SUBJECT DATASHEET

TECHNOLOGY MANAGEMENT

BMEGT20M005

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
TECHNOLOGY MANAGEMENT

ID (subject code)	BMEGT20M005

Type of subject
contact lessons

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
term grade

Number of credits
2

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Pataki Béla	associate professor	pataki.bela@gtk.bme.hu

Educational organisational unit for the subject
Department of Management and Business Economics

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

Language of the subject
magyar - HU; angol - ENG

Curricular role of the subject, recommended number of terms

Direct prerequisites

Strong	None
Weak	None
Parallel	None
Exclusion	None

Validity of the Subject Description
Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 581046/15/2021. Valid from: 24.11.2021.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

– to identify the role of technology in successful operation of companies, – to support to understand deeply the competitive nature of technology, – to introduce some proven methods of technology management

Academic results

Knowledge

1. Are aware of competitive nature of technology.
2. Understand the place and role of technology in the successsful operation of the whole organization.
3. Know some proven methods of technology management.

Skills

1. Are able to follow and understand the literature of technology management.
2. Are able to communicate about technology management on professional adequate way.
3. Are able to participate in problem solving, preparing and / or making related decisions technology management point of view.

Attitude

1. Are responsive for innovation, following of technology development.
2. Are open for new results of technology management.
3. Seek for cooperation in multidisciplinary teamwork.

Independence and responsibility

1. Perform tasks in analysis of technology management problems independently.
2. Perform tasks in decision preparation and/or making related to technology management independently.
3. Take responsibility for decisions related to technology management.

Teaching methodology

Lectures.

Materials supporting learning

- Pataki B.: Technológiamenedzsment (letölthető jegyzet, BME GTK, 2021)

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The assessment of the learning outcomes formulated in point 2.2 is based on two midterm written tests (partial performance assessm

Performance assessment methods

Detailed description of performance evaluations performed during the term: 2x30 minutes, 2x50 points midterm written tests (partial performance assessment). Elements of the writen tests: Various tasks – short essay questions, multiple choice questions etc. – from the assigned parts of the course material.

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

- **ZH1**: 50%
- **ZH2**: 50%
- **total**: 100%

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

Issuing grades

Excellent	94-100
Very good	89–94
Good	76–88
Satisfactory	63–75
Pass	50–62
Fail	0-49

Retake and late completion

Retake test in accordance to the Title 28 of BME Code of Studies.

Coursework required for the completion of the subject

participation in the lectures	12×2=24
preparation for performance evaluations	2x18=36
total	60

Approval and validity of subject requirements

0

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

A 2.2. pontban megfogalmazott tanulási eredmények eléréséhez a tantárgy a következő tematikai blokkokból áll. Az egyes félévekben meghirdetett kurzusok sillabuszaiban e témaelemeket ütemezzük a naptári és egyéb adottságok szerint.

1 The basic concepts of technology management - Technology, science, technics/technique, technology typologies. The role of technology management, its fields of activities, its tasks in the organization, its connectons with other areas.

2 Technology life cycles - Consecutive life cycles, dominance and subdominance of technologies, market based and technology based differentiation of products and technologies. Characteristics and the management of the 4 stages of the technology life cycle.

3 Basics of innovation management - Types of innovation. Opportunities for disruptive innovation. Characteristics of innovative organizations. Types of open innovation, their application areas and preconditions.

4 Managing product innovation I. - The stages of product development. Relay approach vs. simultaneous/concurrent enginneering. Agile product development.

5 Managing product innovation II. - Technology driven, market driven and dual drive product innovation. Proper and inproper questioning of costumers. Feature bloat/creep. Quantifying the risks of product innovation.

6 Managing process innovation - The steps of process innovation. Open process innovation.

7 Managing IT I. - The fundametal questions of IT strategy. The Gartner hype cycle of new IT-s.

8 Managing IT II. - Utilizing the internet of things at companies. Utilizing ugmented reality at companies. Utilizing artificial intelligence at companies.

9 The basics of strategic management of technology - Strategic significance of technology. The content, context and process of technology strategy. Typical mistakes of technology strategy. The energy strategy of the corporation.

10 Technology portolio analysis - Pure technology portfolio models, mixed business-technology portfolio models. Technology strategy planning based on technolgy portfolio analysis, aligning business and technology strategy.

11 Technology roadmapping - Technology roadmapping: its purpose and benefits. The strucure of the technology roadmap, methods of analysis. Customizing technology roadmapping for the company, the organizational prerequisites of its application.

12 Managing core competencies - The criteria and technological bases of core comopetencies. The levels of core competence-based competition. The tasks of core competence management, and the dangers of ignoring them.

Additional lecturers

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Approval and validity of subject requirements

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