



INTRODUCTION TO CIRCULAR ECONOMY

General data

Course code:	
ECTS credits:	3
Semester:	fall
Course restrictions:	-
Course leader (with availabilities):	Péter Merza, Dr. merza.peter@tkk.pte.hu +36 72 501 599/ 23114
Further lecturer(s) (with availabilities):	

1. Description and aims

This module aims:

- to improve knowledge about the differences between linear and circular economies and eco-systems, to develop the skills related to circular business model development, to develop sustainability based decision-making,
- to give information and knowledge about the 'European Green Deal', its importance and implication in today's business processes,
- to improve knowledge about the European Union's green-, environment-, climate-, waste-, energy- and transportation policies,
- to raise the awareness of the importance of sustainable development, to raise conscious decision-making in business planning and implementation based on environmental and sustainability principles.

2. Course Intended Learning Outcomes (CILOs)

Upon successful completion of this module, the student will be able to:

1. understand the importance and classify the main elements of circular and linear economy and business ethics related to environment protection, i.e. theoretical and conceptual knowledge increase (*PILO1*),
2. understand and know the principles and trends of the European Green Deal, namely the European Union's environmental-, climate-, waste-, energy-, transportation policy and their effects on macro and micro level economic and business planning (*PILO1*),
3. learn and apply the general principles for sustainable development planning and business development (*PILO2*),



4. compare and contrast the differences and similarities of the traditional linear and the circular business planning mainly the context of the European Union (*PILO2, PILO3*),
5. understand why circular planning, sustainability, climate-neutral economy and zero-waste economic philosophies have become the core principles of ethical macro level economic and corporate level business planning (*PILO8*),
(*The remarks in brackets express each CIO's connection to the Program Intended Learning Outcomes (PILOs).*)

3. Content, schedule

The discussion of topics is divided into the following twelve (12) chapters:

- 1) Circular Economy and the 4th Industrial Revolution
- 2) The evolution of the European Union's environmental and green policy
- 3) Environmental Action Programmes 1 to 7
- 4) The 8th Environmental Action Programme
- 5) The origins of the European Green Deal
- 6) Introduction of the European Green Deal
- 7) The Cohesion Policy of the European Union from the perspective of the cleantech sector
- 8) The European Energy Policy
- 9) The European Transportation Policy
- 10) The European Green Deal: Recycling and the reduction of wastes in Europe
- 11) Financial subsidies for cleantech projects in the European union member states
- 12) International and Innovative cleantech projects: The Interreg Programme and the Horizon Europe Programme

4. Learning and teaching strategy, methodology

The teaching methods include lectures, cases and analysis of circular economy projects. A group assignment is planned, in which the student in groups of four are asked to develop a project reflecting the philosophy of circular economy to any selected topic.

5. Assessment

Teaching methods include classroom presentation, discussion and simulation. High emphasis is placed on participation in common thinking-discussion considering the comparison of linear / circular process planning and business model development, in which feedback by both the teacher and the groupmates are given.

Summative assessment elements:

Name of the element	Weight	Type	Details	Retake opportunity	Req.*	Related CIOs
Final exam	50%	exam	A written exam based on the presentations and literature provided during the course	one retake opportunity	yes	1, 2, 3, 4, 5
Course Work, project development	50%		See below in details:		yes	3,4,5



and presentation						
group work / project development	30%	Elaboration and presentation of a circular economy philosophy based project	Every group has to develop and present a project at the end of the semester.	date of presentation cannot be rescheduled, but one retake opportunity is provided for half points		
class room activity	20%	participation in classroom activity, in the flow of the course	development of common knowledge and skills in classroom discussions			

* Req.: Completion of the element is required to pass the course, irrespective of the performance in other elements.

6. Learning materials

Required reading material:

- *Circular Economy Action Plan: for a Cleaner and More Competitive Europe (2020)* 28 p. European Commission, DG Communication, ISBN: 978-92-76-19070-7
- Presentations of the lectures.

Optional reading materials:

- *National Energy and Climate Plans for 2021-2030 under the EU Energy Union (2020)* 124p. Joint Research Centre of the EU. European Commission. ISBN 978-92-76-27013-3

Additional information:

- Control questions are provided regarding the core information of each topic.

7. Information about the use of artificial intelligence (AI)

This course is classified as course of the position outlined in point 5.1 of the faculty guidelines regarding the use of artificial intelligence. **Accordingly, the use of AI tools is not permitted when completing assignments.** This means that generative AI tools cannot be used for creating or solving formative or summative assessment components, and the use of generative AI constitutes a breach of academic integrity. The use of AI tools for language and spelling correction does not fall under the complete ban outlined in the 1st position.

8. Further information

International aspects embedded with the course
➤ The course follows the international best-practices of circular economy philosophies and circular economy/business development.



- In addition to the focus of analyzing circular economy in the framework of the European Green Deal, the course provides Asian and US examples of circular economy policies and project sas well.

Ethics, Responsibility & Sustainability (ERS) aspects embedded with the course

- The whole course is built on the environmental-social-economic ERS philosophy and policy of the 2020's, therefore ERS is the fundamental principle of the course.

Connections to the world of practice of the course

- In the framework of the course the actual EU policies and practices are introduced as well as existitng projects and initiatives with circular economy relevance. Students are expected to learn the basics of generating projects on circular economy principles.