



SUBJECT DATASHEET

Technology theories

BMEGT41MB52

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name

Technology theories

ID (subject code)

BMEGT41MB52

Type of subject

contact lessons

Course types and lessons

<i>Type</i>	<i>Lessons</i>
Lecture	2
Practice	0
Laboratory	0

Type of

assessment

seminar grade

Number of

credits

2

Subject Coordinator

<i>Name</i>	<i>Position</i>	<i>Contact details</i>
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Educational organisational unit for the subject

Department of Philosophy and History of Science

Subject website

www.filozofia.bme.hu

Language of the subject

angol, EN

Curricular role of the subject, recommended number of terms

Direct prerequisites

Strong None

Weak None

Parallel None

Exclusion None

Validity of the Subject Description

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The goal of this course is to introduce the theories of technology regarding: its place in a society, the possibilities of control, how it changes; how innovation happens and how it shapes the future. The main topics covered are push and pull innovation models; Schumpeterian innovation; risk and innovation; technology diffusion and adoption models; control and regulation of technology; technological startup theories. The course is facilitated by case studies. These may include: history of Kanban and agile methodology; history of AI; industrial revolutions; history of prizes like the X-prize; technological disasters; posthuman technology; internet; GMO; etc. This is an indicative list of case studies, some, but not all of these case studies will be discussed, based on student preference, and new ones may be introduced.

Academic results

Knowledge

1. He is familiar with and understands the terminology, basics, and aspects of other areas related to the technical field and important for professional practice, primarily in environmental protection, quality assurance, legal, economic, and management fields.
2. He knows the interactions between humans and the built environment.

Skills

1. He is capable of cooperating with experts from different fields, understands their perspectives, and can provide appropriate technical solutions to emerging problems.

Attitude

1. open to self-education and self-improvement
2. Committed to adhering to and enforcing the relevant safety, health protection, environmental protection, as well as quality assurance and control requirements.
3. Monitors trends related to the built environment necessary for the functioning of the economy.

Independence and responsibility

1. Shows responsibility towards sustainability, workplace health and safety culture, and environmental awareness. Encourages colleagues and subordinates to practice their profession responsibly and ethically.

Teaching methodology

Lectures, seminars and classroom group work

Materials supporting learning

- Rudi Volti. Society and Technological Change (8th Edition). Worth Publishers. 2017.
- Joel Mokyr: Levers of Riches, Oxford University Press, 1990.
- COLLINGRIDGE, David. The social control of technology. (1982). ISBN: 978-0312731687

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Assessment of learning outcomes formulated in point 2.2: based on two midterm written performance evaluations and active participation in classes (optional, for extra points).

Performance assessment methods

Summary academic performance evaluation: a complex, written assessment method for the subject and knowledge, skill-type competency components in the form of a closed-book exam. The exam focuses on knowledge elements, interpretation tasks, and inference tasks in a written question-and-answer format. The duration depends on the material and ranges from 30-60 minutes. To complete the subject, at least 50% of the available points must be achieved in every summary academic performance evaluation.

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

- 1st midterm exam: 50
- 2nd midterm exam: 50
- Additional points awarded (optional): 50
- összesen: 100

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

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Issuing grades

Excellent	93
Very good	88
Good	75
Satisfactory	60
Pass	50
Fail	49

Retake and late completion

A pótlás és javítás rendjét a hatályos TVSZ. szabályozza.

Coursework required for the completion of the subject

classroom work	28
homework	32
Total	60

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 06.11.2023.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

-Push & Pull; -Gartner and other cycles; -Schumpeterian innovation; -technological lock-in; -technology readiness levels; - leapfrog technology adoption; - risk and innovation; - technology impact analysis

Additional lecturers

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Approval and validity of subject requirements