Approval and validity of subject requirements