

Module title	1.6 Cities and infrastructure
Workload (ECTS)	3 ECTS
Module coordinator	Prof. Dr. Joachim Huber
Contributing lecturers	<ul style="list-style-type: none"> • Prof. Dr. Dieter Schnell • Daniel Baur
Entry requirements	<p>Builds on:</p> <ul style="list-style-type: none"> • 0.1 Introduction to circular economy • 0.2 Bridging Technology
Description	<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 social design • 5R and the city: from reuse to urban mining. • the city of short distances: 15 min. City
Learning outcomes and competences	<p>Competence</p> <p>Students</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</p> <p>Students</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 I define my own transdisciplinary role within the project.
Assessment of learning outcomes	<ul style="list-style-type: none"> • Assessed written journal (research diary) reflecting on given questions and on learnings • assessed project presentation



Didactic approach	<ul style="list-style-type: none">• Contact teaching• Self-study• Flipped classroom• individual and group exercises• coaching
Project-based learning	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, analyzed and represented. The students can include the results directly into their individual cases.
Links to other modules	<ul style="list-style-type: none">• 1.4 Pathways to net zero GHG emissions in the mobility sector• 2.2 Circular supply chain• 2.4 Digitalisation and sustainability• 3.2 Society and the environment• 4.4 Impact Assessment• 4.5 Circular Design
Bibliography	Literature will be provided before the start of the module
Language	English
Location	TBD