# SUBJECT DATASHEET

## Environmental Valuation and Risk Analysis

## BMEGT42M417

# I. SUBJECT DESCRIPTION

## 1. SUBJECT DATA

**Subject name**
Environmental Valuation and Risk Analysis

| **ID (subject code)** | BMEGT42M417 |
|---|---|

**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**
http://kornygazd.bme.hu/oktatas/

**Language of the subject**
magyar - HU

**Curricular role of the subject, recommended number of terms**
Programme: **Regional and Environmental Economic Studies part-time programme, autumn start**
Subject Role: **Elective**
Recommended semester: **0**

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Programme: **Regional and Environmental Economic Studies part-time programme, spring start**
Subject Role: **Elective**
Recommended semester: **0**

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Programme: **MSc in Environmental Engineering**
Subject Role: **Compulsory for the specialisation**
Recommended semester: **4**

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**Direct prerequisites**

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|---|---|
| ***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: 580884/8/2023 registration number. Valid from: 29.11.2023.

# 2. OBJECTIVES AND LEARNING OUTCOMES

**Objectives**

The course aims to provide knowledge about theoretical background and special methods of monetary and alternative valuation of the environment. Introduce the valuation of natural capital and ecosystem services, presenting Hungarian and international experiences. Introduce the stakeholders, areas and methods of environmental risk assessment.

**Academic results**

Knowledge

1. The student has an overview of the role of monetary environmental assessment and its possible areas of use.
2. Knows the individual environmental assessment methods, their theoretical background and the conditions and methods of their application.
3. Knows the social science aspects of environmental risk management.

Skills

1. The student is able to recognize the necessity and possibility of applying environmental assessment methods.
2. The student is able to participate in complex risk management tasks in cooperation with other experts.

Attitude

1. The student is aware that monetary environmental assessment and environmental risk management require an interdisciplinary approach and also involve ethical issues.
2. Strives to do his work based on a system-oriented and process-oriented way of thinking, in a complex approach.
3. Uses a systematic approach in their thinking.

Independence and responsibility

1. Recognizes the economic-social connections and embeddedness of environmental risks, makes appropriate and responsible professional decisions.
2. Is aware of the continuous development of environmental assessment methods, and strives to monitor the changes.

**Teaching methodology**

Lectures, written and oral communication, use of IT tools and techniques.

**Materials supporting learning**

- Marjainé Szerényi Zsuzsanna (szerk.): A természetvédelemben alkalmazható közgazdasági értékelési módszerek. Letölthető: http://www.termeszetvedelem.hu/_user/downloads/publikaciok/Marjaine-Termeszetvedelmi%20kozgazd%20modszerek.pdf
- https://www.ecosystemvaluation.org/
- Defra, Granfield University: Guidelines for Environmental Risk Assessment and Management, letölthető: http://www.defra.gov.uk/publications/2011/11/07/green-leaves-iii-pb13670

# II. SUBJECT REQUIREMENTS

## TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

**General Rules**

The learning outcomes stated in point 2.2. are evaluated based on the performance shown in the written summative performance evalu

**Performance assessment methods**

Performance evaluation during the study period: two mid-term exams and a presentation. Performance evaluations during the exam period:
exam in case of the student rejecting the offered grade.

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

- **summative assessment - 1st mid-term exam**: 33
- **summative assessment - 2nd mid-term exam**: 33
- **Presentation**: 34
- **Total**: 100

**Percentage of exam elements within the rating**

- **Presentation**: 34
- **Exam**: 66
- **total**: 100

**Conditions for obtaining a signature, validity of the signature**

The condition for obtaining the signature is the completion of the two summative assessments with at least a "Pass" rating. 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 correction,
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.

**Coursework required for the completion of the subject**

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|---|---|
| participation in contact lessons | 28 |
| preparation for presentation | 29 |
| preparation for summative assessments, exam | 33 |
| total | 90 |

**Approval and validity of subject requirements**

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 06.11.2023.

# 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. Evaluation methods, shortcomings of traditional methods. Advantages and criticism of monetary evaluation, areas of use.

2 Natural capital and ecosystem services, assessment at the global level.

3 Reasons for a special approach to evaluation, free goods, externalities, social discount rate.

4 WTP and WTA. Comparison of cost-benefit analysis and cost-effectiveness analysis.

5 Grouping of environmental assessment methods, cost-based methods.

6 Expressed preference methods, the travel cost method.

7 The hedonic price method and the hedonic wage method. Advantages and limitations of declared preference methods.

8 Revealed preference methods. The steps of creating a questionnaire. Experiences and case studies of directly revealed preference methods and their application.

9 Indirectly revealed preference methods. Transfer of benefits, citizen's council.

10 Similarities of environmental assessment and risk management, types of risk.

11 Environmental risk management approaches and corporate application.

**Additional lecturers**

**Approval and validity of subject requirements**