SUBJECT DATASHEET

Environmental Assessment (sectorial sustainability analysis)

BMEGT42A025

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Environmental Assessment (sectorial sustainability analysis)

ID (subject code)	BMEGT42A025

Type of subject
contact unit

Course types and lessons

Type	*Lessons*
Lecture	4
Practice	0
Laboratory	0

Type of assessment
exam grade

Number of credits
5

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Princz-Jakovics Tibor	senior lecturer	princz-jakovics.tibor@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 Engineering Management**
Subject Role: **Compulsory for the specialisation**
Recommended semester: **7**

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: 580439/11/2024 registration number. Valid from: 29.05.2024.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The aim of the course is to acquaint students with the sectoral interpretations of the concept of sustainability and the possibilities of integrating sustainability aspects in the case of individual economic sectors. The theoretical basis is provided by the description of environmental assessment and its alternative methods, as well as the presentation of the sectoral application of environmental assessment methods.

Academic results

Knowledge

1. Knows the theoretical background of environmental assessment, including the concept of total economic value;
2. knows cost-based and declared preference methods and their sectoral application;
3. knows environmental assessment methods based on revealed preferences and their sectoral application;
4. knows corporate CSR practices;
5. knows the sectoral characteristics that determine domestic and EU transport policy and the main strategic ideas for the future development of transport, with particular regard to technological issues;
6. knows the defining indicators of the development of cities and the main strategic directions for the future development of the urban environment, with particular regard to technological issues;
7. knows the environmental-economic-social problems of rural areas and the main strategic concepts of sustainable rural development, with particular regard to technological issues;
8. knows the market characteristics of hydrogen as an alternative energy source, with particular regard to technological issues.

Skills

1. The student is able to collect literature on environmental assessment case studies using cost-based and stated preference methods;
2. to collect literature on environmental assessment case studies that apply methods based on revealed preferences;
3. to identify CSR activities in corporate practice;
4. to explore the sustainability problems of transport policy, infrastructure development or vehicle technology strategic documents;
5. to outline urban development opportunities and explore the sustainability problems of documents defining the future development of cities;
6. The student is capable of identifying rural development problems and exploring the sustainability problems of related strategic documents;
7. and to explore the sustainability problems of the documents defining the energy policy and strategy, including the application possibilities of alternative energy sources;

Attitude

1. The student is open to learn about the application possibilities of environmental assessment methods;
2. to the practical application of sustainability principles;
3. strives to make their decisions by taking technical, economic and social aspects into account;
4. cooperates with the lecturers and fellow students in the expansion of knowledge and joint thinking in solving the problems discussed.

Independence and responsibility

1. During the semester, the student prepares the practical assignment independently,
2. in addition to technical aspects, the student feels responsible for increased consideration of environmental and social aspects during sector-level problem definition.

Teaching methodology

In the framework of the lectures, the sectoral processes, characteristics, environmental evaluation and sustainability analysis methods will be presented in the form of presentations. In addition, students independently prepare their practical assignment, in which they process a chosen sector or environmental evaluation method based on given content elements.

Materials supporting learning

- Dr. Szlávik János (szerk.): Környezetgazdaságtan. 3. fejezet. (Csigéné Nagypál Noémi) Budapesti Mű-szaki és Gazdaságtudományi Egyetem. Typotex Kiadó, Budapest, 2007.
- Marjainé Dr. Szerényi Zsuzsanna (szerk.): A természetvédelemben alkalmazható közgazdasági értékelési módszerek. Környezetvédelmi és Vízügyi Minisztérium, Budapest, 2005.
- Princz-Jakovics Tibor: A fenntarthatóság erősítése a vidéki közlekedési rendszerek fejlesztésében. Doktori értekezés, BME, Budapest, 2008
- Illés Iván: Regionális gazdaságtan - területfejlesztés: 6. fejezet, Vidékfejlesztés (pp. 119-137), Typotex Kiadó, Budapest, 2008
- Kengyel Ákos (szerk.): Az Európai Unió közös politikái: 7. fejezet, Közös Agrárpolitika, írta: Halmai Péter (pp. 247-269), Akadémiai Kiadó, Budapest, 2010
- Ajánlott folyóiratok/recommended journals:
- American Journal of Agricultural Economics
- Ecological Economics
- Journal of Agricultural Resource Economics

- Journal of Economic Perspectives
- Journal of Environmental Economics and Management
- Journal of Environmental Planning and Management

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 (homework assignment).

Performance assessment methods

A. Detailed description of performance evaluations during the study period: 1. Summative assessment: a complex, written evaluation of the knowledge and ability-type competence elements of the subject in the form of a mid-term exam. In order to successfully write the mid-term exam, it is necessary to use the acquired knowledge to correctly interpret the concepts and to know the areas of application
of environmental assessment and sustainability analysis methods. The parts of the curriculum on which the evaluation is based, represent
the topics covered in the lectures before the mid-term exam. 2. Formative assessment (homework assignment): a complex evaluation method
of the subject's knowledge, ability, attitude, and independence and responsibility competence elements, which takes the form of individually
prepared homework assignment. Homework requirements: Preparation of an approx. 12-15-page sustainability analysis (according to the
departmental template, with the help of consultations) in relation to one of the topics presented during the course. OR Environmental assessment case study for a selected sector: Analytical presentation of an environmental assessment method, based on case studies (at least 2 international examples). B. Performance evaluation during the exam period: Written exam: the written exam focuses on the complex sectoral application of the concepts learned during the semester, the problems revealed, and the analytical methods presented. The
grade given for the subject is determined on the basis of performance in the mid-semester assessments and the written exam.

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

- **1st summative assessment**: 15
- **2nd summative assessment**: 20
- **Formative assessment (homework)**: 15
- **total**: 50

Percentage of exam elements within the rating

- **written exam (in the exam period)**: 50
- **total**: 50

Conditions for obtaining a signature, validity of the signature

The condition for obtaining the signature is that the student achieves at least 50% of the score that can be obtained during the study period. The signature is valid according to the provisions of the CoS.

Issuing grades

Excellent	91
Very good	85–90
Good	72–84
Satisfactory	65–71
Pass	50–64
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 more favourable result will be taken into account. 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 a formative assessment, 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) The formative assessment 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. 6) Retake, repeat and late completion of exams is possible according to paragraphs 121 and 123 of the CoS.

Coursework required for the completion of the subject

Attenting contact lessons	56
Preparation for summative assessments	30
Preparation of formative assessment	40
Autonomous learing	10

Preparation for written exam	14
total	150

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 The theoretical background of environmental assessment, the concept of total economic value
2 Cost-based and declared preference methods and their sectoral application
3 Environmental assessment methods based on revealed preferences and their sectoral application
4 CSR in corporate practice
5 Domestic and EU transport policy
6 Sustainable urban planning, indicators
7 Sustainability case studies in settlement development
8 Sustainable rural development
9 Alternative vehicle technologies
10 Hydrogen as an alternative energy source

Additional lecturers

Csigéné Dr. Nagypál Noémi	egyetemi adjunktus / senior lecturer	csigene.noemi@gtk.bme.hu
Dr. Szabó Mariann	egyetemi adjunktus / senior lecturer	szabo.mariann@gtk.bme.hu

Approval and validity of subject requirements