

Valid for 2023.HS

Module Name: Bioeconomy / Materials	
Module Code	w.MA.XX.BIMA.23HS
Module Description	In this module, students are introduced to the concept of bioeconomy, a transformation from a market-based petroleum economy to a market economy in which fossil resources are replaced by various renewable raw materials. The module covers forms of development and processing of renewable raw materials, for example, the chemical and packaging industry, as well as the description of new supply chains and business models. Natural cycles with and without anthropogenic influence and the foundations for raw materials and materials for a renewable economy are discussed.
Program and Specialization	Circular Economy Management
Legal Framework	Academic Regulations MSc in Circular Economy Management dated 02.06.2022, Appendix to the Academic Regulations for the degree program in Circular Economy Management, first adopted on 23.09.2022
Module Category	Module Type: Compulsory
ECTS	3
Organizational Unit	W Center for Corporate Responsibility CCR
Module Coordinator	Christof Brändli (brae)
Deputy Module Coordinator	Selçuk Yildirim (yise)
Prerequisite Knowledge	-
Contribution to Program Learning Goals (Affected by Module)	§ Professional Competence § Methodological Competence § Social Competence § Self-Competence
Contribution to Program Learning Objectives	Professional Competence § Knowing and Understanding Content of Theoretical and Practical Relevance § Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance § Evaluate Content of Theoretical and Practical Relevance Methodological Competence § Problem-Solving & Critical Thinking § Scientific Methodology § Work Methods, Techniques, and Procedures § Information Literacy § Creativity & Innovation Social Competence § Written Communication § Oral Communication § Teamwork & Conflict Management § Intercultural Insight & Ability to Change Perspective Self-Competence § Self-Management & Self-Reflection § Ethical & Social Responsibility § Learning & Change
Module Learning Objectives	Students... § should have knowledge of the key concepts of the bioeconomy. § should have know-how on which renewable raw materials could replace fossil raw materials. § should have know-how about the steps and processes for the production of renewable raw materials. § should have competencies in the evaluation of the influences of new materials on the functionalities and properties of the final product. § should have knowledge about the prerequisites and limits of the bioeconomy.
Module Content	§ Introduction and basics of bioeconomy § Concept of mass balance § Introduction to platform chemicals § Raw materials from renewable sources § Biopolymers § Carbon capture and utilization § Recycling § Applications in the packaging industry
Links to other modules	-

Methods of Instruction	§ Lecture § Interactive Instruction § Case Studies § Literature Review	Social Settings Used: § Individual Work § Group Work		
Digital Resources	§ Reader § Teaching Materials			
Type of Instruction	Classroom Instruction	Guided Self-Study	Autonomous Self-Study	
Lecture	28 h	-		
Excercise	-	4 h		
Project Work	-	-		
Seminar	-	4 h		
Total	28 h	8 h	54 h	
Performance Assessment				
End-of-module exam	Form	Length (min.)	Weighting	
Written exam	Open book	60	100.00 %	
Permitted Resources	Free choice of calculator	With dictionary		
Others	Assessment	Length (min.)	Weighting	
-	-	-	-	
Students are not allowed to revise and resubmit performance assessment tasks.				
Classroom Attendance Requirement	Mandatory Attendance: 100%			
Language of Instruction/Examination	English			
Compulsory Reading	-			
Recommended Reading	-			
Comments	-			