SUBJECT DATASHEET

Environmental Management of Energy

BMEGT42BX4U003-00

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Environmental Management of Energy

ID (subject code)	BMEGT42BX4U003-00

Type of subject
contact unit

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
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
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
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 provide general knowledge to the students about the policy and indicator-based background of sustainable energy management.

Academic results

Knowledge

1. The student knows the main concepts of sustainable energy management;
2. knows the main interlinkages between energetics and the dimension's of sustainability;
3. knows the processes related to energy markets and their impacts on envrionment and society;
4. knows the main principles of national and EU energy policies.

Skills

1. The students is able to form an independent opinion in energy management issues;
2. is able to process and analyze energy-related data sets.

Attitude

1. Thes student cooperates with the lecturer and fellow students;
2. strives to understand the complex sytems;
3. strives to make decisions taking into account technical, economic and social aspects.

Independence and responsibility

1. The student independently selects and applies the relevant problem-solving and analytical methods in solving the analytical tasks belonging to their field;
2. feels responsible for achieving sustainable development;
3. feels responsible for taking greater account of environmental and social aspects.

Teaching methodology

Lectures, written and oral communication, use of IT tools and techniques, tasks and plans prepared in groups.

Materials supporting learning

- Előadás-anyagok / Lecture slides
- 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 the learning outcomes stated in point 2.2. is based on two summative assessments (mid-term exams) and one formative
assessment (group task).

Performance assessment methods

Detailed description of performance assessments conducted during the study period: 1. Summative assessment: a complex, written assessment
method of the knowledge and ability-type competency-elements of the subject in the form of two mid-term exams. The mid-term exams focus
on assessing the acquired knowledge and its application. The lectures serving as basis for the assessment are determined by the subject lecturer. 2. Formative assessment: a complex assessment method of the knowledge, ability, attitude, as well as independence and responsibility-type
competency-elements of the subject, the form of which is a group task-solution by processing and analyzing data sets typical of energetics.

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

- **1st summative assessment**: 33
- **2nd summative assessment**: 33
- **Formative assessment (group task)**: 34
- **Total**: 100

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

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Issuing grades

Excellent	96
Very good	88-95
Good	75–87
Satisfactory	63–74
Pass	50–62
Fail	0-49

Retake and late completion

1) Pursuant to the current CoS, each summative assessment can be retaken, repeated or completed late. 2) The summative assessments can be retaken, repeated or completed late for the first time during the late completion period free of charge. In the event of a retake, the new result always overwrites the old one. 3) If the student is unable to obtain a grade other than 'Fail' even with the retake, repeat and late completion possibilities according to point 1), they may make a second attempt to successfully complete the course after paying the fee specified in the regulations. 4) Due to the nature of the formative assessment, it cannot be retaken, repeated or completed late.

Coursework required for the completion of the subject

Participation in contact classes	24
Preparation for contact lessons	14
Preparation for summative assessments	36
Preparation of the formative assessment	16
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

In order to achieve the learning outcomes set out at point 2.2, the subject consists of the following thematic blocks. In the syllabi of the courses announced in each semester, these topics are scheduled according to the calendar and other conditions.

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 tudományos segédmunkatárs / research fellow tamus.eva@gtk.bme.hu

Approval and validity of subject requirements