# SUBJECT DATASHEET

## Environmental Management in Energetics

## BMEGT42A411

# I. SUBJECT DESCRIPTION

## 1. SUBJECT DATA

**Subject name**
Environmental Management in Energetics

| **ID (subject code)** | BMEGT42A411 |
|---|---|

**Type of subject**
contact unit

**Course types and lessons**

| *Type* | *Lessons* |
|---|---|
| Lecture | 2 |
| Practice | 1 |
| Laboratory | 0 |

**Type of assessment**
mid-term grade

**Number of credits**
3

**Subject Coordinator**

| *Name* | *Position* | *Contact details* |
|---|---|---|
| Dr. Csuvár Ádám | senior lecturer | csuvar.adam@gtk.bme.hu |

**Educational organisational unit for the subject**
Department of Environmental Economics and Sustainability

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

**Language of the subject**
magyar - HU

**Curricular role of the subject, recommended number of terms**
Programme: **BSc in Mechanical Engineering**
Subject Role: **Compulsory for the specialisation**
Recommended semester: **7**

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**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: 580251/13/2023 registration number. Valid from: 29.03.2023.

# 2. OBJECTIVES AND LEARNING OUTCOMES

**Objectives**

The aim of the course is to provide general knowledge to the students about the policy and indicator-based background of sustainable energy management

**Academic results**

Knowledge

1. Knows the main concepts of sustainable energy management.
2. Knows the main interlinkages between energetics and dimension's of sustainability
3. Knows the process of energy markets and their impacts on envrionment and society
4. Knows the main principles of national and EU energy policies

Skills

1. Able to form own opinion in energy management issues

Attitude

1. Cooperate by the lecturer and other students
2. Endeavors to understand the complex sytems
3. Endeavors to make its decisions taking into account technical, economic and social aspects

Independence and responsibility

1. Independently selects and applies the relevant problem-solving and analytical methods in solving the analyt-ical tasks belonging to his / her field
2. Feels responsible for achieving sustainable development
3. Feels responsible for taking greater account of environmental and social aspects

**Teaching methodology**

Lectures. Oral and written communication, use of IT, optional individual and group assignments and planning.

**Materials supporting learning**

- Előadás-anyagok / Lecture slides
- 1. Peter Zweifel; Aaron Praktiknjo; Georg Erdmann: Energy Economics. Berlin University of Technology. Springer, Germany, 2017.

# II. SUBJECT REQUIREMENTS

## TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

**General Rules**

The assessment of learning outcomes set out in point 2.2. are: 1. summative evaluation of the competencies acquired during the semester
(2 mid-term exams).

**Performance assessment methods**

Detailed description of performance evaluations performed during the semester: Summative evaluation of learning outcomes (summative
assessment): a complex, written way of evaluating the knowledge and ability type competence elements of the subject in the form of a test. The test focuses on the assessment of the acquired knowledge and its application. The part of the curriculum on which the assessment
is based is determined by the lecturer of the subject, the available working time is 45 minutes.

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

- **1st summative assessment**: 50
- **2nd summative assessment**: 50
- **total**: 100

**Percentage of exam elements within the rating**

**Conditions for obtaining a signature, validity of the signature**

-

**Issuing grades**

| | |
|---|---|
| Excellent | 92 |
| Very good | 85-91 |
| Good | 70–84 |
| Satisfactory | 55–69 |
| Pass | 40–54 |
| Fail | 0-39 |

**Retake and late completion**

The two summative assessments can be retaken. For the first time in the last week of the semester, the summative assessments can be retaken or corrected free of charge. In case of correction, the new result overwrites the old one. If the student is not able to obtain a grade different from the 'Fail' with the replacement according to the first point, he / she can make a second attempt at the successful performance for the second time, in addition to paying the fee specified in the regulations.

**Coursework required for the completion of the subject**

| | |
|---|---|
| Participation in contact classes | 28 |
| Preparing for contact lessons | 26 |
| Preparing for summative assessments | 36 |
| total | 90 |

**Approval and validity of subject requirements**

# III. COURSE CURRICULUM

## THEMATIC UNITS AND FURTHER DETAILS

**Topics covered during the term**

Subject includes the topics detailed in the course syllabus to ensure learning outcomes listed under 2.2. to be achieved. The schedule of topics in the course curriculum in each semester may be affected by the calendar and other constraints.

1 Introduction, the world's energy situation, global trends
2 Hungary's energy situation, trends
3 Energy, energy management indicators
4 Possibilities of using renewable energy sources I.
5 Possibilities of using renewable energy carriers II.
6 Energy efficiency, energy saving, building energy
7 Integrated energy and climate policy
8 The energy business model (energy markets) I.
9 The business model of energy (energy markets) II.
10 Energy life cycle analysis
11 Sustainability-based analysis of the environmental effects of different energy carriers
12 Sustainable energy management at local and regional level (SECAP)

**Additional lecturers**

| | | |
|---|---|---|
| Kármán-Tamus Éva | PhD hallgató / PhD student | tamus.eva@gtk.bme.hu |
| Dr. Pálvölgyi Tamás | egyetemi docens / associate professor | palvolgyi.tamas@gtk.bme.hu |

**Approval and validity of subject requirements**