Zurich University
of Applied Sciences

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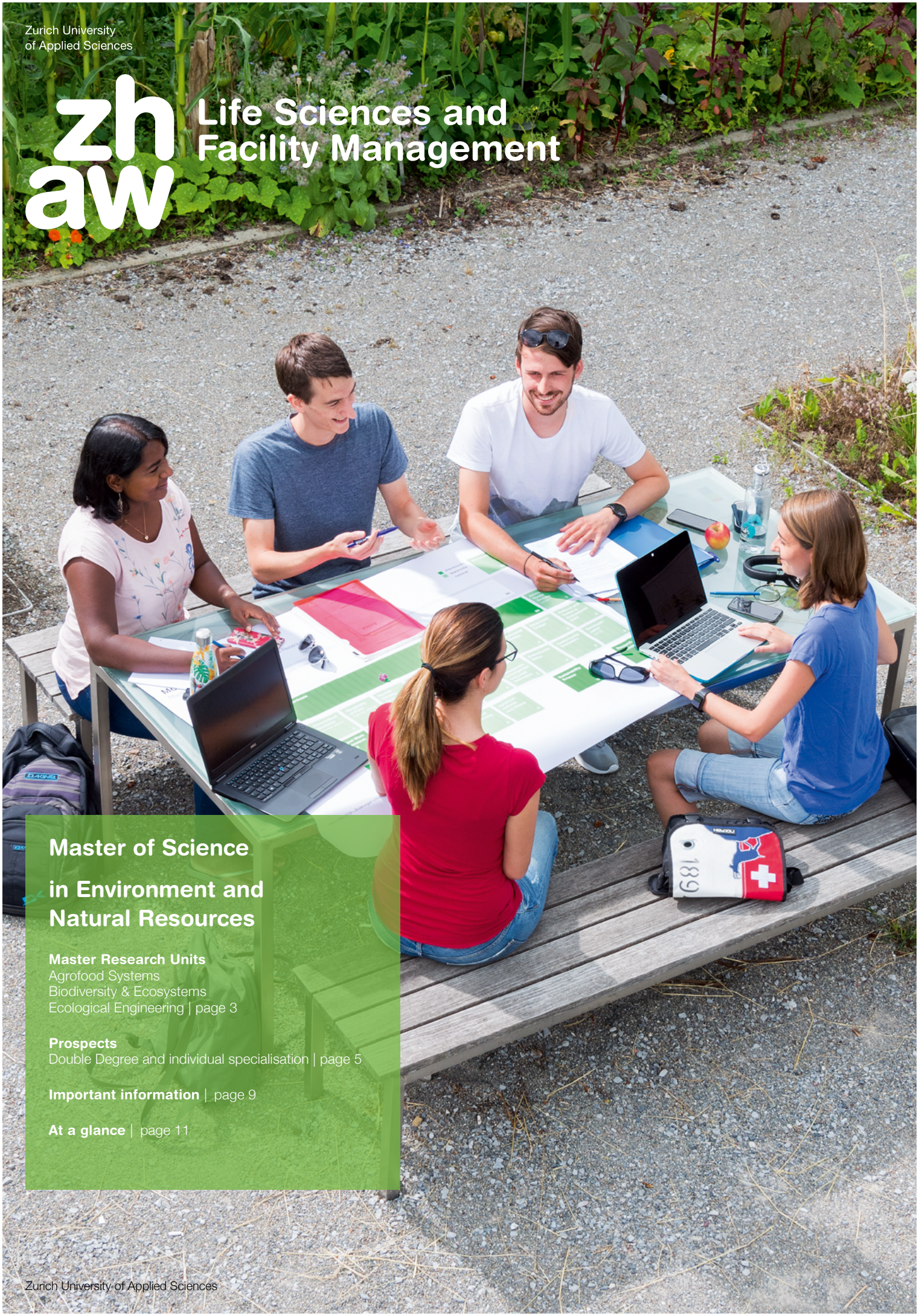
Life Sciences and Facility Management



Master of Science

in Environment and Natural Resources

Research at the interface between society, environment and technology

One of the greatest challenges of our time is to create a world that is worth living in, both for us and for future generations. Applied environmental and agricultural research looks for solutions which use our limited resources responsibly and efficiently. The Master's in Environment and Natural Resources qualifies you as an environmental specialist who is able to take on demanding responsibilities in both companies as well as educational and research institutions.

Study goals

The programme helps you to recognise current problems as well as future developments in your area of expertise and enables you to analyse them from a holistic perspective. This requires a solid foundation and recognised competence in your field. To develop viable and sustainable solutions, curiosity, openness and the ability to work with researchers from other fields and stakeholders is also needed. Knowledge of and involvement in project management are also extremely important. In the Master's programme, you learn to consider issues from different perspectives, and to apply your insights to the development of concepts and the implementation of projects. Working in research groups creates opportunities to take initiative and strengthens your critical thinking and teamworking skills.

Master Research Units (MRU)

At the beginning of your studies, you choose one of the three main specialisations (Master Research Units). This determines the main focus of your studies:

- Agrofood Systems
- Biodiversity & Ecosystems
- Ecological Engineering

For your MRU specialisation you choose a research unit from the Institute of Natural Resource Sciences or one of our partner organisations, where you complete your Master's Studio (Project Work 1 and 2 as well as Master's thesis). This Master's Studio accounts for 50% of your studies. Being integrated in a research group allows you to choose an individual specialisation and provides you with in-depth insights into current research and development work. This enables you to already start building your research and professional network during your studies.

In addition to the individual specialisation, the Master's programme includes modules in research methods and socio-economics, a summer school and lectures on your chosen specialisation. Furthermore, the large number of electives allows you to organise your studies according to your interests and professional goals.

International mobility

You also have the opportunity to study abroad in order to enhance your individual profile. The ZHAW has a network of over 70 partner universities in 15 European countries, enabling you to study abroad for a semester. Another option is to complete your Master's thesis by working with an organisation or at a university abroad. You can also obtain a university degree (Double Degree) by completing a fourth semester at our partner university in Ljubljana, Slovenia.

Find out more about international mobility and read about our students' experiences at: **www.zhaw.ch/lsfm/international/en**

Master Research Units

Agrofood Systems

This specialisation focuses on issues of sustainable food production and the interconnected challenges of climate change, agricultural development and resource consumption. What form must agricultural production and the food production supply chain take in the future in order to safeguard the population's food supply, without destroying its own production base? In addition to examining solutions, you study interrelated socio-economic conditions and developments.

With the Agrofood Systems specialisation, you are able to define the requirements of sustainable food systems in terms of food security, rural development and resource conservation. You can identify sustainability conflicts within the food value chain and design solutions for sustainable production and supply chains. You are also familiar with the tools for controlling food systems and you can estimate and analyse their effects.

Biodiversity & Ecosystems

This specialisation examines terrestrial and aquatic ecosystems in rural and urban areas. In terrestrial systems, the promotion of biodiversity is becoming increasingly important. Knowledge of the factors that affect biodiversity and the interactions between these factors is in demand for the practical implementation of measures that form the Swiss Biodiversity Strategy. Aquatic ecosystems are among the most vulnerable ecosystems. The sustainable development and revitalisation of bodies of water requires a fundamental understanding of complex aquatic-terrestrial interactions.

With the Biodiversity & Ecosystems specialisation, you learn methods for describing biodiversity and are able to apply them in practice. You are able to quantify changes in key ecosystem processes and propose practical protective measures. You know how to apply the concept of ecosystem performance to issues in urban and rural areas, and you are also able to negotiate strategies for the development of biodiversity and ecosystems based on research results.

Ecological Engineering

The aim of this specialisation is to combine engineering with ecology and holistic thinking. Natural materials, processes, organisms and ecological principles are employed as tools and utilised in technical systems. Development objectives for creating a sustainable society cannot be achieved solely by technical means, but instead require ecology, technology and socio-economic factors to be cleverly combined.

The focus on Ecological Engineering enables you to recognise current challenges in the field of eco-technologies, and to formulate and implement concrete solutions. You understand the interactions between (micro) biology and technology in concrete applications and can analyse and model them. You can plan and control circulatory systems according to eco-technological criteria, and you are also able to evaluate and optimise energy concepts according to technical, ecological and economic criteria.


In the Master's in Environment and Natural Resources programme you are part of a research team and can study in a creative environment.

Prospects

Double Degree

The Master's is based on close cooperation with the University of Ljubljana in the form of a double degree. This allows you to complete a fourth semester (30 ECTS credits) in Slovenia and obtain a «Master of Science in Environment and Natural Resources ZHAW/University of Ljubljana». This degree qualifies you to begin a Ph.D. programme. Further information on the Double Degree can be found at:
www.zhaw.ch/iunr/master/en

Continuing education

Continuing education is becoming increasingly important in our constantly changing world of work. The Institute for Environment and Natural Resources offers innovative and professionally oriented further education studies (CAS, DAS, MAS), further education courses and specialist conferences that are unique in Switzerland. The courses are designed to reflect our international context and provide you with a platform to broaden your knowledge and exchange expertise. Further information can be found at:
www.zhaw.ch/iunr/weiterbildung

Qualifikationen

Your chosen specialisation and the topic of your Master's Studio enable you to focus on your own area of expertise and to set the tone for your future career. With your Master's Degree, you can find employment as an environmental expert or project manager in consulting and planning offices in the environmental sector, in specialist federal and cantonal departments, and in NGOs, or as a sustainability officer in production and service companies, especially in companies on the agrofood value chain. You have the qualifications to take on managerial functions, or to start your own business or consulting firm.

Your areas of expertise depend on the specialisation:

Agrofood Systems
- Project manager for the development and implementation of environmental standards in a food company
- Expert in a research institution or NGO in the field of agricultural systems and rural development or sustainability communication
- Team leader in SMEs and large companies in agricultural value chains
- Project leader in a company that initiates, enforces and controls label programmes

Biodiversity & Ecosystems
- Senior associate in a consulting office specialising in ecological projects
- Research assistant in public administration in the field of nature and landscape preservation
- Project leader in an NGO in the field of water, biodiversity or landscape development and research

Ecological Engineering
- Person responsible for the fields of sustainability, environment and energy in a company or for a city
- Consultant for an energy consulting company
- Project manager in the field of recycling
- Expert in an NGO, which implements ecotechnology systems

Master's Degree Student

«My goal is to improve people's quality of life and their health, be it in my professional environment or in my studies, where I am committed to creating a more sustainable and liveable city. I need sporting activities for balance – everything is possible thanks to the individually customisable part-time studies.»

Raïna

About us

The Institute

The Institute for the Environment and Natural Resources is located in Wädenswil on the left bank of the Lake of Zurich. At the Grüental campus, the Institute conducts research related to landscape development and use, and land and energy management. The range of both the study and continuing education options includes the Bachelor's degree in Environmental Engineering, the Master's Degree in Environmental and Natural Resources, as well as a broad selection of continuing education courses.

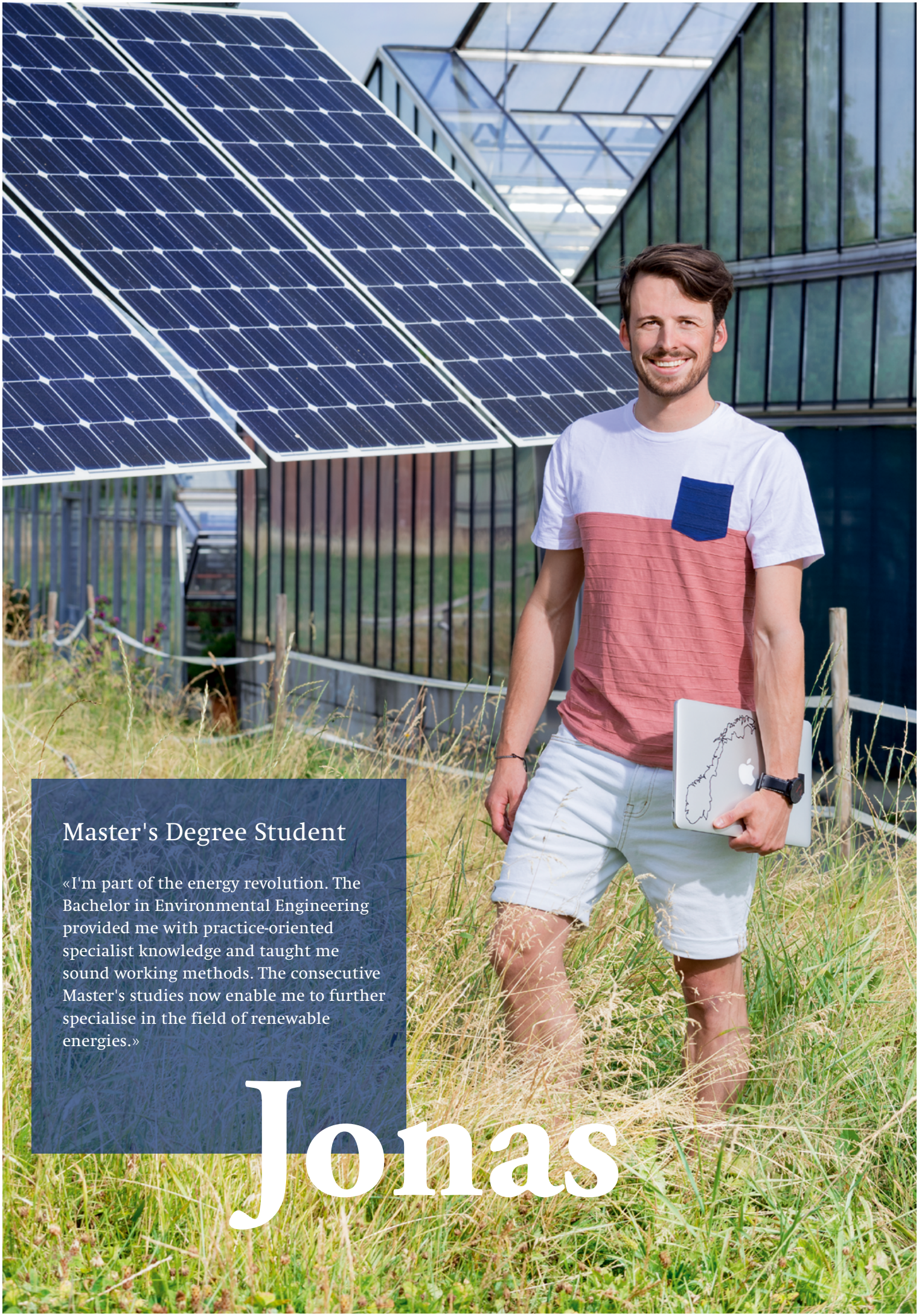
The Institute both teaches and conducts practical research. Accordingly, cooperation with industry, public institutions, associations and research partners is very close. This promotes both knowledge and technology transfer between the university and practice. The Institute has high-tech testing rooms, open-air laboratories, greenhouses and arable land. The gardens in Grüental are of value for both study and research and are an important attraction for the general public.

Collaboration

In addition to international cooperation in the form of a double degree with the University of Ljubljana, the Master's programme relies on close partnerships with other institutions:

- University of Zurich Department of Political Science
- ZHAW Institute for Sustainable Development of the School of Engineering
- ZHAW Department of Social Work
- ZHAW School of Management and Law
- ZHAW Institute for Applied Simulation, Institute of Chemistry and Biotechnology and Institute for Food and Beverage Innovation of the Department of Life Sciences and Facility Management

These partnerships make it possible to diversify the range of courses on offer. In addition, the researchers involved in these partnerships hold lectures and seminars. For research and teaching, we also work with the FiBL Research Institute of Organic Agriculture, Agroscope and the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL).



Master's Degree Student

«I'm part of the energy revolution. The Bachelor in Environmental Engineering provided me with practice-oriented specialist knowledge and taught me sound working methods. The consecutive Master's studies now enable me to further specialise in the field of renewable energies.»

Jonas

Important to know

Admissions criteria

For a Master's Degree, a degree in environmental sciences, a related field or an equivalent degree is required.

If you decide to study at the Master's level, you should choose one of the three areas of specialisation and a research group in which you would like to complete your Master's Studio (Project Work and Master's thesis). Once these decisions have been made, you can apply online.

All information about the research groups and the possible topics for your Master's Studio can be found on the website. Please note that space is limited for Master's students in the research groups. It is therefore recommended to apply early.

Once you have applied, you will be invited to an interview to determine your suitability for admission to the programme (specific subject competences for the chosen specialisation, study ability and motivation). You may be required to meet further conditions if your previous studies were in a different field. Furthermore, your language abilities in English and German will also be examined. You will be informed as soon as possible about the decision regarding your admission.

Dates

The programme begins in mid-September, and the application deadline is April 30th.

Every year several information events take place, in which students, MRU officers and lecturers report on their studies and are available to answer questions. On these occasions, you can visit classrooms and laboratory facilities on the Grüental campus. This will give you some insight into the diverse teaching and research activities of the Institute for the Environment and Natural Resources.

Important dates, information events and other information can be found at:
www.zhaw.ch/lsfm/study

www.zhaw.ch/iunr/master/en

Focus on sustainability: In Wädenswil your finger is on the pulse of current research towards creating a resource-efficient economy.

At a glance

Degree Programme Specialisations	Environment and Natural Resources Master Research Units (MRU): Agrofood Systems, Biodiversity & Ecosystems, Ecological Engineering
Title	Master of Science (MSc) ZFH in Environment and Natural Resources
Master's Studio	For your MRU specialisation you choose a research unit from the Institute of Natural Resource Sciences or one of our partner organisations, where you complete your Master's Studio (Project Work 1 and 2 as well as Master's thesis). You write your thesis as part of one of the research groups' projects and answer a concrete question arising from practical or applied research in your area of specialisation
Double Degree	With the addition of an additional 30 ECTS at our partner school, Ljubljana University in Slovenia, you can obtain a university degree
Duration	Full-time: 3 semesters (90 ECTS credits) or 4 semesters (120 ECTS credits) for the Double Degree The part-time study program is integrated into the full-time study programme and lasts up to 2 to 3 years, depending on the workload
Start of studies	Mid-September (Calendar Week 38)
Workload	90 credits (ECTS); 1 credit equals 25 to 30 hours of study
Campus location	Lectures usually take place at the ZHAW in Wädenswil; excursions and project weeks occur at various national or international locations
Costs	Semester fees: CHF 720 (subject to change) plus learning materials, membership to the sports association (ASVZ) and individual living expenses. An additional tuition fee of CHF 500 per semester is applied to all students who come to Switzerland for the purposes of studying and who are not officially Swiss residents at the start of their programme.
Admissions criteria	You will be admitted to the programme if you have a Bachelor's Degree in the field of environmental sciences or an equivalent university degree, and receive a positive decision based on an admissions interview.
Important to know	In the 3-semester Master›s programme (full-time) you will broaden your technical and methodological knowledge as well as your scientific skills. Interdisciplinary skills and application-oriented research are the focus of your studies; Language of instruction in the 1st Semester: German, in the 2nd Semester: English; The Master's thesis is completed at the research group's location in the language agreed upon with the supervisor.
Information dates	Twice a year, in March and November; Details: **www.zhaw.ch/lsfm/study**
Kontakt	 Program Director: Martina Weiss master.iunr@zhaw.ch

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 1500 students and over 600 employees. Its study and continuing education options include five Bachelor's and three Master's degree programmes as well as a broad selection of continuing 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 five dynamic institutes with extensive competence in research, development and services in the disciplines of chemistry and biotechnology, food and beverage innovation, natural resource sciences, applied simulation, and facility management.

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

Contact

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Visit us

bilden und forschen
wädenswil

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