

Master in Life Sciences

A cooperation between
BFH, FHNW, HES-SO, ZFH

Module title	Sustainable Sourcing, Processing and Tracing of Food
Code	F4
Degree Programme	Master of Science in Life Sciences
Group	Food
Workload	3 ECTS (90 student working hours: 42 lessons contact = 32 h; 54 h self-study)
Module Coordinator	<p>Name: Dr. Claudia Müller Phone: +41 (0)58 934 54 53 Email: claudia.mueller@zhaw.ch Address: ZHAW Life Sciences und Facility Management, Einsiedlerstrasse 34, 8820 Wädenswil</p>
Lecturers	<ul style="list-style-type: none"> • Dr. Claudia Müller, ZHAW • Dr. Marie Brechbühler Peskova, BFH • Matthias Stucki, ZHAW • Further guest lecturers
Entry requirements	<p>Knowledge in food technology and / or in agriculture as well as basic knowledge of the principles of sustainability is highly recommended.</p> <p>Compulsory online pre-course test (for course preparation, literature about a sustainable food system is provided on Moodle)</p>
Learning outcomes and competences	<p>After completing the module, students will be able to:</p> <ul style="list-style-type: none"> • explain sustainability and how it relates to the current food system model; • develop a sustainable food system model for the future – one which is ecologically, economically, and socially viable; • develop a concept for a sustainability-driven production of healthy food using the example of a defined food product (e.g. Swiss chocolate)
Module contents	<p>The main objective of the module is to understand the concept for a sustainability-driven production of healthy food using a defined food product as an example (Swiss chocolate). Therefore, the course will cover a holistic evaluation of the food value chain and its sustainability-performance with regard to social, economic, environmental and health aspects and will include:</p> <ul style="list-style-type: none"> • Principles of process analysis • Economic basis of a sustainable business • Sustainable agriculture (conventional versus organic) • Environmental assessment (Life Cycle Analysis) • Social aspects and sourcing • Process optimization and energy management • Principles of a sustainable diet • Customer information
Teaching / learning methods	<p>Students work in groups, assessing and optimizing the supply chain of a specific food product focussing on a defined dimension of sustainability (economy, environment, society/health).</p>

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	Experts provide inputs on the different dimensions and stages of the supply chain during the course. They address the corresponding challenges with respect to sustainability.
Assessment of learning outcome	<ol style="list-style-type: none">1. Pre-course test (on-line) (20%)2. Written exam (closed books), final (40%)3. Group work (teams of max. 5, poster presented on the last day and short report to be handed in 1 week after the module) (40%)
Format	7-weeks
Timing of the module	Spring semester, CW 15-21
Venue	Oltén
Bibliography	Smith, 2008. Developing sustainable food supply chains; Philosophical Transaction of the Royal Society; 363: 849-861 Von Koerber et al., 2017. Wholesome Nutrition: an example for a sustainable diet; Proceedings of the Nutrition Society; 76: 43-41 Gutiérrez, 2017. State-of-the-Art Chocolate Manufacture: A Review; Comprehensive Reviews in Food Science and Food Safety; 16: 1313-1344
Language	English
Links to other modules	Potential similarities and links to E2 "Life Cycle Assessment"
Comments	
Last Update	23.02.2018