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

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
exam grade

Number of credits
3

Subject Coordinator

Name	*Position*	*Contact details*
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/course/view.php?id=359

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**

Programme: **Elective subjects**
Subject Role: **Elective**
Recommended semester: **0**

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 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. 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 demonstrte the application of methods. Student presentation (optional) about a valuation or risk management case.

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 Assessmentand 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 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 assessment of the learning outcomes formulated in point 2.2. is based on 2 mid-term written performance measurements, (or one mid-term + a student presentation) or a written exam.

Performance assessment methods

1. summative performance assessment: a complex, written way of evaluating the competence-type competence elements of the subject and
knowledge in the form of mid-term exams. The part of the learning materials on which the evaluation is based refers to the topics covered
in the previous lectures, the available working time is 45 minutes.

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**: 100

Conditions for obtaining a signature, validity of the signature

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Issuing grades

Excellent	91
Very good	85–90
Good	76–84
Satisfactory	63–75
Pass	50–62
Fail	0-49

Retake and late completion

The summative performance assessments can be retaken or corrected individually free of charge during the repeat period. In case of correction, the more favourable result for the student is taken into account.

Coursework required for the completion of the subject

participation in contact lessons	28
homework preparation	0
preparation for performance assessment	30
preparation for exam	32
total	90

Approval and validity of subject requirements

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

In order to achieve the learning outcomes set out in 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 features.

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

Dr. Princz-Jakovics Tibor egyetemi adjunktus / senior lecturer princz-jakovics.tibor@gtk.bme.hu

Approval and validity of subject requirements