



Module Title	Pathways to Net Zero GHG Emissions in the Food Sector		
Code	MCCf153		
Degree Programme	Master of Science – Circular Innovation and Sustainability		
ECTS Credits	3		
Workload	90 hours		
Module Coordinator	Name: Prof. Dr. Christoph Denkel Phone: +41 (0) 31 910 21 68 Email: christoph.denkel@bfh.ch Address: BFH – HAFL, Länggasse 85, 3052 Zollikofen		
Lecturers	<ul style="list-style-type: none">• Dr. Alex Constantin Valach; HAFL• Thomas Nemecek; Agroscope• Solange Sanahuja		
Entry Requirements	Basics in food chemistry or related fields.		
Competencies upon Completion	<p>Through the module, students:</p> <ul style="list-style-type: none">• will gain basic knowledge of the ways in which protein sources can be used for human nutrition or proteins can be made available;• will learn about the main processes and mechanisms behind individual strategies and will be able to evaluate and classify them according to the current state of research, their feasibility, and their impact on sustainability in the food sector;• will be able to collaborate in a transdisciplinary manner with experts and stakeholders from different sectors in projects to develop sustainable production strategies. <p>After completing the module, students will be able to:</p> <ul style="list-style-type: none">• perform rudimentary analysis of existing processing strategies/chains and develop proposals for improvement;• develop proposals for local material cycles and production solutions, especially for urban areas.		
Content	<p>Today's food industry is in the midst of a broad shift towards greater sustainability, with two trends in particular standing out: (a) shifting protein supply from animal protein-based to non-animal protein-based diets (non-animal protein sources: e.g., plants, algae, bioengineered proteins), (b) recycling and/or avoiding side streams of industrial food processing. The COVID pandemic revealed the global interdependencies of our economic systems, thus bringing local material cycles to the fore, which could also be more sustainable.</p> <p>In this module we will look at possible actions and strategies to increase sustainability in the food sector and try to develop visions for the future. In doing so, we will get to know very different approaches to the above-mentioned trends - both on the level of production and on the level of processing as well as on the level of consumers. The focus will be less on subject-specific and more on methodological knowledge for the development of local material cycles.</p>		

Teaching and Learning Methods	<ul style="list-style-type: none"> • Input lecturers • Contact teaching • Project-Based Learning • Case studies • Literature review • Individual and group exercises
Competency Assessment	<ul style="list-style-type: none"> • Written exam (60%) • Case study in group (40%) <ul style="list-style-type: none"> → Oral presentation (¹/₃) → Written assignment (²/₃)
Mode of Repetition	<p>Should a student fail the module, they have one more attempt. They may either:</p> <ul style="list-style-type: none"> • Retake a written exam (100%) during the next resit examination session. • Repeat the entire module next time it is offered.
Format	2 lessons per week over 7 weeks
Attendance	Not mandatory
Module Type	Compulsory-Elective
Timing of the Module	Autumn Semester, Calendar Weeks 47 to 51 and 02 to 03
Venue	Onsite Brückenstrasse 73, 3005 Bern
Literature	Literature will be provided before the start of the module via Moodle.
Language	English
Links to Other Modules	<ul style="list-style-type: none"> • MCCf036 Bridging Life Sciences • MCCf443 Impact Assessment
Last Update	April 2025