



from
autumn
semester
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Food Science and Nutrition

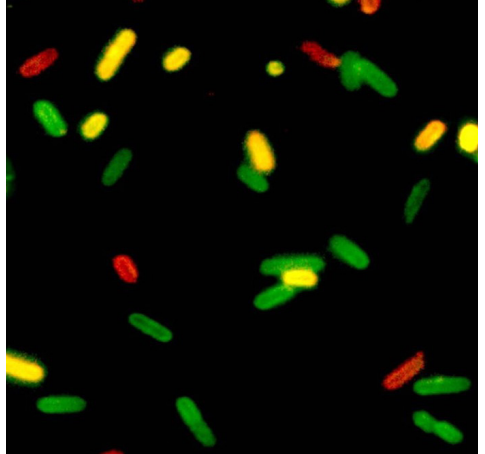
Information about the
study programme



Why Food Science?

Have you ever thought about what you eat? How does an African cocoa bean become Swiss chocolate? Or how can you produce hundreds of different products from milk using microorganisms? Why can a particular diet help reduce the incidence of cardiovascular diseases or cancer?

These are the questions that Food Science is concerned with – with the aim of feeding the world's entire population. The findings from Food Science lay the foundations for safe, high-quality, healthy food through the sustainable use and processing of natural resources.



What is the objective of Food Sciences?

The goal of Food Science is to ensure the nutrition of people all around the globe. The issue of nutrition and the human need for health and well-being are therefore at the centre of this discipline.

How does it work?

Innovative technologies and fundamental knowledge about the structure of food, possible microbial or toxic contamination, and the metabolism of nutrients are required in order to find solutions to world food problems and prevent and treat nutrition-dependent diseases.

Food Science and Nutrition explore the fundamental relationships between food quality, production processes and the impact of nutrition on health.



Who is best suited to the study programme?

Food Science and Nutrition is an interdisciplinary study programme. It combines biomaterials and natural sciences, technical process sciences and technology, nutrition science and consumer behaviour. The programme provides knowledge of the entire food chain, from raw materials to the well-being of the consumer. If you are interested in natural sciences and technology, like to think beyond the boundaries of individual disciplines and want to apply your knowledge with a global perspective to food processing, food safety and healthy nutrition, then Food Science and Nutrition is the right place for you.

What are the benefits of the programme?

Graduates of Food Science and Nutrition are experts with an interdisciplinary overview of the entire food chain, from raw materials to the well-being of consumers. Graduates are trained in

- the model-based and application-oriented description of basic procedures and technical production processes for food,
- the principles for the production, processing, preservation and storage of food,
- the role of microorganisms,
- the elements and structures of raw materials and products and their behaviour in all processing steps, and

- the interaction between health and nutrition.

These skills open up a wide range of career opportunities. The growing needs of the food industry, the large number of research and control institutions in the field of food, nutrition and health, and the demand for healthy, safe nutrition require well-trained specialists and managers worldwide.

In Switzerland, only ETH Zurich offers this programme at the university level.

More information

www.hest.ethz.ch/en/studies
www.worldfoodsystem.ethz.ch



The study programme

The programme is structured in stages:

- The first level, the bachelor's programme, teaches the basics in natural, social, engineering and specialist subjects. The bachelor's degree entitles the holder to enter the master's programme.
- The second level, the master's programme, imparts specialist expertise and leads to professional qualification with the acquisition of the master's degree.

The scope of studies is recorded in credits according to the Bologna model. One credit (CP) corresponds to about 30 hours of study.

Bachelor's degree in Food Science and Nutrition

The first year includes the basics in mathematics, biology, chemistry and physics, as well as social sciences. The first-year examinations are taken in two blocks (February and August). They are the first hurdle in this course of study.

In the second and third years, the choice of subjects increasingly focuses on Food Science and Nutrition subjects as well as courses in the category «Science in Perspective». The bachelor's thesis completes the three-year bachelor's programme.

The teaching language is predominantly German.

The bachelor's programme comprises **180 credits** (CP):

Area	Courses	Credit Points	
Natural and Engineering Sciences	Mathematics Biology Chemistry Physics Computer Science	20 19 16 12 4	71
Social Sciences	Economics, Legislation	5	5
Food Science	World Food System Food Science Excursions	8 73 2	83
Science in Perspective		6	6
Bachelor's thesis		15	15



Master's degree in Food Science and Nutrition

The master's programme teaches the ability to work on complex issues at a highly scientific level. Students acquire skills that enable them to take on responsible tasks in industry, public administration and research. The focus is on majors.

There are two majors to choose from:

- Food Science and Technology
- Nutrition and Health

In addition, there are further courses within or outside of the major, i.e. minors, electives, and courses in the category «Science in Perspective».

The language of instruction is predominantly English.

The master's programme comprises **90 credits** (CP):

Structure of the Master's Degree Programme			90
Major	Core subjects	15	40
	Profile subjects	25	
Minor			10
Electives			7
Science in Perspective			3
Master's thesis			30

Career opportunities

The food industry is one of the largest production industries in the world. As a consequence, a large number of food professionals are sought after. Food scientists are also in demand in public administration, in organisations for development and international cooperation and in related industries such as pharmaceuticals and cosmetics. Examples:



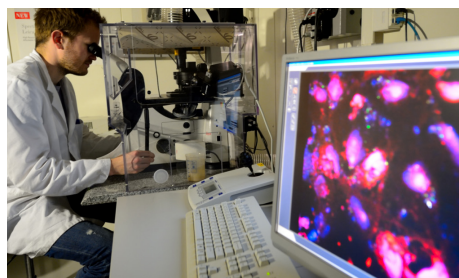
Research assistant



Head of product development in a food group



Entrepreneur with own production



Head of quality assurance at a supermarket chain



Marketing manager in the pharmaceutical industry



Lecturer at a vocational college or university of applied sciences

ETH food professionals



Dr. Michael Beer, Assistant Director, Federal Department of Home Affairs FDHA, Federal Office of Food Safety and Veterinary Affairs BLV, Food and Nutrition Division

Global trade poses an enormous challenge for food safety. Food professionals at ETH Zurich have the knowledge to take over responsibility and make the right decisions to best protect the health of the Swiss population.



Dr. Béatrice Conde-Petit, Sustainability Officer, Bühler AG

Supplying the world's population with healthy and sustainably produced food is one of the great challenges of our time. Food professionals are offered a wide range of career opportunities at the interface between science, industry, and society. Bühler is a long-standing industrial partner of ETH Zurich and appreciates the high quality of education and the broad spectrum of research as a basis for innovations that benefit society.



Marianne Wüthrich Gross, Co-Director, Hug AG

My studies in Food Science at ETH gave me a broad foundation for success in various positions in the producing food industry. It was the ideal basis for an exciting career – I would certainly choose the same path again.



Dr. Marc Lutz, President of the Swiss Society of Food Science and Technology (SGLWT)

Thanks to their broad and solid knowledge base, ETH food professionals are versatile and highly valued by the food industry, whether in research, development, quality assurance, production or even in marketing and sales – right up to the highest management levels.

ETH Zurich – Where the future begins

Freedom and individual responsibility, entrepreneurial spirit and open-mindedness: ETH Zurich stands on a bedrock of true Swiss values. Our university for science and technology dates back to the year 1855, when the founders of modern-day Switzerland created it as a centre of innovation and knowledge. At ETH Zurich, students discover an ideal environment for independent thinking, researchers a climate which in-spires top performance. Situated in the heart of Europe, yet forging connections all over the world, ETH Zurich is pioneering effective solutions to the global challenges of today and tomorrow.

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Photos: Title page: Dominique Meienberg, Zurich; Why Food Science: top - Mathias Schmelcher, ETH Zürich; bottom - André Urech, Baden; Who is best suited: Hannes Hübner, Zurich; Master in Food Science and Nutrition: Hannes Hübner, Zürich; Career opportunities: Hannes Hübner, Zürich, except photos bottom row: Gerry Amstutz, ETH Zürich.