



# **SUBJECT DATASHEET**

## **Environmental performance evaluation**

### **BMEGT42A404**

# I. SUBJECT DESCRIPTION

## 1. SUBJECT DATA

**Subject name**

Environmental performance evaluation

**ID (subject code)** BMEGT42A404

**Type of subject**

contact unit

**Course types and lessons**

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

**Type of assessment**

mid-term  
grade

**Number of credits**

3

**Subject Coordinator**

| <i>Name</i>     | <i>Position</i> | <i>Contact details</i> |
|-----------------|-----------------|------------------------|
| 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 Environmental Engineering**  
Subject Role: **Compulsory for the specialisation**  
Recommended semester: **5**

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**Direct prerequisites**

|                  |      |
|------------------|------|
| <i>Strong</i>    | None |
| <i>Weak</i>      | None |
| <i>Parallel</i>  | None |
| <i>Exclusion</i> | None |

**Validity of the Subject Description**

Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580439/11/2024 registration number. Valid from: 29.05.2024.

## 2. OBJECTIVES AND LEARNING OUTCOMES

### Objectives

The aim of the course is to introduce environmental performance assessment techniques and methods. The course unit introduces macro level performance assessment methods, and the necessity and aims of the application of such methods, and the practical applicability of methods and their findings in organisational practice.

### Academic results

#### Knowledge

1. Knows the organisational and motivational tools and methods relevant for leadership, and the legal framework defining their professional work.
2. Knows the basics of labour, fire safety, security, IT, legal, economic and management basics related to environmental management systems, their boundaries and requirements.
3. Knows the of the application of such methods, and the practical applicability of methods and their findings in organisational practice.

#### Skills

1. They are competent in applying the generic and specific mathematical, natural science and social science principles, rules, interdependencies and procedures in order to resolve problems arising in the domain of environmental protection.
2. They are competent in the design and operation of environmental management systems.
3. They are competent in the design and operation of integrated systems.

#### Attitude

1. They adopt the professional and ethical system of values required for environmental protection.
2. They strive to plan and execute their duties professionally, autonomously or in a working group.
3. They strive to perform their work with a system-oriented and process-oriented mindset, following a complex approach.

#### Independence and responsibility

1. During their decision-making, they respect workplace health and safety, technical, economic and legal regulations, as well as fundamental engineering ethics.
2. They take an initiator attitude in resolving environmental problems and conflicts, they shall uncover and reveal the shortcomings of applied techniques and technologies, the endemic risks in processes, and shall initiate mitigatory efforts in order to contain and reduce these.
3. They feel responsible for taking greater account of environmental and social aspects.

### Teaching methodology

Lectures, team work

### Materials supporting learning

- Az oktató által rendelkezésre bocsátott előadásanyagok és egyéb tanulástámogató feladatok, erőforrások.
- Lecture slides and other study materials provided by the lecturer.

## II. SUBJECT REQUIREMENTS

### TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

#### General Rules

The learning outcomes stated in point 2.2 are evaluated on the basis of two summative assessments (mid-term exams) and one formative assessment (independent assignment).

#### Performance assessment methods

Detailed description of performance evaluations during the study period: 1. Summative assessment: a complex, written evaluation of the content of the subject in the context of mid-term exam. 2. Independent task: a complex method of evaluating the academic results of knowledge, ability, attitude, responsibility and independence of the subject, which evaluates how the student acquired the knowledge, whether he has the skills and ability to solve the task independently, whether he was able to apply and evaluate knowledge in a creative way. The content of the independent task is determined by the instructor after discussion with the student. The framework and deadline for the assignment is determined by the instructor.

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

- 1st summative assessment: 30
- 2nd summative assessment: 30
- formative assessment (independent assignment): 40
- 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         | 70-84 |
| Satisfactory | 55-69 |
| Pass         | 40-54 |
| Fail         | 0-39  |

#### 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) Pursuant to the current CoS, in the case of formative assessments, if the assignment was submitted on time, it is possible to repeat or retake it before the end of the late completion period, if the original task has already been accepted by the instructor. 5) Formative assessments can be submitted late, subject to payment of the special procedure fee specified in the regulations. The latest date for late submission is the last day of the late completion period.

#### Coursework required for the completion of the subject

|   |    |
|---|----|
| participation in contact lessons        | 28 |
| preparation for contact lessons         | 12 |
| preparation for summative assessments   | 10 |
| preparation of the formative assessment | 40 |
| total                                   | 90 |

#### Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 06.05.2024.

# 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 Industrial metabolism, material flow analysis. Complete economic material balances. Economy and environment: the need for a new approach!
- 2 National accounts versus environmental accounts. Environmental accounts and SNA. Areas of applicability of environmental accounts.
- 3 The System of Integrated Economic and Environmental Accounts (System of Economic and Environmental Accounts, SEEA).
- 4 Eco-controlling as a means of ensuring continuous development and improving corporate environmental performance. Environmental support of corporate controlling and the strategic indicator system (Balance ScoreCard, BSC).
- 5 Methods of evaluating environmental performance, applicability of individual methods.
- 6 The preparatory phase of the performance evaluation: eco-mapping.
- 7 Performance evaluation in the ISO 14001 standard system. Objectives and scope of the audit program. Activities of the audit.
- 8 Managing the implementation of the audit program. Audit program responsibilities, resources and procedures. Implementation of the audit program. Monitoring and review of the audit program.
- 9 The activities of the audit: initiating the audit, conducting the inspection of documents, preparations for the on-site audit activities, conducting the on-site audit activities, preparing the audit report, completing the audit, performing the tasks arising from the audit.
- 10 Preparedness and evaluation of auditors: personal qualities, knowledge and skills, education, work experience, auditor qualification and audit practice, maintaining and developing the level of preparedness.
- 11 Environmental performance assessment process according to ISO 14031. Concept and types of environmental indicators.
- 12 Aspects of the selection and application of environmental indicators. The role and importance of environmental indicators in performance evaluation.
- 13 Case game with problem solving.
- 14 Case game with problem solving. Types and content of environmental reports. The environmental report as a management tool.

### Additional lecturers

Dr. Kósi Kálmán György címzetes egyetemi tanár / honorary professor kosi.kalman@gtk.bme.hu

### Approval and validity of subject requirements