SUBJECT DATASHEET

Circular Economy

BMEGT42BX4U001-00

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Circular Economy

ID (subject code)	BMEGT42BX4U001-00

Type of subject
contact unit

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
mid-term grade

Number of credits
3

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Bartus Gábor	assistant professor	bartus.gabor@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

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: 580501/3/2025 registration number. Valid from: 2025.07.10.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The aim of the course is to acquaint students with the characteristics and environmental effects of socio-economic material use (material throughput) and land use change, the idea and measures of the circular economy, as well as the environmental economics of waste management and related environmental policies, especially in the European Union and in Hungary. During the course, we will also provide an overview of the possibilities of corporate management practices for circular economy.

Academic results

Knowledge

1. The student has theoretical knowledge of the parts of macroeconomics concerning the factors of production and knowledge of their practical applicability;
2. knows the different interpretive concepts and theories of sustainable development;
3. knows the macro-level horizontal instruments of sustainable development policies, SD strategies and programs;
4. knows the relevant indicators, typical methods of evaluation;
5. knows the main features of the practice of the sustainable development management.

Skills

1. The student is able to use the learned theories and methods, explores, systematizes and analyses facts and basic connections, formulates independent conclusions and critical remarks, makes decision-making proposals, and makes decisions in routine and partly unknown - domestic and international – environments;
2. interprets the possible consequences of the decisions in their engineering or managerial profession and activity, and is able to follow and evaluate the changes and their effects of global trends of world economy and national policies;
3. is able to calculate and analyse the complex consequences of economic and institutional processes;
4. can apply relevant problem solving techniques and methods, while taking into account their application conditions and limitations;
5. is able to collaborate with people coming from different disciplines.

Attitude

1. The student is, in order to perform quality work, problem-sensitive and proactive;
2. they are receptive to new information, new professional knowledge and methodologies, open to new, independent and collaborative tasks and responsibilities;
3. strives to improve their knowledge and working relationships;
4. is open to challenges in the broader economic and social environment of the given position, work organization, enterprise, strives to follow and understand the changes;
5. has inclusive views on sectoral, regional, national and European values (including social, societal and ecological, sustainability aspects).

Independence and responsibility

1. The student is responsible for their analysis, conclusions and decisions;
2. is responsible for complying with professional, legal, ethical standards and rules related to their work and conduct.

Teaching methodology

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

Materials supporting learning

- A kurzus alapvető tananyaga egy több cikkből és tanulmányból álló válogatás, amit az új eredmények megjelenésével folyamatosan frissítünk. Az anyagok elektronikusan minden hallgató számára elérhetők, letölthetők.
- The core curriculum of the course is a selection of several articles and research papers, which are constantly updated as new results appear. The materials are available and downloadable for all students.

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The assessment of the learning outcomes stated in point 2.2. is based on two summative assessments (mid-term exams). The summative assessments consist of questions derived from the lecture slides and the content of required readings to be processed autonomously.

Performance assessment methods

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 mid-term exams measure the proper
use of concepts, the correct knowledge of basic theorems and relationships, and the ability to apply basic theorems. The mid-term exams
also measure the understanding and content of required readings assigned to be processed autonomously. The course material on which the evaluation is based is determined by the lecturer of the subject.

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

- **1st summative assessment**: 50
- **2nd summative assessment**: 50
- **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	94
Very good	88-93
Good	76-87
Satisfactory	63-75
Pass	50-62
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.

Coursework required for the completion of the subject

Paritcipation	28
Preparation for contact lessons	13
Preparation for summative assessments	19
Readings	30
Total	90

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 07.07.2024.

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: problems, issues and methods of investigation of the circular economy – Place of the “Circular Economy” course and its connections to other subjects on environmental economics and sustainable development taught at the faculty.

2 Natural resources, the state of the environment – Anthropogenic causes of overuse of natural resources – Characteristics of social material flow and anthropogenic land use.

3 The normative idea of the circular economy – Solutions to the problems of social material flow (horizontal overview).

4 Sustainable consumption – Service-based and sharing economy.

5 The concept and tools of integrated waste management (IWM).

6 Economic problems of the circular economy: the price of land use and material use. Institutional incentives for the transition to a circular economy.

7 Possible forms of environmental policy interventions supporting the circular economy (theory of regulation).

8 Regulatory Practice (1): European Union policies and legislation in the field of circular economy and waste management.

9 Regulatory Practice (2): Hungary. Some interesting aspects of regulatory practice on the example of domestic municipal solid waste.

10 Corporate good practices of the circular economy.

Additional lecturers

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Approval and validity of subject requirements