# SUBJECT DATASHEET

## Environmental Economics

## BMEGT42M520

# I. SUBJECT DESCRIPTION

## 1. SUBJECT DATA

**Subject name**
Environmental Economics

| **ID (subject code)** | BMEGT42M520 |
|---|---|

**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**
5

**Subject Coordinator**

| *Name* | *Position* | *Contact details* |
|---|---|---|
| Dr. Horváth György Ádám | Senior Lecturer | horvath.gyorgy@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: **Regional and Environmental Economic Studies part-time programme, autumn start**
Subject Role: **Compulsory**
Recommended semester: **1**

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Programme: **Regional and Environmental Economic Studies part-time programme, spring start**
Subject Role: **Compulsory**
Recommended semester: **2**

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

# 2. OBJECTIVES AND LEARNING OUTCOMES

**Objectives**

The course unit aims to augment and deepen the students' previously acquired knowledge in micro- and macroeconomics in a more complex manner, such that the objectives of environmental protection and the vision of sustainable development may be exercised as a skill. Having completed this course unit, students will be able to make more balanced, fair, equitable, and socially and environmentally desirable decisions, but also to assess and evaluate decisions taken by others.

**Academic results**

Knowledge

1. The student has knowledge of the basic, comprehensive concepts, theories, facts, national economic and international connections of environmental economics;
2. mastered the basic information collection and analysis methods of environmental economics, knows its characteristic indicators;
3. knows the basics of the environmental protection fields related to his field of expertise;
4. knows the most significant normative theories of environmental policy intervention: the Pigou theorem and the Coase tradition;
5. knows the types of environmental policy intervention solutions, their advantages and disadvantages. Knows the criteria according to which the appropriate intervention tool can be selected for a given environmental problem;
6. knows the possibilities of government failures in the planning of environmental policy interventions;
7. knows the more frequently used environmental economic analysis methods: natural capital and ecosystem service evaluation procedures, cost-benefit analysis solutions.

Skills

1. By applying the learned theories and methods, the student is able to evaluate the social welfare and economic consequences of any environmental use problem, to determine the necessary range of facts and data necessary for the evaluation;
2. after evaluating the characteristics of a given, arbitrary environmental use problem, is able to determine possible alternatives for environmental policy interventions suitable for solving the problem, after comparative analysis and evaluation of these alternatives, is able to independently propose the appropriate corporate response or public policy intervention;
3. follows and interprets world economic, international, EU and national economic policy and policy processes, and is able to interpret the effects of changes on the future state of natural resources based on these;
4. able to determine the complex consequences of economic processes and organizational events;
5. can apply techniques for solving environmental problems, problem solving methods, taking into account their application conditions and limitations;
6. able to cooperate with representatives of other fields;
7. is able to formulate specialist, scientific, business and public policy information in a comprehensible way, making it understandable to the wider public.

Attitude

1. For the sake of quality work, the student demonstrates problem-sensitive, proactive behavior and takes the initiative;
2. receptive to receiving new information, new professional knowledge and methodologies, open to new tasks and responsibilities that require cooperation and independence. Strives to improve your knowledge and working relationships;
3. is open to changes in the broader economic and social environment of the given job, work organization, enterprise, strives to follow and understand the changes;
4. receptive to the opinions of others, to sectoral, regional, national and European values (including social, social and ecological, sustainability aspects).

Independence and responsibility

1. The student assumes responsibility for his analyses, conclusions and decisions;
2. assumes responsibility for compliance with professional, legal and ethical standards and rules related to work and conduct.

**Teaching methodology**

Lectures, problem discussions and case studies. Oral and written communication, use of IT, optional individual and group assignments and planning.

**Materials supporting learning**

- Bartus Gábor - Szalai Ákos: Környezet, jog, gazdaságtan. Budapest: Pázmány Press, 2014.
- Szlávik János (szerk.): Fenntartható környezet- és erőforrás-gazdálkodás. Környezetvédelmi kiskönyvtár 14. Complex kiadó, Budapest, 2005.
- Tietenberg, Tom – Lewis, Lynne: Environmental & Natural Resource Economics. 10th Edition. Pearson, 2014
- Phaneuf, D. J. – Requate, T.: A course in environmental economics. Theory, Policy and Practice. Cambridge University Press, 2017.
- Folyóiratcikkek és további, folyamatosan kiadott oktatástámogató anyagok
- A detailed and up-to-date list is provided during classes.

# II. SUBJECT REQUIREMENTS

## TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

**General Rules**

The two pillars of the evaluation of learning outcomes set out in point 2.2. are: 1. a formative assessment showing analysis and planning skills (preparation of a work plan); 2. as well as a summative assessment of the competencies acquired during the semester (handing in an exam paper).

**Performance assessment methods**

A. Detailed description of performance evaluations during the study period: Formative assessment (preparation of a work plan): preparation
of the work plan related to the exam paper. B. Detailed description of the performance evaluations carried out during the exam period: A complex, written evaluation of the knowledge and ability-type competency elements of the subject in the form of an exam paper. The exam paper focuses on the assessment of the acquired basic knowledge and the exploration of the knowledge of the determining relations.
The material on which the evaluation is based on is determined by the lecturer of the subject.

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

- **formative assessment (preparation of the work plan)**: 10
- **total**: 10

**Percentage of exam elements within the rating**

- **written exam**: 90
- **total**: 90

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

Condition for receiving a signature: preparation and approval of the course lecturer regarding the work plan of the exam paper.

**Issuing grades**

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|---|---|
| Excellent | 95 |
| Very good | 87–94 |
| Good | 75–86 |
| Satisfactory | 63–74 |
| Pass | 50–62 |
| Fail | 0-49 |

**Retake and late completion**

1) 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. 2) Formative assessments can be submitted late. The latest date for late submission is the last day of the late completion period. 3) 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**

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|---|---|
| participating in contact lessons | 24 |
| preparation for contact lessons | 12 |
| preparation of the work plan | 40 |
| autonomous learning | 30 |
| preparation of the exam paper | 44 |
| 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**

Subject includes the topics detailed in the course syllabus to ensure learning outcomes listed under 2.2. to be achieved. The schedule of topics in the course curriculum in each semester may be affected by the calendar and other constraints.

1 The subject and methods of environmental economics.

2 Types of natural resources, the concept of natural capital, its entire economic value concept. ecosystem services. Economics of extraction and use of natural resources (introduction).

3 Interactions between the economy and the environment. The pollution chain model, the development of environmental damage.

4 Macroeconomic problems and answers I. Growth, development and environmental protection. The limit of production possibilities and sustainability. Strong and weak sustainability. Theories on the relationship between growth and environmental quality. The environmental Kuznets hypothesis. The political concept of sustainable development - its difference from sustainability as an economic concept.

5 Macroeconomic problems and answers II. Problems of measuring economic and environmental performance. Environmental aspects of accounting for national economic performance. Sustainability indicators, new types of indicators (from NEW to ecological footprint).

6 Microeconomic problems I. external economic impact.

7 Microeconomic problems II. public goods, transaction costs, discounting.

8 Answers to microeconomic problems: Pigou's theorem and the Coase tradition. The optimal level of environmental pollution.

9 Basic principles and types of environmental policy interventions (environmental regulation).

10 Environmental regulation based on the Coase theorem. Allocation of ownership rights and liability rules. Examining the practical application of the item.

11 Environmental regulation based on Pigou's theorem. Direct regulations and economic incentives.

12 Choice between control devices, advantages and disadvantages of each control device. Government failures of regulation. Effects of uncertainty. Corporate innovation in a different regulatory environment.

**Additional lecturers**

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**Approval and validity of subject requirements**