SUBJECT DATASHEET

Environmental Economics

BMEGT42A402

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Environmental Economics

ID (subject code)	BMEGT42A402

Type of subject
contact unit

Course types and lessons

Type	*Lessons*
Lecture	3
Practice	0
Laboratory	0

Type of assessment
mid-term grade

Number of credits
4

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 Environmental Engineering**
Subject Role: **Compulsory**
Recommended semester: **3**

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 environmental engineering students with the theory, methodology and some examples of practical application of environmental economics.

Academic results

Knowledge

1. The student has knowledge of the basic concepts, theories, national economy and international contexts of environmental economics;
2. the typical sustainability and macro-level environmental indicators;
3. the possibilities and main principles of environmental regulation related to their special field of interest.

Skills

1. The student is able to explore and analyze the facts and basic relations concerning the interactions of economic and environmental systems using the learned theories and methods, to formulate independent conclusions and critical remarks,
2. to follow and interpret international economic processes, as well as changes in the relevant, related policies and legislation of the environmental field, and their effects. These are taken into account in their analyzes, proposals and decisions.
3. to apply the techniques of solving environmental and economic problems, the problem solving methods, their application conditions and limitations.
4. The student is able to work with other disciplines.

Attitude

1. The student is receptive to receiving new information, new professional knowledge and methodologies, and is open to taking on new tasks and responsibilities that require cooperation and independence. The student strives to improve their knowledge and working relationships.
2. The student accepts the opinions of others, as well as sectoral, national and European values (including social, ecological and sustainability aspects).

Independence and responsibility

1. Assumes responsibility for compliance with professional, legal, ethical standards and rules related to work and conduct.
2. The student is able to independently search and pre-process literature sources necessary to answer environmental questions related to their work.

Teaching methodology

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

Materials supporting learning

- Bartus Gábor – Szalai Ákos: Környezet, jog, gazdaságtan, Pázmány Press, Budapest, 2014 (https://jak.ppke.hu/uploads/collection/205/file/Bartus-Szalai_Kornyezet_Jog_Gazdasagtan_2014_final.pdf)

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 a formative assessment (homework assignment).

Performance assessment methods

1. Summative assessments: a complex, written evaluation of the subject's knowledge and ability-type competence elements in the form of a mid-term exam. In order to successfully write the mid-term exams, it is necessary to use the acquired knowledge to correctly interpret the concepts of environmental economics and to know the application areas of environmental regulation. The part of the curriculum
that is the basis of the evaluation represents the topics covered in the lectures before the mid-term exam, the available working time is 45 minutes. A maximum of 35 points can be obtained with the mid-term exams. 2. Formative assessments: a complex method of evaluating
the competence elements of subject knowledge, ability, attitude, and independence and responsibility, which takes the form of a group homework assignment on a selected topic of environmental economics. The homework takes the form of an approx. 10-15 pages per person
essay. The homework can also be done in the form of a presentation, in which case the completed work will be showcased as a presentation.
A maximum of 30 points can be obtained for the essay or presentation.

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

- **1st summative assessment**: 35
- **2nd summative assessment**: 35
- **formative assessment**: 30
- **total**: 100

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

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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 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. 4) 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. 5) Formative assessments 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.

Coursework required for the completion of the subject

participation in contact lessons	42
preparation of the formative assessment	40
preparation for contact lessons	12
preapration for summative assessments	26
total	120

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 Introduction: subject, tematics, information

2 The subject and methods of environmental economics. Basic environmental concepts. Ecological services. Interactions between the economy and the environment. Development of the environmental crisis, globalization, global problems. International reactions to the environmental crisis.

3 Growth, development and environmental protection.

4 The environmental Kuznets curve. The pollution chain model, the development of environmental damage.

5 The limit of production possibilities and sustainability. Strong and weak sustainability. Basic principles, strategies and levels of sustainable development. Components of the sustainability transition.

6 Problems of measuring economic and environmental performance. Environmental aspects of accounting for national economic performance. Sustainability indicators, new types of indicators.

7 External economic impact, public goods, transaction costs, discounting.

8 The theorems of Pigou and Coase. The optimal level of environmental pollution.

9 Basic principles and types of environmental policy interventions (environmental regulation). Environmental regulation based on the Coase theorem. Allocation of ownership rights and liability rules. Examining the practical application of the item.

10 Environmental regulation based on Pigou's theorem: principles and types of direct regulations. Market for pollution rights.

11 Environmental regulation based on Pigou's theorem: principles and types of economic incentives. 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.

12 Economics of extraction and use of natural resources - introduction.

Additional lecturers

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

Approval and validity of subject requirements