

Module M A E 03 Sustainable Innovation Management & Circularity
Overview

Nr.	Workload	Credits	Semester of study	Frequency of offer	Duration
M A E 03	240 h	8 CP	1st Semester	Each winter term	1 Semester

Module supervisor	Lecturer
Prof. Dr. Mareike Heinzen	Dr. Ivan Paunovic Manou van Dijk

Type of module	Event type	Contact hours	Self study	Planned group size	Language
Mandatory	seminar-based teaching with integrated exercise	96 h	144 h	ca. 20 Stud.	English

Module use

Master-Program Management, Leadership, Innovation

Learning outcomes and competencies

The module "Sustainable Innovation Management & Circularity" focuses on equipping students with the knowledge and skills to drive sustainable and circular practices within the business environment. Through an interdisciplinary approach, students will explore innovative strategies to reduce waste, promote resource efficiency, and foster environmentally conscious product development. This module delves into the principles of circular economy and its application in diverse industries, enabling students to identify opportunities for sustainable growth and value creation. Participants will engage in case studies and real-world projects, analyzing challenges and formulating sustainable solutions that address the complex global issues of our time. By the end of the course, students will have gained a comprehensive understanding of sustainable innovation management and circularity, empowering them to lead businesses towards more environmentally responsible and socially beneficial practices.

Acquisition of competencies

Learning Target Level	Course contribution
Social and Communication competence	Students are able to <ul style="list-style-type: none"> contribute to group discussions and general debates Group work on case studies. engage in and discuss case studies and real-world projects together in a team.
Knowledge acquisition	Students are aware of <ul style="list-style-type: none"> the main concepts and recent topics within innovation and sustainability research. management styles facilitating sustainable behavior. how to apply sustainable-oriented product development techniques.
Knowledge enhancement	Students enhance their knowledge by <ul style="list-style-type: none"> critically reading and reflecting contemporary studies and literature of selected journals discussing their solutions with multi-disciplinary experts (founders, managers, alumni, scientists)
Instrumental competence	Students apply <ul style="list-style-type: none"> sustainable-oriented concepts on practical settings. problem solving management techniques on practical settings, particularly regarding climate crisis. agile development techniques for sustainable-oriented projects.

	<ul style="list-style-type: none"> business model research for sustainable-oriented business models.
Systemic competence	<p>Students evaluate</p> <ul style="list-style-type: none"> sustainable-oriented innovation processes from an individual, team, organizational and network perspective. the interdependence between sustainability and innovation. the importance of sustainability and circularity within the innovation process.
<p>Key skills taught</p> <p>Professional, methodical and social competences, international language and communication skills, analytic skills: problem structuring/ problem solving advanced comprehension of scientific and subject-specific literature (concepts, methods and case studies), theory-practice transfer.</p>	
<p>Contents</p> <ol style="list-style-type: none"> 1. Introduction to Sustainability and Circular Economy 2. Principles and Concepts of Sustainable Innovation 3. Sustainable Product Design and Development 4. Life Cycle Assessment (LCA) and Eco-design Strategies 5. Closed-Loop Supply Chains and Reverse Logistics 6. Circular Business Models and Value Creation 7. Sustainable Materials and Biomimicry 8. Green Technology and Clean Energy Innovations 9. Circular Design Thinking and System Innovation 10. Sustainable Supply Chain Management 11. Circular Product-Service Systems 12. Circular Innovation in the Fashion Industry 13. Circular Cities and Smart Urban Solutions 14. Circular Innovation in Food Systems 15. Social and Environmental Impact Assessment of Circular Initiatives 	
<p>Teaching forms</p> <ul style="list-style-type: none"> - Interactive seminars - Flipped classroom - Online trainings - Practical exercises <p>The instruction language is English. Learning is achieved through natural communication, interactive lecturing, independent work on projects as well as group work and presentations. Students will gain learner independence by organizing and documenting their own project and learning process in a portfolio. Working with case studies students will actively put their knowledge about teamwork and leadership into practice. Excursions to exhibitions and to companies.</p>	
<p>Participation requirements</p> <p>Formal: Registered student at the the Faculty of Business and Social Sciences of Hochschule Koblenz in Remagen for the master's program "Management, Leadership, Innovation"</p> <p>Content-based: None</p>	
<p>Type of examination</p> <p>Term paper and oral</p>	
<p>Assessment</p> <p>Prerequisite for the awarding of ECTS credits is the passing of the examination performance for the module.</p> <p>The module is included with 4 ECTS in the total of 120 ECTS credits.</p>	
<p>Literature references</p>	

Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., & Overy, P. (2016). Sustainability-oriented innovation: A systematic review. *International Journal of Management Reviews*, 18(2), 180-205.

Blum, Peggy. *Circular fashion: making the fashion industry sustainable*. Hachette UK, 2021.

Schuh, Günther, and Christian Döle. *Sustainable Innovation*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2021.

Further literature references can be found at Open OLAT.