



Scenario of the Module no 1

1.	Title of the module	INTRODUCTION TO SUSTAINABILITY AND CIRCULAR BIOECONOMY CONCEPTS
2.	General aim	The aim of the course is to embed the concept and phenomenon of the bioeconomy in the field of sustainable development goals and to present the bioeconomy as one of the instruments for achieving these goals. The module introduces the definition and basic principles of the bioeconomy.
3.	Goals	
	Student knows	<ul style="list-style-type: none"> • what sustainable development and Sustainable Development Goals are and how they manifest themselves in the environmental, social and economic areas. • the concepts of sustainable development, circular economy and bioeconomy and the relationships between them
	Student is able	<ul style="list-style-type: none"> • to state the value of the Sustainable Development Goals • to explain the importance of the Sustainable Development Goals • to determine the value of bio-based products in the context of the biomass value pyramid and the principle of the cascade
	Student understands	<ul style="list-style-type: none"> • how to participate in substantive discussions on sustainable development and the principles of the bioeconomy • how to collaborate with a random team
4.	Methods and forms of work	<ol style="list-style-type: none"> 1. Flipped classroom 2. Gamefication: Quiz Card game Kahoot 3. Discussion Mentimeter 4. Co-creation process 5. Lecture based on presentation
5.	Teaching aids	<ol style="list-style-type: none"> 1. https://www.un.org/sustainabledevelopment/sustainable-development-goals/ 2. https://www.youtube.com/watch?v=zF361a019zA 3. https://www.theguardian.com/global-development/ng-interactive/2020/jan/15/environment-inequality-hunger-which-global-problems-would-you-fix-first 4. https://www.ellenmacarthurfoundation.org/articles/the-biological-cycle-of-the-butterfly-diagram 5. https://materialdistrict.com/
6.	Classes schedule:	<ol style="list-style-type: none"> 1. Beginning of classes and presentation of the course and the teaching team: 10 minutes 2. Ice-breaker for students: pair presentation based on the scheme: 'Two Trues and One Lie': 20 minutes



3. Flipped Classroom: Before classes, students read materials about the SDGs (teaching aids 1 and 2) and taking a part in a Kahoot quiz based on the last update of the SDGs report or a card game for 2 players based on the same questions (attachment 1): **15 minutes**
4. Discussion about priorities of sustainable development: **15 minutes** - Students start by sorting out their priorities and justifying their importance (attachment 2, based on: teaching aid 3).
5. Verification of the level of implementation of individual SDGs based on the current SDG report for individual countries (teaching aid 4) **15 minutes**.

Coffee break

6. Exploring the topic of bioeconomy. Starting the topic using the Mentimeter tool: using a word cloud, the main associations with the word bioeconomy are determined **10 minutes**
7. Bioeconomy as a tool for SDG – discussion **10 minutes**
8. Defining bioeconomy – video on basic sense of bioeconomy and team task – defining bioeconomy in a mini co-creation teams:
 - Division into small teams of 3-4 people
 - Co-creation session to define the bioeconomy. Each team should write down on a large sheet of paper the processes, elements, phenomena, products and conditions that are important to them
 - Each team then leaves their work and goes to the other team's table. They analyse the content and leave comments for the creators of the definition. The process is repeated until the team returns to their table.
 - Each team has 5 minutes to formulate a final definition of the bioeconomy.
 - The teacher can also present their proposed definition **20 minutes**
9. Bioeconomy as a pillar of circular economy – Ellen MacArthur Foundation scheme of butterfly: **10 minutes**
10. Biobased materials and products: **30 minutes**
11. Wrap up of the meeting