

# Master in Life Sciences

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

<b>Module title</b>	<b>Sustainable Food Supply Chains</b>
<b>Code</b>	F4
<b>Degree Programme</b>	Master of Science in Life Sciences
<b>Group</b>	Food
<b>Workload</b>	3 ECTS (workload: 90 hours comprising 32 contact hours (= 42 lessons) plus 58 h self-study)
<b>Module Coordinator</b>	<p><b>Name:</b> Dr. Claudia Müller  <b>Phone:</b> +41 (0)58 934 54 53  <b>Email:</b> <a href="mailto:claudia.mueller@zhaw.ch">claudia.mueller@zhaw.ch</a>  <b>Address:</b> ZHAW Life Sciences und Facility Management, Einsiedlerstrasse 35, 8820 Wädenswil</p>
<b>Lecturers</b>	<ul style="list-style-type: none"> <li>• Dr. Claudia Müller, ZHAW</li> <li>• Prof. Dr. Nathan Kunz, BFH</li> <li>• Dr. Franziska Stössel, ZHAW</li> <li>• Dr. Evelyn Markoni, BFH</li> <li>• Dr. Matthias Meier, BFH</li> <li>• Further guest lecturers</li> </ul>
<b>Entry requirements</b>	<p>Knowledge of food technology and / or of agriculture, as well as basic knowledge of the principles of sustainability is highly recommended.</p> <p>Contents of an online module, which should be worked through before the course begins (time required approx. 6 hours).</p>
<b>Learning outcomes and competences</b>	<p>After completing the module, students will be able to:</p> <ul style="list-style-type: none"> <li>• explain sustainability in all dimensions;</li> <li>• illustrate how sustainability relates to the current food system; and</li> <li>• develop a sustainable food system model (= concept of a sustainable supply chain) for the future – one which is economically viable, environmentally friendly and socially acceptable – using the example of a selected food product.</li> </ul>
<b>Module contents</b>	<p>The main objective of the module is to understand the concept for the sustainability-driven production of healthy food using selected food products as examples. Therefore, the course will cover a holistic assessment of the food value chain and its sustainability performance regarding social, economic, environmental and health aspects and will include:</p> <ul style="list-style-type: none"> <li>• Sustainable agriculture (conventional versus organic);</li> <li>• Environmental assessment (life cycle analysis);</li> <li>• Economic basis of a sustainable business;</li> <li>• Social aspects;</li> <li>• Principles of a sustainable and healthy nutrition;</li> <li>• Technological challenges; and</li> <li>• Principles of process analysis</li> </ul>
<b>Teaching / learning methods</b>	Students work in interdisciplinary groups, assessing and optimizing the supply chain of a selected food product to make it more sustainable.

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	<p>Experts provide inputs on the different sustainability dimensions and stages of the supply chain during the course. They address the corresponding challenges with respect to sustainability.</p> <p>Coaching sessions are offered during the module where students can discuss their questions with experts.</p>
<b>Assessment of learning outcome</b>	<ol style="list-style-type: none"><li>1. Individual grade<ul style="list-style-type: none"><li>- Written exam (using SEB) (40%)</li><li>- Preparation for coaching sessions (10%)</li></ul></li><li>2. Group work (50%)</li></ol>
<b>Format</b>	7 weeks
<b>Timing of the module</b>	Spring semester, CW 15-22
<b>Venue</b>	Blended learning format. Presence sequences take place in Olten.
<b>Bibliography</b>	<p>Recommendations:</p> <p>Nguyen H., FAO (2018); Sustainable Food Systems – Concept and framework; <a href="http://www.fao.org/3/ca2079en/CA2079EN.pdf">http://www.fao.org/3/ca2079en/CA2079EN.pdf</a></p> <p>Willet W. et al. (2019); Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems; The Lancet, Vol 293: 447-492; <a href="https://www.thelancet.com/action/showPdf?pii=S0140-6736%2818%2931788-4">https://www.thelancet.com/action/showPdf?pii=S0140-6736%2818%2931788-4</a></p>
<b>Language</b>	English
<b>Links to other modules</b>	Potential similarities and links to E2 'Life Cycle Assessment'
<b>Comments</b>	There will be compulsory attendance on 3 days of the module (estimated: week 1, week 6 and week 7).
<b>Last Update</b>	18.07.2024