SUBJECT DATASHEET

TECHNOLOGY AND HUMANITY

BMEGT41BX4T000-00

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
TECHNOLOGY AND HUMANITY

ID (subject code) BMEGT41BX4T000-00

Type of subject
contact lessons

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
seminar grade

Number of credits
3

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Paksi Dániel	associate professor	daniel.paksi@gtk.bme.hu

Educational organisational unit for the subject
Department of Philosophy and History of Science

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

Language of the subject
magyar - HU; angol - ENG

Curricular role of the subject, recommended number of terms
Programme: **Elective subjects**
Subject Role: **Elective**
Recommended semester: **0**

Direct prerequisites

Strong	None
Weak	None
Parallel	None
Exclusion	Technológia és társadalom (BMEGT41V101) Gólem: esettanulmányok a modern technika és tudomány történetéből (BMEGT41V

Validity of the Subject Description
Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580501/3/2025 registration number. Valid from: 2025.07.10.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The aim of the course is to develop students' appropriate conceptual framework and approach to dealing with the social and philosophical problems of technology. It focuses on presenting the development, risks and opportunities of technology. The topic is supported by case studies. Cases taken from science shed light on general issues of underdetermination. Medical case studies illustrate the difficulties and ethical issues of experimental design. Technical case studies illustrate the potential for technical development, technological confinement, and the difficulty of analyzing risks. The lesson also covers the topic of technological utopias and dystopias.

Academic results

Knowledge

1. Knows the knowledge-generating and problem-solving methods of the main theories of her field.
2. Possesses confident methodological knowledge, understands the possibilities and perspectives of methodological innovation.
3. Knows the broader system of her field, recognizes the relationships with related disciplines, uses the opportunities provided by the wider system and the contexts related to the system.
4. Knows the connections between science, education, society and the media, the different manifestations of this relationship and their consequences.
5. Possesses adequate and sufficient knowledge to orient herself in the various mechanisms of social decision-making.
6. Knows the basics of other related fields (technical, legal, environmental, quality assurance, etc.).
7. Knows the general and specific natural scientific, engineering scientific, management and organizational scientific principles, rules, connections, procedures necessary for the engineering field.
8. She knows the basic facts, connections, boundaries and limitations of the knowledge- and practice system of the technical field.

Skills

1. Confidently uses the vocabulary and the basic scientific concepts of the profession, and the elements of the special vocabulary based on them.
2. Possesses the ability to gain a new perspective, she is able to approach science and its environment with an interdisciplinary approach.
3. In solving her professional tasks, she is able to independently analyze, evaluate, and synthesize conclusions and explanations.
4. She is able to apply a wide range of well-established techniques for the critical analysis and processing of information.
5. She is able to participate in the process of lifelong learning.
6. Plans and organizes her own independent learning, using the widest range of available resources.
7. Identifies special professional problems with an interdisciplinary approach, explores and articulates the detailed theoretical and practical background needed to solve them.
8. In the course of working, she co-operates with representatives of related fields.
9. Using the learned theories and methods, she explores, systematizes and analyzes facts and basic connections, formulates independent conclusions, critical remarks, and decision-making proposals, and makes decisions in routine and partly unknown - domestic and international - environments.

Attitude

1. Accepts and consistently embraces the diversity of social scientific thinking and credibly represents its conceptual foundations in her narrower and wider environment.
2. She is critical of approaches that seek to limit the openness and diversity of the social sciences in scientific, practical, legal, or political communication scenes.
3. She is confident in her own knowledge and skills, committed to professional ideas.
4. Open to critical self-reflection, various forms of professional development, self-improvement methods of intellectual worldview and strives for self-development in these areas.
5. Seek to solve problems as much as possible in collaboration with others.
6. Open to general and specific knowledge that forms the basis of the technical field.
7. Possesses a problem-centric perspective and problem-solving thinking.

Independence and responsibility

1. In her own professional environment, she develops a historically and politically coherent individual position, which helps the development of herself and her environment.
2. She is independent, constructive and assertive in forms of cooperation inside and outside the institution.
3. In her organizational and institutional activities, she responsibly uses her knowledge and influence to quality work and its recognition.
4. Consciously represents the methods of her own profession and accepts the different methodological peculiarities of other disciplines.
5. Even in unexpected decision-making situations, she independently considers and develops comprehensive professional questions based on specific sources.
6. Based on professional guidance, she considers and develops comprehensive and specific professional issues based on specific sources.
7. Carries out her work independently with a critical evaluation and continuous correction of her activity.
8. Participates responsibly in the development and justification of her professional views.
9. Considers and develops comprehensive and specific professional issues with significant independence and develops them on the basis of specific resources. 1
10. Plans and carries out her activities independently. 1
11. Consciously reflects on her own historical and cultural embeddedness.

Teaching methodology

Lectures, oral and written communication.

Materials supporting learning

- Héder Mihály (2015). A mesterséges intelligencia rövid története. Egyetemi jegyzet a Technológia és Ember c. tárgyhoz.
- Andrew Feenberg (2009): Democratic Rationalization: Technology, Power and Freedom. Readings in The Philosophy of Technology. Rowman and Littlefield Publishers Inc.
- Harry Collins és Trevor Pinch (2007): Dr. Gólem: Útmutató az orvostudományhoz. Budapest: Scolar Kiadó.
- Harry Collins and Trevor Pinch (1998): The Golem: What You Should Know about Science. Cambridge: Cambridge University Press, second edition.
- Harry Collins and Trevor Pinch (1998): The Golem at Large: What You Should Know about Technology. Cambridge: Cambridge University Press.
- Farkas János: A technikaszociológia alapjai
- W. E. Bijker, T.P. Hughes and T. J. Pinch (eds) (1987) The Social Construction of Technological Systems. MIT Press.

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Assessment of learning outcomes described under section 2.2. Two midterm tests and optional homework (essay).

Performance assessment methods

1. General course assessment: Complex assessement of the acquired knowledge and skills concerning knowledge production by two written
exams. The test focuses on knowledge elements, interpretation tasks, conclusion tasks and written question answers. Working time is 30-60 minutes depending on the material. Based on all summative academic performance assessments, 50% of the points must be obtained
to complete the subject. 2. Partial evaluation – extra work (homework, essay writing): Complex assessement of the acquired knowledge and skills concerning knowledge production by written essay. With the essay, ectra points can be obtained which are taken in the course assessment. Points are determined by the lecturer based ont he topic pf the essay and the complexity.

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

- **1. General course assessment (test)**: 50
- **2. General course assessment (test)**: 50
- **Partial evaluation (optional homework)**: 50
- **total**: 100

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

Issuing grades

Excellent	90
Very good	85–89
Good	73–84
Satisfactory	65–72
Pass	50–64
Fail	0-49

Retake and late completion

One assessment can be retaken on the retake week – free of charge for the first time. The grade more favorable will be counted.

Coursework required for the completion of the subject

participation in contact hours	28
preparation for contact hours	0
preparation for partial performance evaluation	40
home works	0
self-study of designated written material	22
preparation for exam	0
total	90

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 07.07.2024.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

Future of technology and humanity Technological determinism Social construction of technology Technological utopias and dystopias Technological
catastrophes The nature of technology Technology Assessment Disruptive technologies, criteria for success Technological closeness, sunk investments, Collingridge dilemma Ethical questions of medical technologies Ethical questions of AI Nature of technological knowledge

Additional lecturers

Héder-Nádasi Eszter	egyetemi adjunktus	nadasi.eszter@gtk.bme.hu
Héder Mihály	egyetemi docens	heder.mihaly@gtk.bme.hu

Approval and validity of subject requirements