



Life Sciences and  
Facility Management

## Master's degree in Life Sciences

### Specialisation in Food and Beverage Innovation

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“The mentoring programme in the Food and Beverage Innovations specialisation allows you to exchange views with your mentor and refine your goals accordingly.”

## The Master's degree in Life Sciences at a glance

<b>Aim</b>	In the research-based Master's degree programme, you select particular areas to explore, deepen your understanding of your subject and expand your scientific skills. The application-focused master's thesis represents the scientific core of the study programme.
<b>Specialisation</b>	You specialise and graduate in one of four fields: Food and Beverage Innovation, Pharmaceutical Biotechnology, Chemistry for the Life Sciences, Applied Computational Life Sciences.
<b>Title</b>	Master of Science (MSc) ZHAW in Life Sciences with a specialisation in Food and Beverage Innovation.
<b>Study agreement</b>	Before you commence your studies, you develop your own study plan with your mentor, discuss and decide on your personal goals and determine the subject area of your Master's thesis. <b>More on page 9</b>
<b>Cooperation</b>	Students benefit from networking with the four Swiss Universities of Applied Sciences ZHAW, BFH, FHNW and HES-SO. A third of the lessons are taught as part of combined courses run jointly with these other universities. <b>More on page 9</b>
<b>Learning concept</b>	The course comprises a combination of independent study, taught lessons and e-learning with a strong focus on the research-based learning associated with the Master's thesis.
<b>Duration and workload</b>	3 semesters of full-time study, with part-time also possible: 90 credits (ECTS).
<b>Teaching location and language</b>	Teaching takes place in Wädenswil, Olten or Berne. Block weeks can also be held directly at partner universities. The language of instruction is English. The Master's Thesis can also be written in German if preferred. <b>More on page 9</b>
<b>Study fees</b>	Semester fee CHF 720; for students whose place of residence is not Switzerland when starting the programme, an additional CHF 500 is charged. See the detailed study cost overview at: <a href="http://www.zhaw.ch/ilgi/master">www.zhaw.ch/ilgi/master</a>
<b>Entry requirements</b>	One of the following prior qualifications is required: <b>Bachelor's degree</b> from a university of applied sciences with an above average performance. <b>FH diploma</b> (forerunner of the Bachelor's degree) with an above average performance. Recognition of at least 2 years of professional experience and/or of postgraduate studies in a corresponding professional area in agreement with the programme directors. <b>University/ETH Bachelor's degree</b> with practice-oriented «passerelle» and 6 months' work experience in the area of your specialisation. Admission «sur dossier» possible with professional experience and prior education in a natural science field.
<b>Start of studies</b>	Every February and September; registration deadline 31 October and 30 April.
<b>Master's Thesis</b>	The Master's thesis is based on research you carry out during your studies. It involves investigating a question from practice or applied research, often in cooperation with national or international research or industry partners. <b>More on page 7</b>
<b>More information</b>	Registrar's office +41 58 934 59 61, <a href="http://www.zhaw.ch/lsvm/master/en">www.zhaw.ch/lsvm/master/en</a> . Info events take place every spring and autumn.

# Food and Beverage Innovation

## Foods of the future

Variations in consumer behaviour and social change give rise to a continuous stream of innovative solutions in the field of food and beverages: new raw materials are constantly being discovered and innovative technologies developed. In addition, consumers' purchasing decisions are now strongly influenced by health and lifestyle considerations. Your analysis and optimisation of food systems – from raw materials through the various processing steps to the commercial launch of consumer-ready end products – is carried out in this complex and dynamic context.

## Objectives and competences

During your studies, you expand your entire personal competence profile: not only your technical and methodological competences, but also your personal and social skills. The focus on the Master's thesis promotes creative problem solving approaches, as well as the ability to see things from different perspectives and link entrepreneurial and scientific ways of thinking. Working in a research group strengthens your ability to work as part of a team, encourages you to take initiatives and sharpen your critical thinking skills, and develops your leadership qualities. In a complex world of work where interdisciplinary approaches are required and problems are highly specialised, you will become a sought-after specialist at leadership level.

Your skills are vital for successful innovations in the food and beverage sector. You recognise innovation as a holistic process, which enables you to develop new products and processes sustainably from raw materials to the distribution of consumer-ready products and bring them to market successfully. In the process you incorporate your knowledge of technology, food, packaging, strategy and design. You also stay abreast of the latest developments among suppliers, retailers and the catering trades, while taking account of the effects of environmental, societal, economic, and public nutrition and health issues on the entire value network.

## FBI Mentoring Programme

During your studies a mentoring programme specific to the specialisation in Food and Beverage Innovation (FBI) is available to help guide and support you. The programme starts with the optional Mentoring Day at the beginning of your studies. This seminar enables you to formulate your expectations of the course, define the scope of your studies, develop your career plans, and to decide on your preferred study methods. You have a second opportunity to attend the Mentoring Day seminar during your studies in order to reassess your situation. One mandatory component of the mentoring programme is the FBI snack, at which you present the topic of your thesis and lead a scientific discussion on the topic with members of the institute as well as your fellow students. Your mentor supports you throughout your studies and supervises your Master's thesis.

## Prospects

As a Master's graduate, you will have the skills needed to analyse and evaluate product-specific and process engineering relationships, and to understand the broader economic and political contexts in which they take place. You will be able to think beyond the constraints of interdisciplinary boundaries and develop innovative, integrative solutions to problems. This not only means that you will have excellent job prospects in various sectors of the food industry, such as in product and process development, marketing and interface functions, but also that you will be a suitable candidate for positions in regulatory authorities, universities, and in both national and international organizations. Establishing your own start-up in the food sector is another option.

**Graduate portraits**  
Master's graduates who specialised in Food and Beverage Innovation – where are they now?  
At [www.zhaw.ch/ilgi/master](http://www.zhaw.ch/ilgi/master) you can find out what positions they now hold, what they particularly appreciated about the Master's programme, and what tips they have for prospective Master's students.



“Focus on innovation: you will develop tasty, healthy, safe and sustainable foodstuffs: from raw materials to the consumer product.”

# Master's Thesis

## The heart of the study programme

The Master's thesis is the core of your studies. On the basis of research you have carried out during the study programme, you provide answers to a specific question and develop concrete solutions that are relevant to the world of work, research and/or society – often in collaboration with international partners. Depending on your topic, you work in a research group at the Institute of Food and Beverage Innovation in Wädenswil or in an external company or organisation. In your thesis you provide evidence of the knowledge and competences you have gained, while contributing to research in your chosen field.

## Research areas

You choose the topic of your Master's thesis in one of the following research groups. You deepen your experimental expertise in your selected area of research and gain detailed insight into the methodologies needed to conduct a challenging research project.

- Food Biotechnology
- Food Microbiology
- Food Chemistry
- Food Process Technology
- Food Technology
- Food Packaging
- Food Perception (Food sensory sciences)
- Nutrition and Consumer Behaviour
- Supply Chain Management
- Quality Management and Food Law

With your Master Thesis you support the future-oriented use of resources with the optimization and new development of processes as well as the production of “better”, that means tasty, healthy, safe, sustainable and accessible food.

Research groups and their research focus areas you will find at:  
[www.zhaw.ch/ilgi/master](http://www.zhaw.ch/ilgi/master)

**Modern pilot plants and laboratories in our new Future Food Campus will be available for you to work on your master's thesis**

[www.zhaw.ch/future-of-food/en](http://www.zhaw.ch/future-of-food/en)

## Contact

If you have any questions about the specialisation in Food and Beverage Innovation, please contact me by email.



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# Structure of the MSc programme

## Four steps to the MSc in Life Sciences

The three semesters of full-time study which lead to your Master of Science in Life Sciences comprise the following three fields of competence plus a Master's thesis, giving a total of 90 credits (**module descriptions at [www.zhaw.ch/lspm/master/en](http://www.zhaw.ch/lspm/master/en)**).

### Core Competences – minimum 12 credits

These modules provide you with work-oriented skills. With these Core Competences you acquire knowledge in the following areas: «Management, Business and Society» as well as «Handling and Understanding Data».

Each module lasts half a semester – approx. 2/3 of the lessons are held online and approx. 1/3 consists of decentralised teaching (accompanied exercises, case studies etc.) directly in Wädenswil. You choose at least four from the following eight modules (each 3 ECTS):

#### Core Competences in Management, Business and Society:

- Business Administration for Life Sciences
- Management and Leadership for Life Sciences
- Innovation and Project Management
- Politics and Society

#### Core Competences in Handling and Understanding Data:

- Handling and Visualising Data
- Design and Analysis of Experiments
- Modelling and Exploration of Multivariate Data
- Data and Ethics

### Cluster-specific modules – minimum 9 credits

Cluster-specific modules (each 3 ECTS) complement the specialisation modules. The specialisation Food and Beverage Innovation is part of the cluster Food. You choose at least three from the following five modules out of the cluster Food.

#### Cluster Food:

- Progress in Food Processing
- Nutrition and Nutrition Related Chronic Diseases

- Foodomics
- Sustainable Food Supply Chains
- Advanced Sensory Techniques
- Journal Club Food and Nutrition Sciences

In addition to the modules listed above, you can also choose from the following modules from other clusters (each 3 ECTS):

- Life Cycle Assessment (Cluster Environment)
- Sustainable Natural Resource Management (Cluster Environment)

### Specialisation Skills – 20 credits

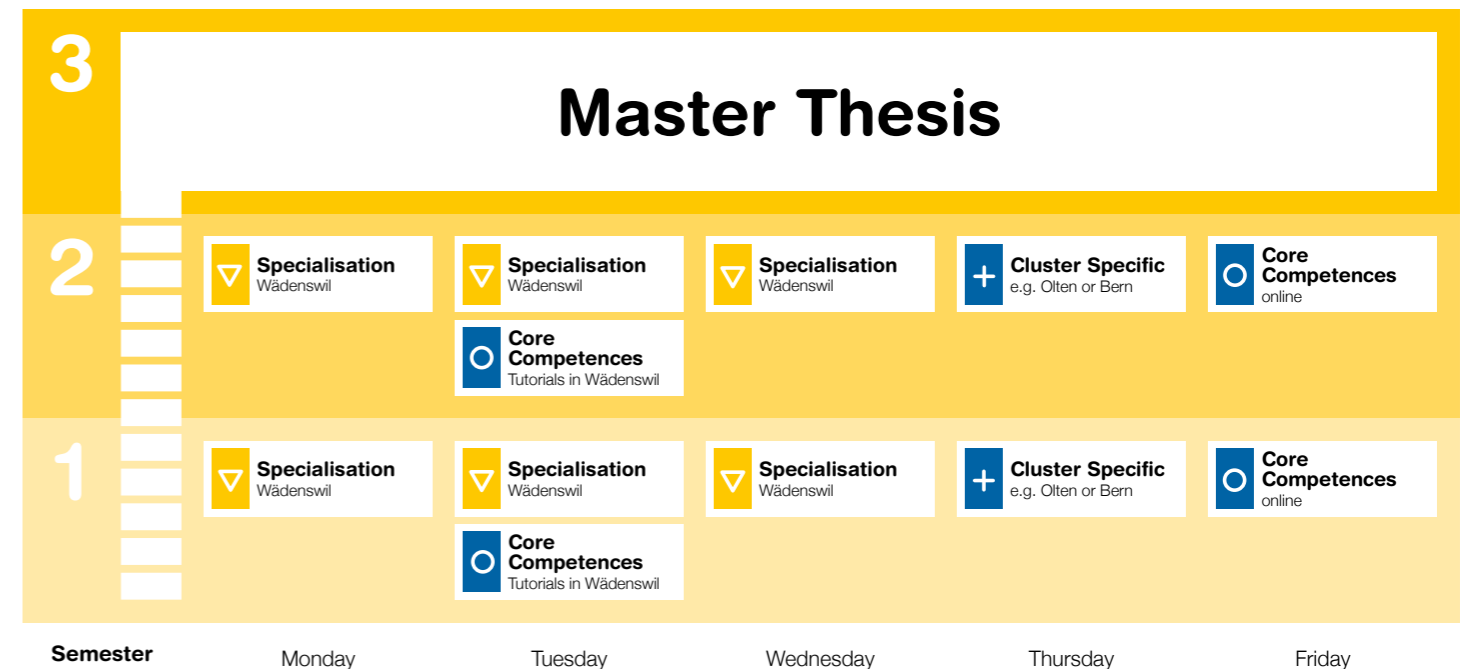
You broaden your specialised knowledge of Food and Beverage Innovation by attending the following modules (each 5 ECTS):

- Food Innovation
- Product and Process Design
- Managing the Food Supply Chain
- Food, Society and Nutrition

In addition, the elective module – Digital Food Business (3 ECTS) is offered.

### Master's Thesis – 40 credits

The Master's thesis is the core of your studies. You usually select your topic before beginning the MSc programme (more on page 7).



## Structure of the programme

The diagram shows the general structure of a full-time Master's programme. You determine the actual sequence and focal points yourself (see the Study Agreement section).

## Study Agreement


Before your studies begin, you decide on your personal educational goals, define the topic of your Master's thesis, and select the appropriate individual modules in agreement with the head of the specialisation and your mentor. Your personal study programme is based on your educational background, your interests and your objectives. The Study Agreement and the learning methods used in the programme, based on independent study, contact lessons and e-learning, enable you to create a contemporary learning experience with a high degree of flexibility.

## Cooperation

The Master of Science in Life Sciences is a cooperative venture conceived and run by the ZHAW together with three other Swiss universities of applied sciences:

- The Berne University of Applied Sciences BFH
- University of Applied Sciences and Arts Northwestern Switzerland FHNW
- University of Applied Sciences and Arts Western Switzerland HES-SO

In the cooperation modules you benefit from the expertise of all four partners, create a broad network, and participate in interdisciplinary exchange. Classes take place in English (required language level C1).



“ Innovative learning and professional research are in store for you at this inspiring location above the Lake of Zurich. ”

## About us

### The ZHAW

The ZHAW (Zurich University of Applied Sciences) is one of the leading universities of applied sciences in Switzerland. Teaching, research, continuing education, consulting and other services are scientifically-based and practice-oriented. The ZHAW comprises eight schools at three locations (Wädenswil, Winterthur, Zurich). Currently, over 14000 students are enrolled at the ZHAW.

### The School of LSFM

The School of Life Sciences and Facility Management (LSFM) is located in Wädenswil on the left shore of the Lake of Zurich. Teaching and research are carried out in the fields of environment, nutrition/food, health and society. The degree and continuing education programmes include Bachelor's degree programmes, Master's degree programmes, and a wide range of continuing education courses. Around 1800 students are currently enrolled at the LSFM in Wädenswil.



Environment | Food | Health | Society  
Our competencies in Life Sciences  
and Facility Management.

### Study and continuing education

The Bachelor's degree programme provides practically-oriented knowledge, general education and training in work methodology, and leads to a professional qualification. The consecutive Master's degree programme allows you to specialise within your chosen field and acquire an additional professional qualification. Four Master's degree programmes are offered at the ZHAW campus in Wädenswil: Preneurship for Regenerative Food Systems, Life Sciences, Real Estate & Facility Management and Environment and Natural Resources. Engaging in ongoing education and keeping your skills and know-how up to date are important for ensuring professional success. The ZHAW offers customised, practice-oriented courses, symposiums and continuing education programmes.

### Research and development

Working in conjunction with businesses, public agencies and associations, our institutes engage in applied research and provide services for third parties. Close collaboration with external parties ensures the transfer of knowledge and technology between the academic realm and professional practice. Our technical installations and equipment are state-of-the-art. In our modern laboratories and testing and production facilities, applied research and development projects can be conducted to the highest professional and practical standards.

# Study and research in Wädenswil: practically-oriented, creative, passionate and reflective

The ZHAW is one of the leading Swiss universities of applied sciences. The School of Life Sciences and Facility Management currently has around 1800 students and employs more than 600 people. The educational programme comprises Bachelor's and Master's degree programmes as well as a broad range of further training and education courses.

Our expertise in life sciences and facility management in the areas of the environment, food and health enables us to make a vital contribution to solving social challenges and improving quality of life. Our success is based on dynamic institutes with extensive competence in research, development and services in the disciplines of applied computational life sciences, biotechnology, chemistry, food and beverage innovation, natural resource sciences and real estate & facility management.



**Environment | Food | Health | Society**  
Our competencies in Life Sciences  
and Facility Management.

ZHAW Campus Reidbach / Einsiedlerstrasse

ZHAW Campus Reidbach / Seestrasse

Residential building for students

ZHAW Campus Gruental

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Visit us



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wädenswil