

Valid from 2024.HS

Module description: Business, Production and Service Transformation	
Module Code	w.MA.XX.BUPAST.23HS
ECTS Credits	6
Language of Instruction/Examination	English
Module Description	<p>The module will build on the general principles of operations management, i.e., the design and control of efficient material and resource flows for the generation/ production of products and services. The successful implementation of the guiding principles of circular economy to reduce, re-use, or refuse products will require new business models. Instead of selling a product or equipment, companies will need to offer sharing platforms to business to customer (B-2-C) and business to business (B-2-B) customers, where the use of the product against payment is shared. Alternatively, companies can replace the straight sale of machinery and equipment with new ownership models where the customers/users pay according to use and volume (pay-per-use), or quality (pay-per-performance) or a combination on the two. The module content will include the transition from traditional linear business models to the above-mentioned service-oriented business models, including aspects of revenue and profit splits both within and among the suppliers. The module will also address the financial implications for the suppliers, especially regarding the profit & loss Statement, the balance sheet and for the generation of operational cashflow. Operations management in a circular economy setting is even more challenging due to the design, planning, and implementation of the circularity of the material flows. In case-based settings, the module will address the complete production cycle from (raw) materials, efficient and timely production, to disassembly, refurbishment, reuse, and regeneration, including quality assurance and traceability issues and viable cost structures. Students will have the opportunity to engage with traditional production companies as well as start-ups of new circular economy products and services.</p>
Organizational Unit	CCR Ltg.
Module Coordinator	Jochen Wulf
Deputy Module Coordinator	Helen Vogt
Program and Specialization	<ul style="list-style-type: none"> • 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 Elective
Prerequisite Knowledge	<ul style="list-style-type: none"> • Value chain principles • Political, social, economic, and legal considerations related to business transformation in the circular economy • Stakeholder management
Contribution to Program Learning Objectives (by the concerned Module)	<ul style="list-style-type: none"> • Professional Competence • Methodological Competence • Social Competence • Self-Competence

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<p>Contribution to Program Learning Objectives</p>	<p>Professional Competence</p> <ul style="list-style-type: none"> • 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 <p>Methodological Competence</p> <ul style="list-style-type: none"> • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation <p>Social Competence</p> <ul style="list-style-type: none"> • Written Communication • Oral Communication • Teamwork & Conflict Management • Intercultural Insight & Ability to Change Perspective <p>Self-Competence</p> <ul style="list-style-type: none"> • Self-Management & Self-Reflection • Ethical & Social Responsibility • Learning & Change
<p>Module Learning Objectives</p>	<p>Students...</p> <ul style="list-style-type: none"> • understand the concepts of service dominant logic and servitization. By the end of this course, learners should be able to define service dominant logic and goods dominant logic, understand the service continuum, and differentiate between value in exchange and value in use. • comprehend the three perspectives on service value. Learners should be able to conceptualize provider, customer, and environmental value across the service lifecycle. • identify the link between servitization and circularity. Learners should be able to interlink service patterns with R-principles and understand the synergies of pay-per-use/pay-per-performance and circularity. • master business case design. Learners should be able to conduct market sizing, understand the differences between value-based and cost-based pricing, and create cost models. • navigate operational challenges in circular service businesses. Learners should understand the different operational challenges and management approaches related to circular services.
<p>Module Content</p>	<p>Service Transformation</p> <ul style="list-style-type: none"> • Service dominant logic and servitization • Service valuation • Link between servitization and circularity • Ecosystem design for circular services <p>Business Transformation</p> <ul style="list-style-type: none"> • Business case design for circular services • Modeling financial statements and cash flows • Financial steering of circular service businesses <p>Transformation of Production</p> <ul style="list-style-type: none"> • Operational challenges in extending the loop • Operational challenges in recycling • Operational challenges in refurbishment & redistribution • Operational challenges in remanufacturing
<p>Links to other modules</p>	<p>This module is linked to the following modules:</p> <ul style="list-style-type: none"> • w.MA.XX.SSEC.23HS • w.MA.XX.SCVC.23HS • w.MA.XX.BMCE.23HS • w.MA.XX.DPG.23HS • w.MA.XX.TEAS.23HS

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Digital Learning Resources	<ul style="list-style-type: none"> • Online game 																										
Methods of Instruction	<ul style="list-style-type: none"> • Case Studies • Problem-Oriented Teaching • Lecture • Business game simulation • Teaching case 	Social Settings Used: <ul style="list-style-type: none"> • Group Work 																									
Type of Instruction	<table border="1"> <thead> <tr> <th></th> <th>Classroom Instruction</th> <th>Guided Self-Study</th> <th>Autonomous Self-Study</th> </tr> </thead> <tbody> <tr> <td>Lecture</td> <td>56 h</td> <td>-</td> <td></td> </tr> <tr> <td>Excercise</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Project Work</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Seminar</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Total</td> <td>56 h</td> <td>0 h</td> <td>124 h</td> </tr> </tbody> </table>				Classroom Instruction	Guided Self-Study	Autonomous Self-Study	Lecture	56 h	-		Excercise	-	-		Project Work	-	-		Seminar	-	-		Total	56 h	0 h	124 h
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Classroom Attendance Requirement	Other Attendance is generally required. Exceptions will be announced during the course.																										
Compulsory Reading	<ul style="list-style-type: none"> • Lusch RF, Vargo SL. The service-dominant mindset. In: Service-Dominant Logic: Premises, Perspectives, Possibilities. Cambridge University Press; 2014:3-30. 																										
Recommended Reading																											
Comments																											