



SUBJECT DATASHEET

Environmental Evaluation and Risk Management

BMEGT42A022

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name

Environmental Evaluation and Risk Management

ID (subject code)

BMEGT42A022

Type of subject

contact unit

Course types and lessons

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

Type of assessment

exam grade

Number of credits

3

Subject Coordinator

<i>Name</i>	<i>Position</i>	<i>Contact details</i>
Csigéné Dr. Nagypál Noémi	senior lecturer	csigene.noemi@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, angol - EN

Curricular role of the subject, recommended number of terms

Programme: **BSc in Environmental Engineering**

Subject Role: **Compulsory for the specialisation**

Recommended semester: **6**

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 provide knowledge to students about the theoretical background, methods as well as Hungarian and international experiences of environmental valuation and the theoretical background, main fields and measures of environmental risk management.

Academic results

Knowledge

1. Knows the concept of Total Economic Value, the methods that are able to calculate it.
2. Knows the concept of weak and strong sustainability and their relationship with monetary environmental valuation.

Skills

1. Is able to use the technical terms of environmental valuation correctly in Hungarian and English language.
2. to realise the necessity of a multidisciplinary approach in environmental valuation and risk management and able to apply it as a routine.
3. to realise the economic and social context of environmental risk, its embeddedness.
4. Has the necessary background knowledge in the field of environmental valuation for expert work and decision-making.

Attitude

1. Knowing the necessity of a multidisciplinary approach of environmental valuation and risk management, is open to cooperate with economic experts.
2. Knowing the continuous development of environmental valuation tries to follow the changes.
3. Knowing the most important elements of critics of environmental valuation methods and the limitations, is open to criticism.

Independence and responsibility

1. Knowing the social context of environmental risk management, takes responsibility for his expert decisions.
2. Knowing the involvement of other sciences in case of environmental valuation and risk management, is able to cooperate with economic and legal professionals.

Teaching methodology

Presentations about the theoretical curriculum, case studies to demonstrate the application of methods.

Materials supporting learning

- 1. Dr. Szlávik János (szerk.): Környezetgazdaságtan. 3. fejezet. (Csigéné Nagypál Noémi) Budapesti Műszaki és Gazdaságtudományi Egyetem. Typotex Kiadó, Budapest, 2007.
- 2. Marjainé Dr. Szerényi Zsuzsanna (szerk.): A természetvédelemben alkalmazható közgazdasági értékelési módszerek. Környezetvédelmi és Vízügyi Minisztérium, Budapest, 2005.
- 3. Guidelines for Environmental Risk Assessment and Management. Green Leaves III
- <https://www.gov.uk/government/publications/guidelines-for-environmental-risk-assessment-and-management-green-leaves-iii>
- Ajánlott folyóiratok/recommended journals:
- a. Ecological Economics
- b. Land Economics
- c. Journal of Agricultural and Resource Economics
- d. Journal of Environmental Economics and Management
- e. Journal of Environmental Planning and Management

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The evaluation of the learning outcomes stated in point 2.2 is based on summative assessments (two mid-term exams) during the study period and on a written exam during the exam period.

Performance assessment methods

A. Detailed description of performance evaluations during the study period: Summative assessment: a complex, written evaluation method of the subject's knowledge and ability-type competency elements in the form of a mid-term exam. The part of the curriculum that forms the basis of the evaluation represents the topics covered in the lectures before the mid-term exam. In the case of an overall "Excellent", "Very good" or "Good" acquired result from the summative assessments, a proposed grade can be obtained. B. Detailed description of performance evaluations during the exam period: Written exam: if the student does not obtain a proposed grade or does not accept it, they can take a written exam during the exam period.

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

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

Percentage of exam elements within the rating

- Written exam: 100

Conditions for obtaining a signature, validity of the signature

The condition for obtaining the signature is obtaining at least a "Pass" rating based on the two summative assessments. The signature is valid according to the provisions of the CoS.

Issuing grades

Excellent	92
Very good	85–91
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 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) 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

participation in contact lessons	28
preparation for performance assessment	30
preparation for exam	32
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 Evaluation and monetary valuation methods. Environmental impact assessment and its limitations. Ecological footprint calculation
- 2 Advantages and areas of application of monetary valuation. WTP and WTA. Ecosystem services. Criticism of evaluation
- 3 Weak and strong sustainability and environmental assessment. Ex ante and ex post evaluation. The total economic value. Why special methods are needed
- 4 The social discount rate. Cost-benefit and cost-effectiveness analysis. Project evaluation.
- 5 Cost-based methods 1. Cost-based methods 2. Case studies
- 6 The declared preference methods 1. The travel cost method
- 7 The declared preference methods 2. The hedonic price method, the hedonic wage method
- 8 Cost-benefit analysis and externalities in the transport sector
- 9 The revealed preference methods 1. Preparation of a questionnaire, steps of conditional evaluation
- 10 Revealed preference methods 2. Case studies
- 11 Relationship between environmental assessment and risk management. Concept and types of risk

Additional lecturers

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Approval and validity of subject requirements