

Valid for 2023.HS

	Cycle Sustainability Assessment					
Module Code	w.MA.XX.LCSA.23HS					
Module Description	Environmental sustainability is the practice of using natural resources like water, soil, or air responsibly so they can support both present and future generations. United Nations Sustainable Development Goal (SDG) 12 targets "responsible consumption and production" by reducing the ecological footprint of products, services, and consumption patterns. Beyond that, social and economic sustainability goals aim to achieve, e.g., respect for human rights along value chains or sustained economic growth. Scientifically valid life-cycle-based information is crucial in order to implement sustainability strategies successfully. Life cycle assessment (LCA) is a helpful tool for aligning decisions with ecological criteria and reducing environmental impacts. This module covers LCA and related topics, including life cycle thinking, life cycle inventory modeling, and life cycle impact assessment from an environmental perspective. Other topics include the social and economic life-cycle perspective wit social LCA and life cycle costing (LCC). In groups, students will apply life cycle thinking and LCA methods to specific problems. The module enables students to transfer insights from applied science to industry and society through life cycle thinking and life cycle management. Students will learn how to identify and develop effective sustainability measures that contribute to the global SDGs.					
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	Matthias Stucki (stck)					
Deputy Module Coordinator	Corinna Baumgartner (bamo)					
Prerequisite Knowledge	Students should be able to:					
	 explain the drivers, mechanisms, and impacts of major environmental issues such as climate change, eutrophication, resource depletion, deforestation, etc. elaborate on the sustainable development goals of the United Nations. read, process, and critically discuss scientific publications from peer-reviewed journals, understand the basics of systems theory, life cycle thinking, economics and chemistry, and perform calculations and visualizations in MS Excel. 					
Contribution to Program	§ Professional Competence					
Learning Goals (Affected by Module)	§ Methodological Competence § Social Competence					
wodulc)	§ Self-Competence					
Contribution to Program	Professional 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 Teamwork & Conflict Management Intercultural Insight & Ability to Change Perspective Self-Competence Self-Management & Self-Reflection Ethical & Social Responsibility Learning & Change					

Module		01 1								
	e Learning Objectives	Stude		:	turrations of LOA					
		s will explain the basic structure of LCA								
		§ will defend the purpose and scope of the application of different methods of								
		environmental/sustainability analysis								
		§ will identify the environmental hotspots in the life cycle of products using LCA								
		software.								
		§ will quantify and assess sustainability impacts using life-cycle-based approaches.								
		§ will analyze processes in complex value chains using systemic life cycle thinking								
NA	0 1 1	approaches. § Life Cycle Thinking – The Game.								
Module	e Content									
		Stradle to grave / cradle to cradle. Life cycle inventory modelling.								
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			fe cycle costing							
			fe cycle sustain		v assessment					
Links to	o other modules	-	.,		,					
	ds of Instruction	§ Le	ecture			So	cial Settir	ngs Used	d:	
			ase Studies				oup Work	J		
			kercises							
			oject Work							
Digital I	Resources		eaching Videos							
			eaching Materia							
Type of	f Instruction	Class	room Instructi	ion	Guided Self-S	tudy		Autono	mous Self-Stud	dy
L	_ecture			18 h			-			
E	Excercise			6 h			6 h			
P	Project Work			4 h			20 h			
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S	Seminar						30 h			
l —	Seminar Fotal			28 h			30 h			26 h
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