



Module Title		Cities and infrastructure
Code	MCCf163	
Degree Programme	Master of Science - Circular Innovation and Sustainability	
ECTS Credits	3	
Workload	90 hours <ul style="list-style-type: none"> • 14 hours contact teaching • 72 hours self-study • 4 hours Excursion 	
Module Coordinator	Name: Prof. Dr. Joachim Huber Phone: +41 (0) 34 426 41 09 Email: joachim.huber@bfh.ch Address: BFH-AHB - Institute for Urban Development and Infrastructure Aarbergstrasse 112, 2502 Biel-Bienne	
Lecturers	<ul style="list-style-type: none"> • Prof. Dr. Dieter Schnell; AHB • Prof. Daniel Baur; AHB • Prof. Dr. Tobias Fritschi; S 	
Entry Requirements	Prerequisite: <ul style="list-style-type: none"> • MCCf013 Introduction to circular economy • MCCf026 Bridging technologies 	
Learning Outcomes and Competences	<p>Competence After completing the module, students will be able to:</p> <ul style="list-style-type: none"> • generate and develop own project Ideas for circular city development; • judge, assess, and evaluate circular city development projects; • collaborate in a transdisciplinary manor with experts and stakeholders from different professions and fields in circular city development project. <p>Outcomes After completing the module, students will be able to:</p> <ul style="list-style-type: none"> • apply the basic principles and analysis of the existing urban building stock, social space, and the public realm; • investigate, identify, and describe the present and future drivers for a circular city and its infrastructure; • outline the circular architecture processes and best practices, with emphasis on reuse and urban mining; • distinguish the roles of the different stakeholders and experts of a circular city process and define their own transdisciplinary role within the project. 	

Module Content	<p>Cities with their infrastructure, including the urbanized landscape and the "in-between city", form the context and drivers of any sustainable and resilient circular economy and society in transition and vice versa. The challenges of global urban megatrends require sustainable circular innovation. Using the "city of short distances" as an example, the circular interdependencies and open problems are examined based on the stock (inventory), social space, building culture and infrastructure of a European city (as Bern).</p> <p>Based on the circular analysis of an existing urban neighbourhood, the students define an innovative intervention project to improve the live quality along the principles of a "city of short distances" and circular economy.</p> <p>Topics covered are:</p> <ul style="list-style-type: none"> • The circular city • Circular city and circular social design • R-cascade the built environment and the city • The city of short distances: 15 min. City/Barcelona Superblock
Teaching / Learning Methods	<p>The module is putting a circular city intervention at the core of its learnings. Along the project, problems are investigated, discussed, and interventions are developed, analysed, and represented. The students can include the results directly into their individual cases.</p> <ul style="list-style-type: none"> • Project-based/problem-based learning • Case studies • Flipped classroom • Individual and group exercises • Excursion • Learning videos
Assessment of Learning Outcome	<ul style="list-style-type: none"> • Written individual journal (research diary) reflecting on given questions and on learnings (40%) • Group work report (40%) • Group moderation of project presentation & discussion summary (20%) <p>In case of an overall insufficient grade (<4), students have the possibility to do a specific improvement as defined by the module coordinator if overall and individual grades are minimum 3.5 (≥ 3.5). The maximum overall grade that can be obtained with the specific improvement is 4.</p>
Conditions of assessment repetition	<p>In case of failure, students can either:</p> <ul style="list-style-type: none"> • Realise a new assignment defined by the module coordinator at next re-examination period. • Retake the full module next time it is offered. <p>NB: in MSc CIS, failed Modules can only be repeated once!</p>
Format	<p>2 lessons per week over 7 weeks</p> <p>1 lesson from expert input / 1 lesson group work discussion-assessment</p> <p>1 Excursion (~4hours)</p>
Attendance & Compulsory session	<p>80% of the sessions must be attended to validate the course.</p>
Timing of the module	<p>Autumn Semester</p>
Venue	<p>On-site</p>
Location	<p>Bern</p>

Bibliography	Literature will be provided before the start of the module.
Language	English
Links to other modules	<ul style="list-style-type: none"> • MCCf143 Pathways to net zero GHG emissions in the mobility sector • MCCf223 Circular supply chain • MCCf243 Digitalisation and sustainability • MCCf323 Society and the environment • MCCf443 Impact Assessment • MCCf453 Circular Design
Last Update	May 2023