



Master in Life Sciences

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

Module Title	Food Quality and Safety from Farm to Fork
Module Code	MCLs305
Module	FNH-1
Degree Programme	Master of Science in Life Sciences (MSLS)
ECTS Credits	5
Workload	150 h: Contact 60 h; Self-study 90 h
Module Coordinator	<p>Name Daniel Heine</p> <p>Phone +41 31 910 21 16</p> <p>Email daniel.heine@bfh.ch</p> <p>Address Bern University of Applied Sciences, School of Agricultural, Forest, and Food Sciences, Laenggasse 85, 3052 Zollikofen, Switzerland</p>
Lecturers	<ul style="list-style-type: none"> • Dr. Wolfram Brück (HES-SO, Sion) • Daniel Heine (BFH-HAFL, Zollikofen) • Further BFH-HAFL experts • External experts from the food and nutrition sector
Entry Requirements	Basics in food sciences (food processing, food chemistry and analysis, food microbiology). For candidates with a non-food-science background, please refer to chapters 2, 3, 6, 9 in Campbell-Platt (2018).
Learning Outcomes and Competencies	<p>After completing the module, students will be able to:</p> <ul style="list-style-type: none"> • discuss the key criteria of food quality and safety; • analyse food value chains with respect to food quality and safety (including food fraud), and specific aspects of sustainability; • suggest measures to meet product specifications; • communicate food quality issues to key stakeholders.
Module Content	Major food-quality traits, including safety, shelf-life, sustainability, sensory attributes and nutritional value, will be explored. The discussion will focus on how these traits are influenced at various stages of the food value chain in both animal- and plant-based production systems. Practical examples from the food industry will be used to illustrate measures for ensuring compliance with basic quality standards and developing optimization strategies. Particular emphasis will be placed on food-safety challenges, including potential hazards and risks, legal regulations, control measures and management strategies. Practical case-study assignments on food-safety topics will support the application of learned strategies and their adaptation to specific contexts.
Teaching and Learning Methods	<ul style="list-style-type: none"> • Self-study • Lectures and expert inputs • Excursions • Teamwork on case studies supported by coaching
Assessment of Learning Outcomes	<p>Consists of:</p> <ul style="list-style-type: none"> • Case study 40% (team assessment) • Written exam 60% (individual grade)
Bibliography	<ul style="list-style-type: none"> • Campbell-Platt, Geoffrey (Ed.) (2018): Food science and technology. Second edition. Hoboken, NJ: Wiley-Blackwell (https://toc.library.ethz.ch/objects/pdf03/e01_978-0-470-67342-3_01.pdf). • Luning, Pieternel A.; Marcelis, Willem J. (2020): Food quality management. Technological and managerial principles and practices. Wageningen: Wageningen Academic Publishers. • Motarjemi, Yasmine (2014): Food safety management. A practical guide for the food industry. Amsterdam: Elsevier.
Language	English
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