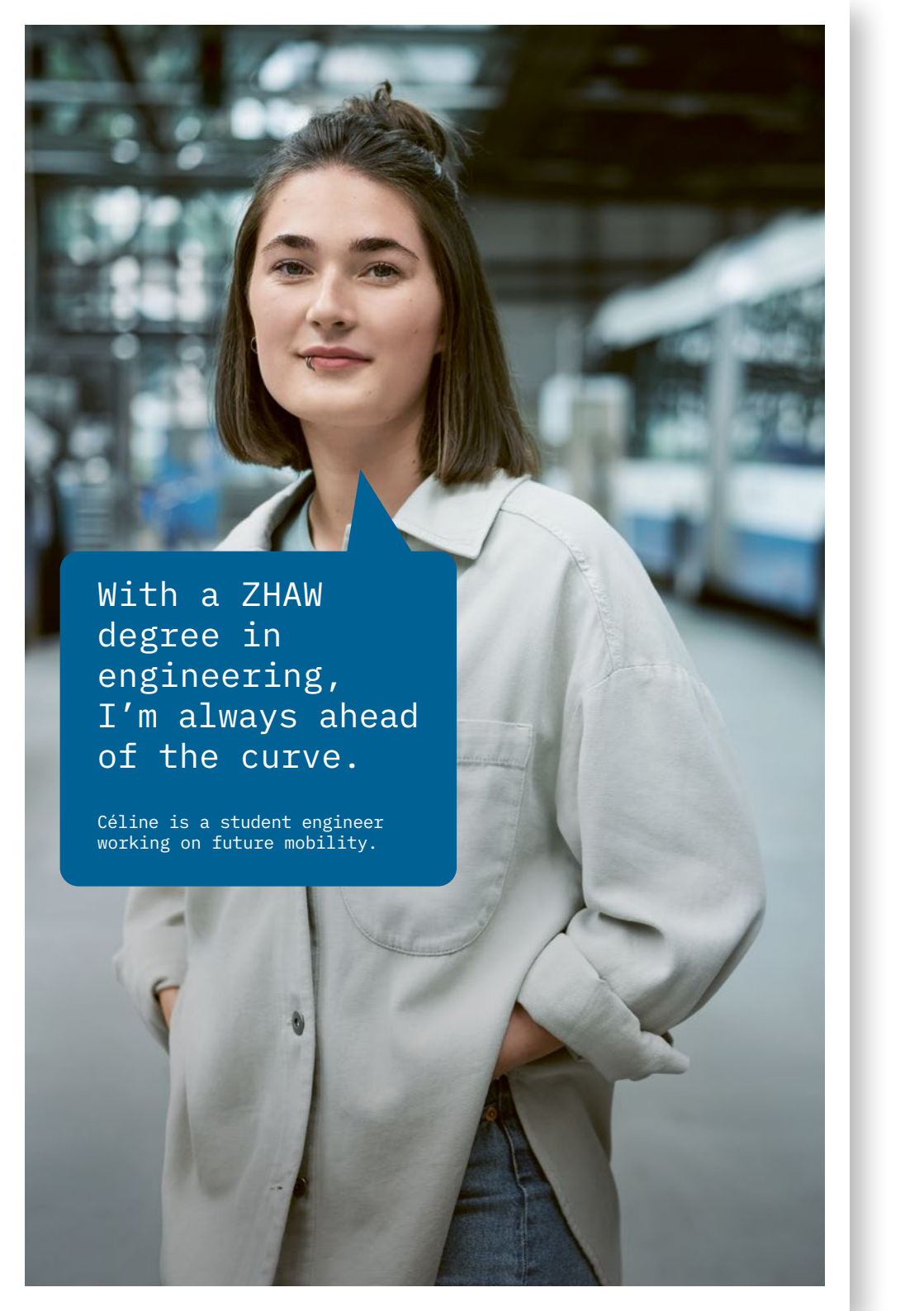




School of
Engineering

Degree programmes



With a ZHAW
degree in
engineering,
I'm always ahead
of the curve.

Céline is a student engineer
working on future mobility.

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Our pledge

Professor Dirk Wilhelm
Dean



“What makes a good engineer? This is a question we are constantly asking ourselves. It’s also one we pose to our industry partners, who also provide us with answers. A student graduating with a Bachelor’s or Master’s degree from the ZHAW School of Engineering today is equipped with a solid foundation of knowledge and in-depth expertise in a specific subject area, and is ready to play an active role in shaping the age of digitalisation.”

“Most of our lecturers come from industry and work on R&D projects alongside industry partners. The results flow right back into teaching, guaranteeing practical, cutting-edge programmes.”

**Professor Thomas Järmann
Head of Academic Programmes**



What you can expect from us

Solid foundations



A solid foundation in mathematics and science is an important prerequisite for a career in engineering. During your first year, you will build this foundation, while also learning the fundamental principles of your subject.

On all degree programmes, you can choose from a wide range of elective modules, tailoring your studies according to your interests and desired career.

Variety and choice



Up-to-date



Our lecturers work alongside partners from business and industry to develop technical solutions to concrete problems, with results and findings flowing continuously into teaching.

Practice-oriented



In the course of your studies, you also have the opportunity to develop practical solutions, in some cases in cooperation with partners from business: as part of project-based teaching, group work and at the end of your degree in your dissertation.

All degrees are also offered on a part-time basis. The condensed timetable means part-time studies can be easily combined with work commitments. We recommend a maximum workload of 60% during teaching time.

Balance between work and study



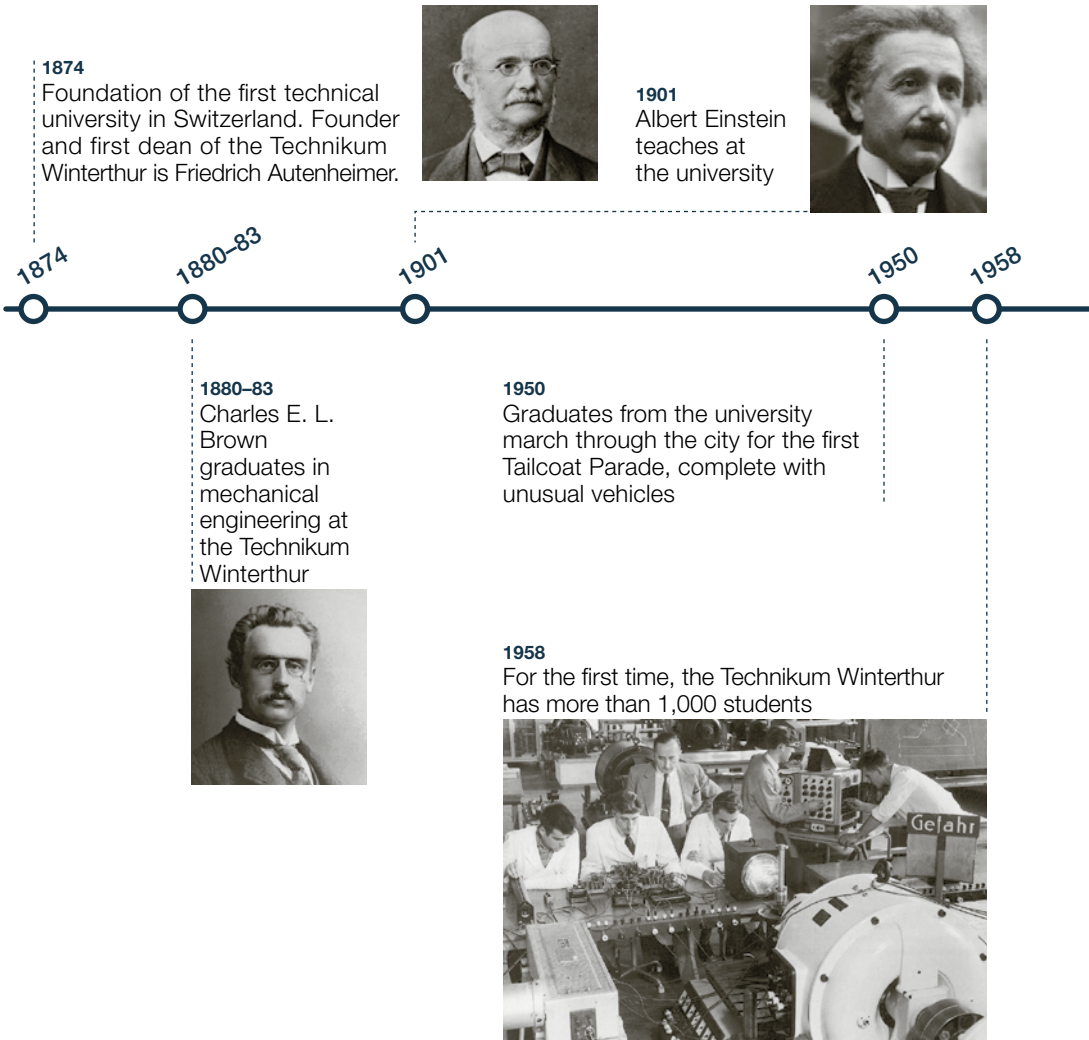
Tradition and innovation



The history of the Technikum Winterthur, as the university was previously known, goes back to the year 1874. To this day, traditions such as Tailcoat Week and the Tailcoat Parade – which culminates in the ‘Bart ab!’ event, when students shave off their beards – testify to the long tradition and creativity of our students.

A university with history

As early as 1874, when the Technikum Winterthur was established, the ZHAW School of Engineering was an institution of learning and research, rich in tradition. Since its founding, the university has been closely linked to the development of Swiss engineering. Today, as one of Switzerland's leading technical education and research institutions, its focus is on future-oriented learning.



The imposing main building of the university, which was founded in 1874, was built between 1877 and 1878 by the municipal architect Theodor Gohl on the former Viehmarkt.



1977

1977

Thanks to donations made on the university's 100-year anniversary, the Türmlihus student dorm is established in 1977

1990s

1990s

Zurich University Winterthur is founded and new degree programmes are added



2007

2007

The School of Engineering becomes ZHAW's eighth department

zhaw School of Engineering

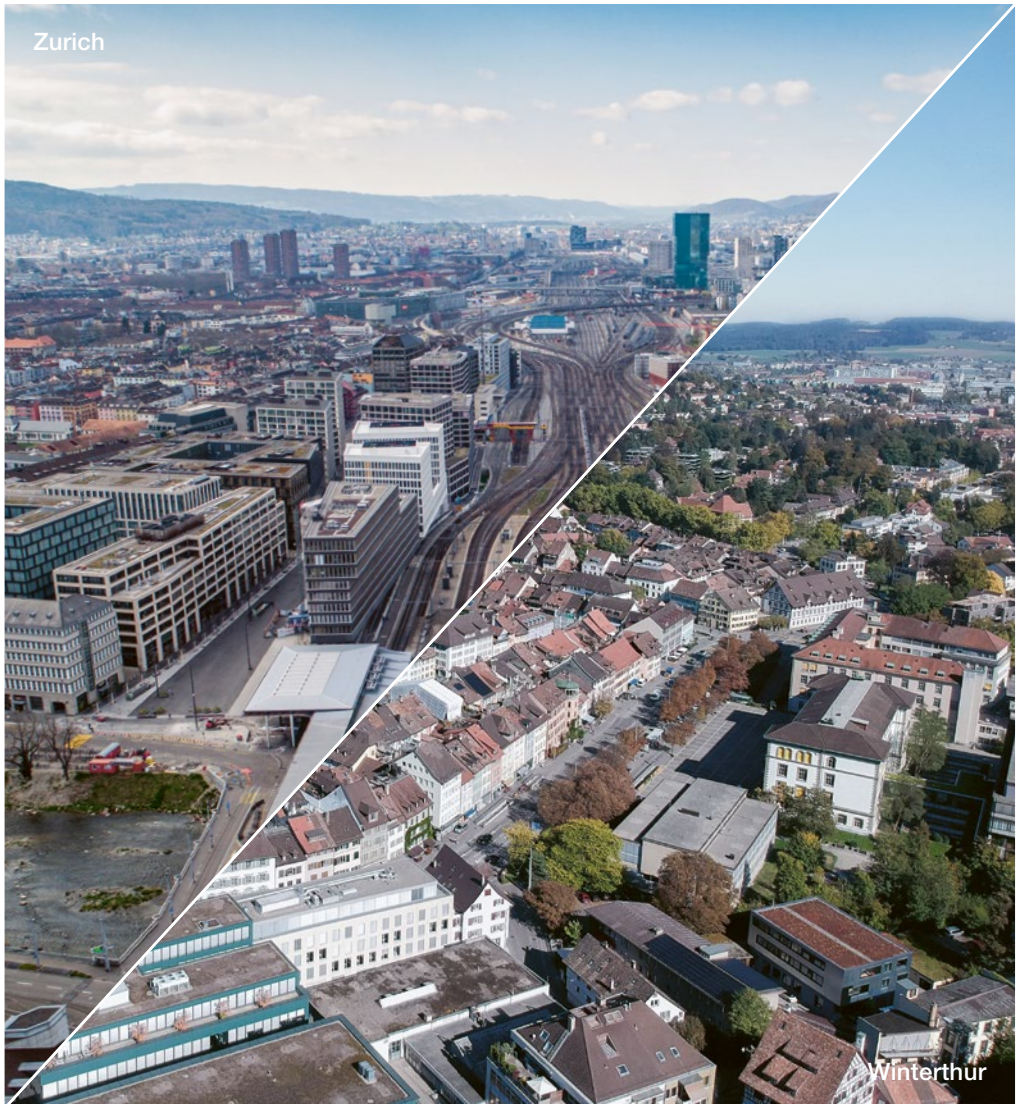
2021

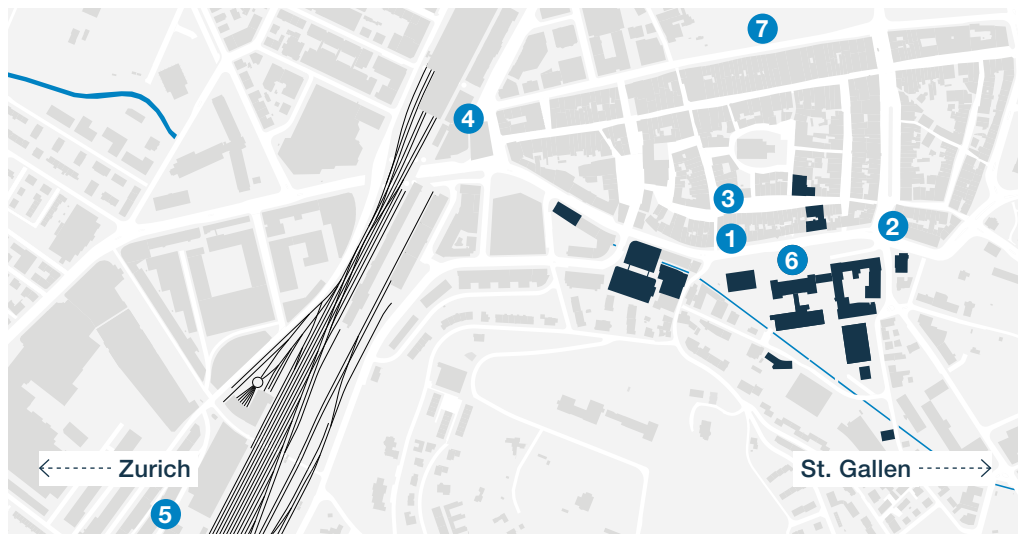
2021 et seq.

The ZHAW School of Engineering expands into a campus with a park in the Technikumstrasse area of Winterthur. The new buildings and open space are built in four stages.

Study in the heart of the city

The ZHAW School of Engineering's sites occupy a very central location: the Winterthur campus is right next to the Old Town, and the lecture halls in Zurich are just a few minutes away from the Central Station.





Modern infrastructure

We offer exceptionally well-appointed labs, a library, modern IT infrastructure and wifi hotspots.

Food

The School of Engineering campus has a cafeteria serving a variety of affordable meals. For a tasty lunch off-campus, there are numerous restaurants, takeaways and bakeries in the centre of Winterthur.

Leisure and going out

Alongside history and art, Winterthur's charming Old Town also boasts a vibrant bar scene. Another popular, well-loved feature is its festivals, which include Afro-Pfingsten and the Musikfestwochen in August.

Hot tips

- 1 **Äss-Bar – frisch von gestern:**
Sandwiches, cakes and salads from the previous day, all at an affordable price.
Technikumstrasse 50, Winterthur
(right opposite the main building).
- 2 **Bistro Alte Kaserne:**
Serving vegetarian lunches and home-made burgers. This bright, friendly bistro is part of the Alte Kaserne Kulturzentrum. It's a great place for cultural exchange and new encounters.
Technikumstrasse 8, Winterthur
- 3 **Winterthur weekly market:**
The traditional weekly market in the heart of Winterthur's Old Town takes place every Tuesday and Friday at the corner of Steinberg and Metzggasse. Its varied offering includes fresh produce from small regional businesses, such as fruit, vegetables, baked goods, pasta and flowers.
- 4 **Central train station**
- 5 **ASVZ sports centre**
- 6 **School of Engineering campus**
- 7 **City Park (Stadtgarten)**



Accommodation

The Association for Student Accommodation in Winterthur and Wädenswil (SWOWI) is responsible for administering housing grants and accommodation services for residences in Winterthur.

Sports

Students have access to a comprehensive free sports programme. The sports programme is managed by the Akademischer Sportverband Zürich (ASVZ). Students can train every day at one of six sports facilities in Winterthur and Zurich.

Alias students' union

Alias represents students' interests in discussions with public authorities, university management and external students' associations. It also hosts a jobs board on its homepage and organises socials and sports events. The membership fee is CHF 20 per semester.

Fees

The tuition fees for Bachelor's and Master's degree programmes are CHF 720 per semester. There is also a one-off registration fee of CHF 100 and a software licence fee of CHF 120. More information about fees is available on our website.

Admission requirements

More information about admissions is available on our website.



Smartphone app School of Engineering

The ZHAW School of Engineering's official app offers students, lecturers, staff and visitors mobile access to information about its programmes and campus.





Study

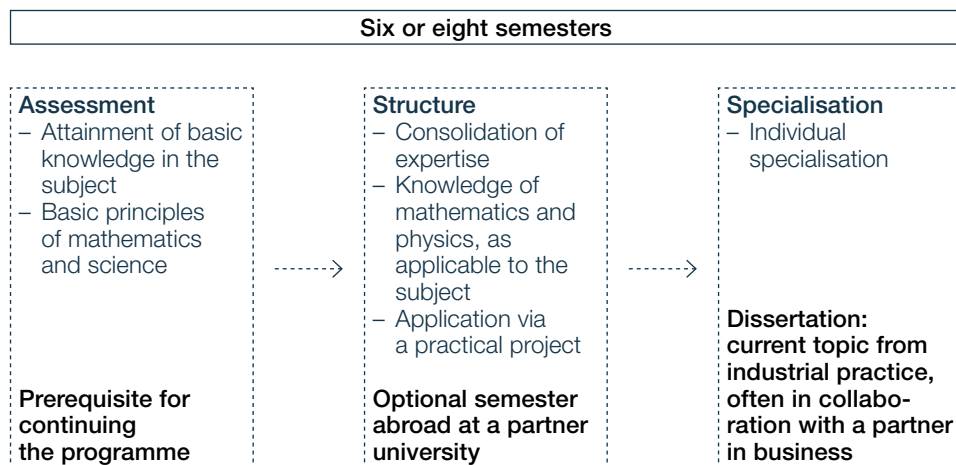


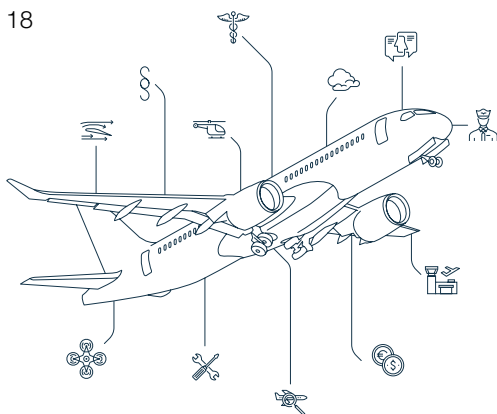


Programme structure

A Bachelor's degree gives students in Europe a professional, internationally recognised academic qualification. A full-time degree runs for six semesters and leads to a Bachelor of Science; a part-time degree runs for eight semesters.

The top Bachelor's students, graduating with an A or a B grade, have the option of completing a Master of Science in Engineering (MSE). The Master's programme can be studied full-time over three semesters or part-time over four to six semesters.





Curriculum content

What you'll learn

In aviation, it's important to be able to cope with a large number of different tasks in a short period of time. To master this complexity, on this programme, alongside deep technical and operational expertise, you'll also develop an essential understanding of the connections between ecology, economy, law and society.

Bachelor's in Aviation: gain an understanding of the entire aviation system

New propulsion technologies and aircraft concepts, drones and air taxis: the future of aviation is full of exciting challenges. Gain the skills you need to help shape the complex world of aviation.

“If you study aviation, you may not learn to fly, but you do learn how to understand flight, in all its complexity.”

Mathieu Wanner
Aviation graduate



Specialisation

The specialisations you can choose from

In the first two years, you will learn the basic principles of science and aviation, before deepening your knowledge in one of three specialisms:

----->

Technical engineering

----->

Operational engineering

----->

Combined qualification as an Airline Transport Pilot

Personal requirements

A degree in Aviation is the right choice if:

- ☐ you want to receive general training in aviation.
- ☐ you are a holistic thinker and have good teamwork and communication skills.
- ☐ you are interested in new technologies such as pilotless planes, automation and electric propulsion systems.
- ☐ you are ready to develop in-depth technical and operational expertise.

Careers

Potential careers after graduation

After your degree, you can work in technical or operational professions which reflect your interests, for example for:

- ☐ Public authorities
- ☐ Air traffic control
- ☐ Airports
- ☐ Airlines
- ☐ Maintenance companies
- ☐ Aircraft manufacturers and subcontractors
- ☐ Air force
- ☐ Banking and insurance companies



“The sector needs well-trained generalists, who are then able to specialise professionally in one of a number of expert fields.”

Our programme director will be happy to advise you:

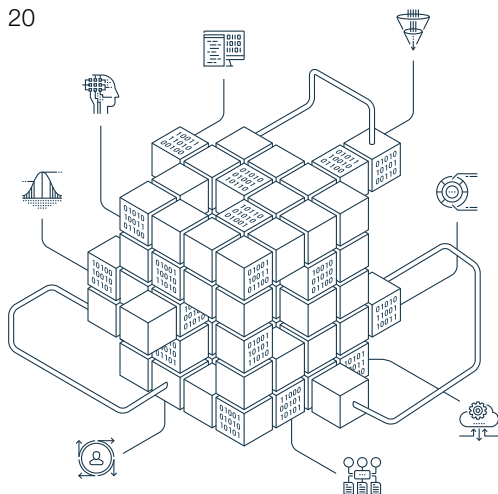
Christoph Regli

Programme Director, BA in Aviation

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Curriculum content

What you'll learn

Our Data Science programme covers all aspects of data collection, data preparation, data analysis and machine learning, through to visualisation and the implementation of data products. In the first two years, the focus is on learning the basic principles of mathematics and science, as well as basic subject knowledge, which includes programming, data analysis, probability theory and data engineering.

Bachelor's in Data Science: data as the foundation of new business models

Buzzwords like big data and artificial intelligence are defining the modern information age. Data scientists are at the forefront of this development and are building innovative products for the 'digital natives' of tomorrow.

“In the course of digitalisation, more and more data is becoming available, which is just waiting to be analysed and evaluated.”

Daniele Mele
Computer Science graduate



Specialisation

In your final year, you will deepen your expertise according to your personal interests with free-choice elective modules, which include the following subjects:

----->

Information Engineering

----->

Artificial Intelligence

----->

Finance/Banking

----->

Data-Supported Service Engineering

----->

Quantitative Methods in Marketing

----->

Digital Health

----->

Mobility Data

----->

Computational Life Sciences**Personal requirements**

A degree in Data Science is the right choice if:

- you're interested in big data, working with data and artificial intelligence.
- you want to combine traditional engineering with expertise in analytics, entrepreneurship and communication.
- you want to work in a future-oriented sector and play an active role in shaping the information age.

Careers

Potential careers after graduation

Opportunities for data scientists are available in all sectors where companies want to use data to tailor their products and services to their requirements or those of their customers, for example in the following areas:

- Industrial manufacturing
- Marketing and customer care
- E-commerce
- Banking and finance
- Public health
- Science and research



“Data-driven services and products are the cornerstone of the digital transformation in practically all areas of business.”



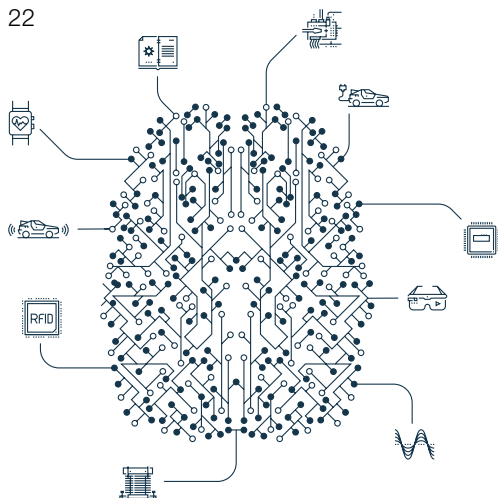
Our programme director will be happy to advise you:

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Programme Director, BA in Data Science

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Curriculum content

What you'll learn

Maths and physics are the scientific foundation of all disciplines in electrical engineering. Building on this, you will gain basic training in specific subjects, such as electronics, digital technology, energy and electrical drive engineering, control engineering, signals and systems, and computer science.

Bachelor's in Electrical Engineering: play your part in shaping technological progress

The fourth industrial revolution is electrifying society. Literally. From electromobility to the Internet of Things and digital health, electrical engineering is a key driver of digitalisation, with a broad range of applications.

“Electricity has fascinated me ever since I was a child. I now develop power converters for use in industry, transport and infrastructure.”

Noemi Hubatka
Electrical Engineering graduate



Specialisation

In your final year, based on your preferences and interests, you can create an advanced programme of free-choice elective modules, setting your own priorities and emphasis. These are some of the topics available:

----->

Automation, Drives and Energy Systems

----->

Computer Engineering

----->

Wireless Communications, Signal Processing and Sensor Electronics**Personal requirements**

A degree in Electrical Engineering is the right choice if:

- abstract thinking is one of your strengths.
- you are interested in modern information and communication technologies.
- you want to make an active contribution to digitalisation as an expert.

Careers

Potential careers after graduation

Electrical engineering is an integral component of almost every technical product and service. After your degree, you'll have access to a variety of interesting career options, for example in the following areas:

- Information and communication technology
- Development and planning of products, facilities and systems
- Commissioning, operation and maintenance
- Design and implementation of hardware and software
- Consulting and training

“Electrical engineering is a key driver of digitalisation. Its wide spectrum of applications, from power stations to intelligent microchips, is what makes this discipline so fascinating.”



Our programme director will be happy to advise you:

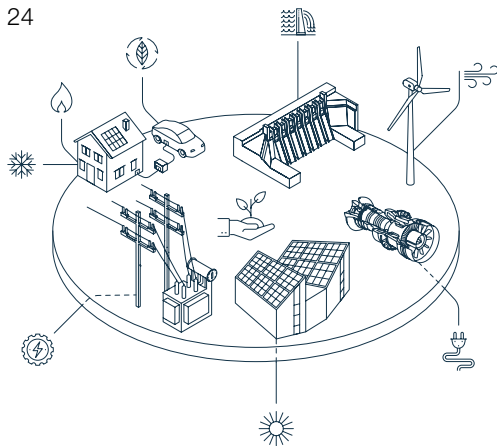
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Curriculum content

What you'll learn

The degree in Energy and Environmental Engineering will equip you with the expertise and methodology needed to develop, plan, assess and operate power engineering plants. It is essential that sustainable energy concepts are considered in a holistic, practical way, at the crossroads between economy, ecology and society.

Bachelor's in Energy and Environmental Engineering: accelerate the energy revolution

The way we generate energy is undergoing a radical shift. To save our planet, we have to reduce our use of conventional energy sources. At the same time, the demand for renewable energy is growing. This requires qualified engineers with an interdisciplinary approach.

“My goal was to use my training to contribute to the common good of society, and that’s what I’ve done.”

Sandro Mazzier
Energy and Environmental Engineering graduate



Specialisation

In your third year, you will specialise in one of three research areas:

----->

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Thermal Energy Engineering**Electric Renewable Energies****Sustainability and Technology****Personal requirements****A degree in Energy and Environmental Engineering is the right choice if:**

- you like working on topics relating to the environment and energy.
- you are interested in the interplay between different disciplines, such as electrical engineering and mechanical engineering, as well as profitability and sustainability.
- you want to help shape the future of power generation, distribution and supply.

Careers**Potential careers after graduation**

After your degree, a variety of opportunities are available to you in industry, the service sector, energy companies, consulting and public administration. Potential tasks include:

- Improving the energy efficiency of products and processes
- Planning new power engineering plants
- Profitability analysis and analysing technological and political problems
- Developing, simulating and realising new business models
- Consulting, sales and training



“Switzerland has voted for the Energy Strategy 2050 and needs improved efficiency, as well as more renewable energy and sustainability experts.”

Our programme director will be happy to advise you:

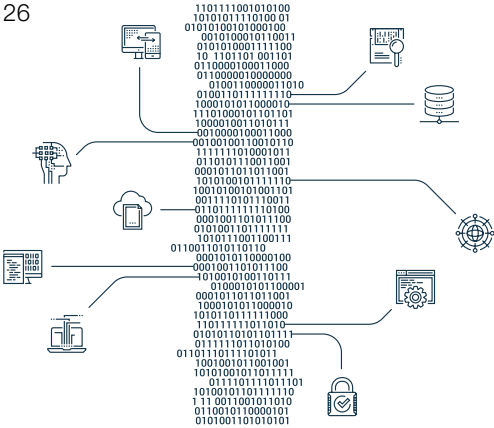
Professor Franz Baumgartner

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Curriculum content

What you'll learn

The programme will give you a firm foundation in the overall context of computer science, for example in software development, communications and computing, as well as in theory and science.

Bachelor's in Computer Science: a dynamic, diverse engineering discipline

Computer science is changing rapidly and is filtering into more and more areas of life. New technologies and areas of application are appearing almost daily. The professional landscape is changing and expanding just as rapidly.

“As a software developer, I don’t just carry out tasks. I also advise customers on finding the perfect solution to their problem.”

Yacine Mekesser
Computer Science graduate



Specialisation

In the final year of the main course of study, you will consolidate your expertise with elective modules in a range of cutting-edge subjects. The comprehensive range of options in this specialist degree reflects the breadth of the professional field and lets you tailor the programme to your interests.

----->

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Cloud Computing

Internet of Things

Advanced Software Engineering

Communication Networks and Services

Digital Signal Processing

Information Engineering

Artificial Intelligence

Mobile Applications

Software and System Security

Personal requirements

A degree in Computer Science is the right choice if:

- you are interested in overarching, complex connections.
- you are knowledgeable about the latest trends in technology and would like to help shape them.
- you want to gain basic knowledge and skills in project and process management.

Careers

Potential careers after graduation

You can administer, develop and optimise ICT systems and applications and work in process development. Alternatively, you can develop and integrate new products within a company. Your remit includes:

- Developing software solutions
- Planning and implementing system architectures
- Consulting and development in the realm of IT security
- Designing services based on contemporary technologies such as cloud computing
- Designing customer-friendly services
- Operating, maintaining and developing complex ICT systems

“Project and process management play an important role in the business world of computer scientists. Nowadays teamwork and communication skills are also key.”



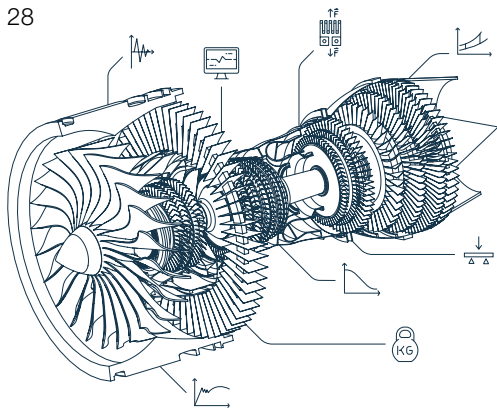
Our programme director will be happy to advise you:

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Curriculum content

What you'll learn

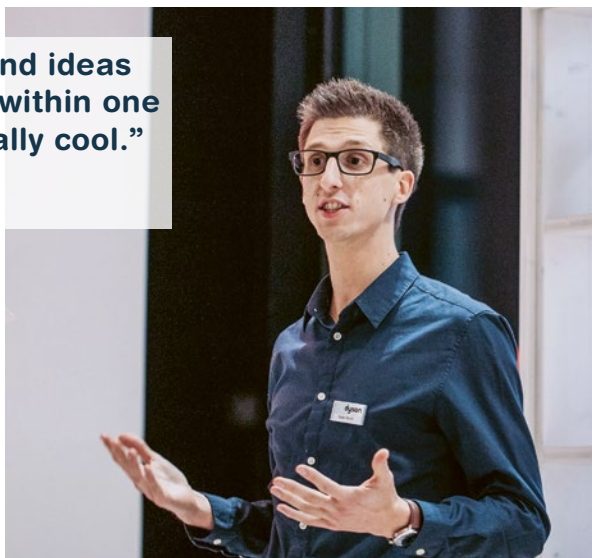
In the first two years, you will learn the basic principles of mathematics, science and engineering. You will learn about fluid and thermodynamics, applied heat transfer, metrology and control engineering. You will also be introduced to the field of mechanics in tasks relating to statics, theory of strength, kinetics and machine dynamics.

Bachelor's in Mechanical Engineering: develop technical innovations

Mechanical engineering is the front runner of the Swiss export industry. From turbine blades and packaging machines to medical implants and innovative coatings, mechanical engineers are involved in the development of almost every new product.

“I’ve seen my products and ideas in use all over the world within one or two years, which is really cool.”

Stefan Koch
Mechanical Engineering graduate



Specialisation

In your third year, you choose two of eight specialisations:

----->	Biomechanical Engineering
----->	Computational Fluid Engineering
----->	Computational Lightweight Design
----->	Innovative Materials and Surfaces
----->	Smart Products and Production
----->	System and Automation Engineering
----->	Thermal Energy Engineering
----->	Process Engineering

Personal requirements

A degree in Mechanical Engineering is the right choice if:

- you enjoy technology and abstract thinking.
- you are interested in contexts and relationships.
- you want to develop innovative technical solutions independently or as part of a team.

Careers

Potential careers after graduation

After your degree, a wide range of career options is available to you:

- Developing and designing innovative products or bringing new facilities on stream.
- Designing machines and processes, manufacturing and production.
- Conducting trials and simulations and taking measurements to make processes more efficient and energy-saving.



“I would go as far as to say that without mechanical engineering, it would be very hard for any new products to reach the market.”

Our programme director will be happy to advise you:

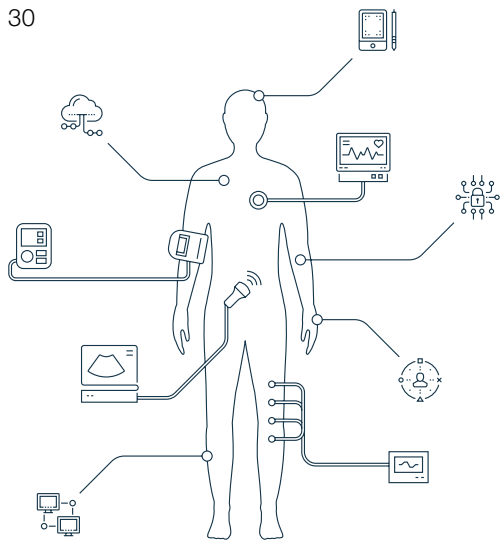
Professor Thomas Wenzler

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Curriculum content

What you'll learn

In the Medical Informatics degree programme, you will acquire skills that are important for the interface between various disciplines, institutions and patients. During your first two years of study, focus is placed on mathematical and scientific fundamentals as well as basic knowledge, with the topics covered ranging from programming, clinical information systems and the structure of the healthcare sector to medicine and sensory technology, medical ethics and data protection.

Bachelor's in Medical Informatics: help shape the digitisation of the healthcare sector

The field of medicine is increasingly being driven by data and technology. IT specialists with an in-depth understanding of the processes at play at hospitals and in the healthcare sector are therefore in great demand.

“As a medical IT specialist, you can help shape digital processes, simplify the activities of medical professionals with innovative products and make them safer for both patients and customers.”

Barbara Haller
Head of ICT Business Partner Services at the Hirslanden Group



Specialisation

During your final year of study, you will deepen your specialist knowledge on an individual basis with freely selectable elective modules, for example in the following areas:

----->	Processing of medical data
----->	System integration in hospitals
----->	Laboratory information management systems
----->	Image processing of vital data
----->	Mobile health application development
----->	Machine learning in diagnostics
----->	Robotics in rehabilitation
----->	Bioinformatics
----->	Biostatistics

Personal requirements

A degree in Medical Informatics is the right choice if:

- you are enthusiastic about informatics and are interested in medicine and the healthcare sector.
- you like to work on an interdisciplinary basis.
- you would like to work in a forward-looking field and make an active contribution to the digitisation of the healthcare sector.

Careers

Potential careers after graduation

As a medical IT specialist, you will manage demanding IT projects at hospitals and healthcare institutions. Your tasks will include the following:

- The design, development and operation of customised information systems.
- Responsibility for data management and data security.
- The development of medical applications.
- The provision of support to medical research during the consolidation of data and its analysis.

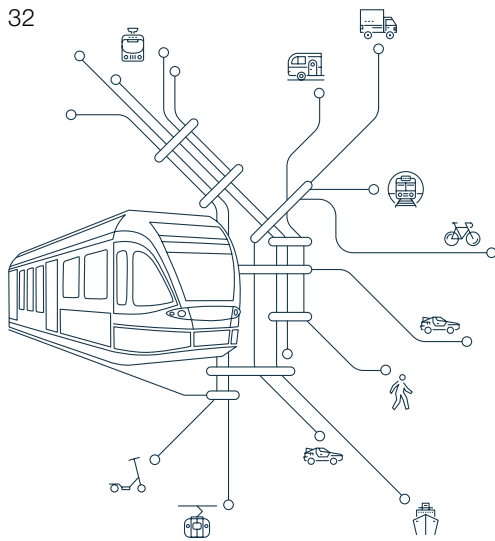


“Digital systems have become important tools in the health-care sector. There is great demand for specialists who work at the interface between medicine and informatics.”

Contact:

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Academic Director
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Curriculum content

What you'll learn

In the basic training, we teach multimodal ways of thinking and engineering skills, and provide a toolbox of methodologies for planning and solving complex, interdisciplinary problems in the field of mobility and logistics. Using real-life case studies, you will learn how to analyse, interpret and adapt transportation systems in a holistic manner.

Bachelor's in Mobility Science: help shape the mobility of the future

Contemporary mobility and logistics are electric, autonomous, networked and shared. Let us teach you about the world of mobility, and help create the complex transportation systems of the future.

“As a student of Mobility Science, you advance new ideas and concepts without losing sight of the bigger picture.”

Jacqueline Keller
Mobility Science graduate



Specialisation

In your final year, you will consolidate your knowledge with elective modules in a range of cutting-edge subjects, giving you the opportunity to focus your studies on the following topics:

----->

Modeling and simulation of transportation systems

----->

Mobility data

----->

Logistics

----->

Bicycle transportation planning

----->

Rail transport

Personal requirements

A degree in Mobility Science is the right choice if:

- ☐ you want to play an active role in helping shape the mobility of the future.
- ☐ you are interested in transportation systems as a whole.
- ☐ you enjoy networked, interdisciplinary thinking.
- ☐ you enjoy working conceptually and on the basis of data.

Careers**Potential careers after graduation**

The programme's interdisciplinarity, combined with its personalised approach, gives you access to a wide range of careers, including working with:

- ☐ Transport companies
- ☐ Logistics service providers
- ☐ Public transport associations
- ☐ Engineering and consultancy companies
- ☐ National, regional and local government
- ☐ Trade and industry

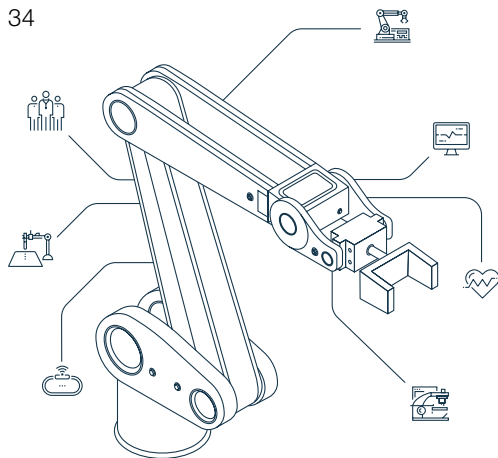


“Working in the transportation sector has never been so exciting.”

Our programme director will be happy to advise you:

Professor Thomas Sauter-Servaes
 Programme Director, BA in Mobility Science
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 thomas.sauter-servaes@zhaw.ch





Curriculum content

What you'll learn

In the first two years, you will learn the basic principles of mathematics, science and engineering. You will be introduced to mechanical science, control engineering and systems, energy and electrical drive engineering, computer science, computer engineering, material sciences and materials engineering.

Bachelor's in Systems Engineering: understand and develop complex systems

Technical systems are becoming ever more complex, intelligent and autonomous. As a student of systems engineering, you will learn about the interactions between mechanical, electronic, optical and digital components and how to model, simulate and operate them.

“My degree paved the way to a specialisation in medical technology, where I use my engineering skills to help patients.”

Daniela Stadelmann
Systems Engineering graduate



Specialisation

In your third year, you choose one of two specialisations:

----->

Robotics and Mechatronics

----->

Biomedical Engineering**Personal requirements**

A degree in Systems Engineering is the right choice if:

- you are interested in complex networked systems.
- you are solution-oriented.
- you enjoy interdisciplinary working and engaging with a variety of subject areas.

Careers**Potential careers after graduation**

With a degree in Systems Engineering, you can work in the electrical, microelectronics, mechanical, aerospace and space industry, as well as for biomedical engineering companies and hospitals. You can engage with problems relating to robotics, biomedical engineering, automation, automotive engineering and aircraft construction. If you specialised in biomedical engineering, you can develop and service biomedical engineering products and think of yourself as a mediator between technology and medicine, for example in the areas of surgical robotics, imaging and therapeutic processes or in medical analysis and laboratory technology.

“From nature-inspired systems, such as artificial muscles, to futuristic propulsion systems and 3D production technology, the distance between human and machine is getting smaller.”



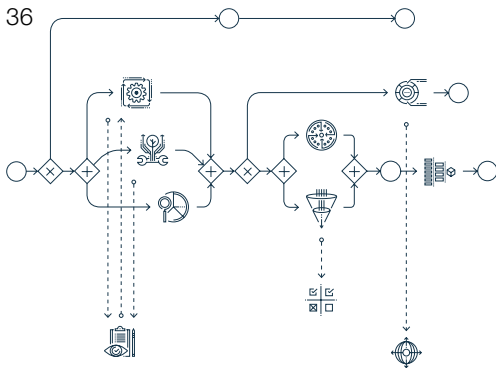
Our programme director will be happy to advise you:

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Curriculum content

What you'll learn

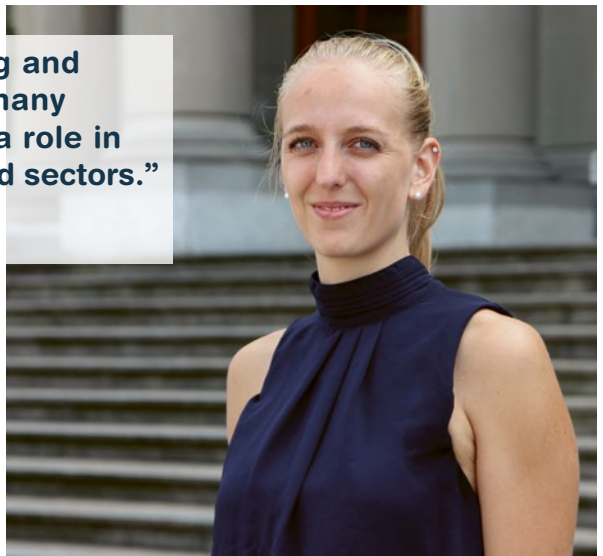
Engineering and Management combines expertise in economic, technology and mathematics. So in the first few semesters, you will gain a solid foundation in the principles of mathematics, science and other areas relating to the subject, including business administration, data analysis and statistical applications.

Bachelor's in Engineering and Management: a fusion of industry and technology

Industrial engineers optimise complex operational problems by means of computer-supported methodologies. They analyse business processes, design products and services to meet customer needs and approach the use of resources practically and efficiently.

“A degree in Engineering and Management offers so many opportunities: I can find a role in a wide variety of fields and sectors.”

Ramona Wechsler
Engineering and Management graduate



Specialisation

In your second and third year, you will choose from three specialisations, depending on your interests, and enrol in the relevant modules.

----->

----->

----->

Industrial Engineering**Data and Service Engineering****Business Mathematics****Personal requirements**

A degree in Engineering and Management is the right choice if:

- you are interested in technology and business.
- you want to understand the contexts behind and relationships between technology and business.
- you want to work on complex problems in business and markets.

Careers

Potential careers after graduation

- Industrial engineering: planning, design and implementation of operational processes, production planning and management, supply chain management, quality management
- Data and service engineering: design, planning and execution of operational processes, customer and market research, business intelligence, consultancy
- Business mathematics: analysis of products and business processes in a market setting, finance and insurance, wholesale, retail and consultancy

“There is a high demand for engineers with skills in networked thinking, who can negotiate with highly qualified specialists from industry and technology.”



Our programme director will be happy to advise you:

Professor Richard Bödi

Programme Director, BA in Engineering and Management

+41 (0)58 934 67 18

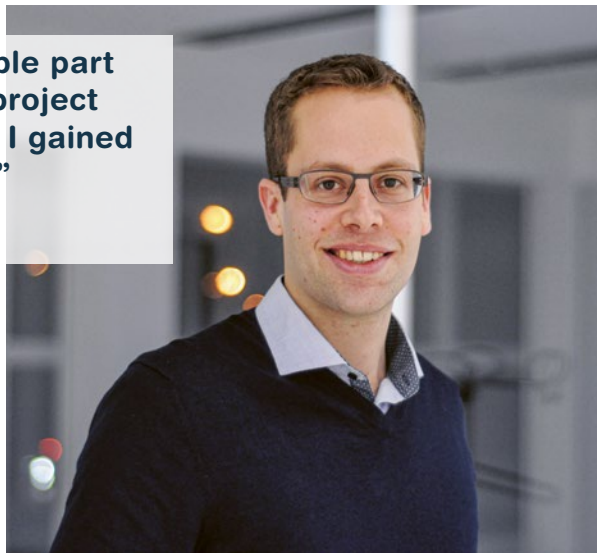
richard.boedi@zhaw.ch



On the Master's programme, you will be taught practical skills as well as theory and context. However, the focus is on further specialisation in your subject at your chosen institute or centre. The programme offers you the opportunity to deepen and apply your new expertise in real-life industry projects in the area of applied research and development.

The Master of Science in Engineering (MSE) shows that you want more: besides deepening your knowledge and specialising in one of 11 pathways, the Master's programme also teaches you essential management skills.

Matthias Bleibler
Master of Science in Engineering graduate



Specialisation

The Master's programme gives you an opportunity to deepen your knowledge of your chosen subject; your studies take place at one of our centres or institutes, where you also work on projects and your Master's thesis.

You can choose from 11 specialisms:

----->

Aviation

----->

Business Engineering

----->

Civil Engineering

----->

Computer Science

----->

Data Science

----->

Electrical Engineering

----->

Energy and Environment

----->

Mechanical Engineering

----->

Mechatronics and Automation

----->

Medical Engineering

----->

Photonics

Personal requirements

A Master's programme is the right choice if:

- you want to deepen your subject-matter expertise after a Bachelor's degree or embark on an academic career.
- you want a challenging job or to access additional career opportunities.
- you have enjoyed working on research and development projects alongside partners in business and industry.
- you enjoy interdisciplinary working.

Careers

Key details about the Master's programme

- The Master's programme is open to graduates who have received a grade A or B in their Bachelor's degree.
- You will attend modules on theory in Zurich with students from other universities in Switzerland.
- Subject specialisation, practical projects and your thesis take place at one of our institutes or centres.
- You can attend the Master's programme on either a full-time or part-time basis.
- The language of teaching on the Master's programme is English.

“The MSE enables you to take on more challenging roles, particularly in applied research and development.”



Our programme director will be happy to advise you:

Dr. Reto Knaack

Programme Director, Master of Science in Engineering

+41 (0)58 934 74 60

reto.kaack@zhaw.ch







Campus, café, crossfit – studying at the School of Engineering

What does a typical day look like during the semester? When do classes start? What do you do in the breaks between lectures and is there still time for other things? Sandro and Fabienne are students at the ZHAW School of Engineering and give an insight into a typical day at the university.

Sandro is a full-time Aviation student. He lives in Winterthur and travels to ZHAW every day by bike. He likes how compact the campus is and enjoys spontaneous get-togethers with other students.



The cafeteria at the campus on Technikumstrasse is Sandro's favourite spot and perfect for a coffee between lectures or a chat with friends.



Fabienne uses the breaks between lectures to prepare for her next class outside in the fresh air.



Fabienne is a part-time Engineering and Management student. She also works for a company in the lean management sector. The combination of work and study offers her variety and financial independence.

“On my course, I have more control over how I work and learn than in a job. By combining my studies with employment, I have financial independence too.”

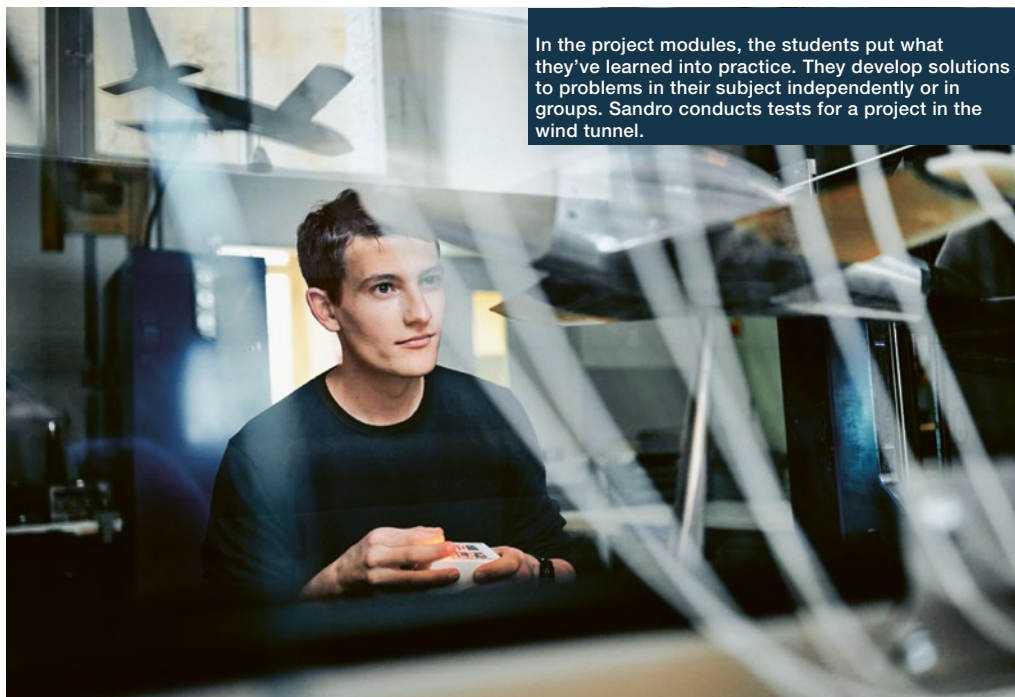
Fabienne



Besides the cafeteria, there are a variety of restaurants and shops not far from the campus for meals and snacks.



Over lunch, Sandro pops home for a bit. By bike, he's there in just a few minutes.



In the project modules, the students put what they've learned into practice. They develop solutions to problems in their subject independently or in groups. Sandro conducts tests for a project in the wind tunnel.



After the lecture, Fabienne speaks to her lecturer to clarify a few things. Naturally, students can also ask questions at any time during class.

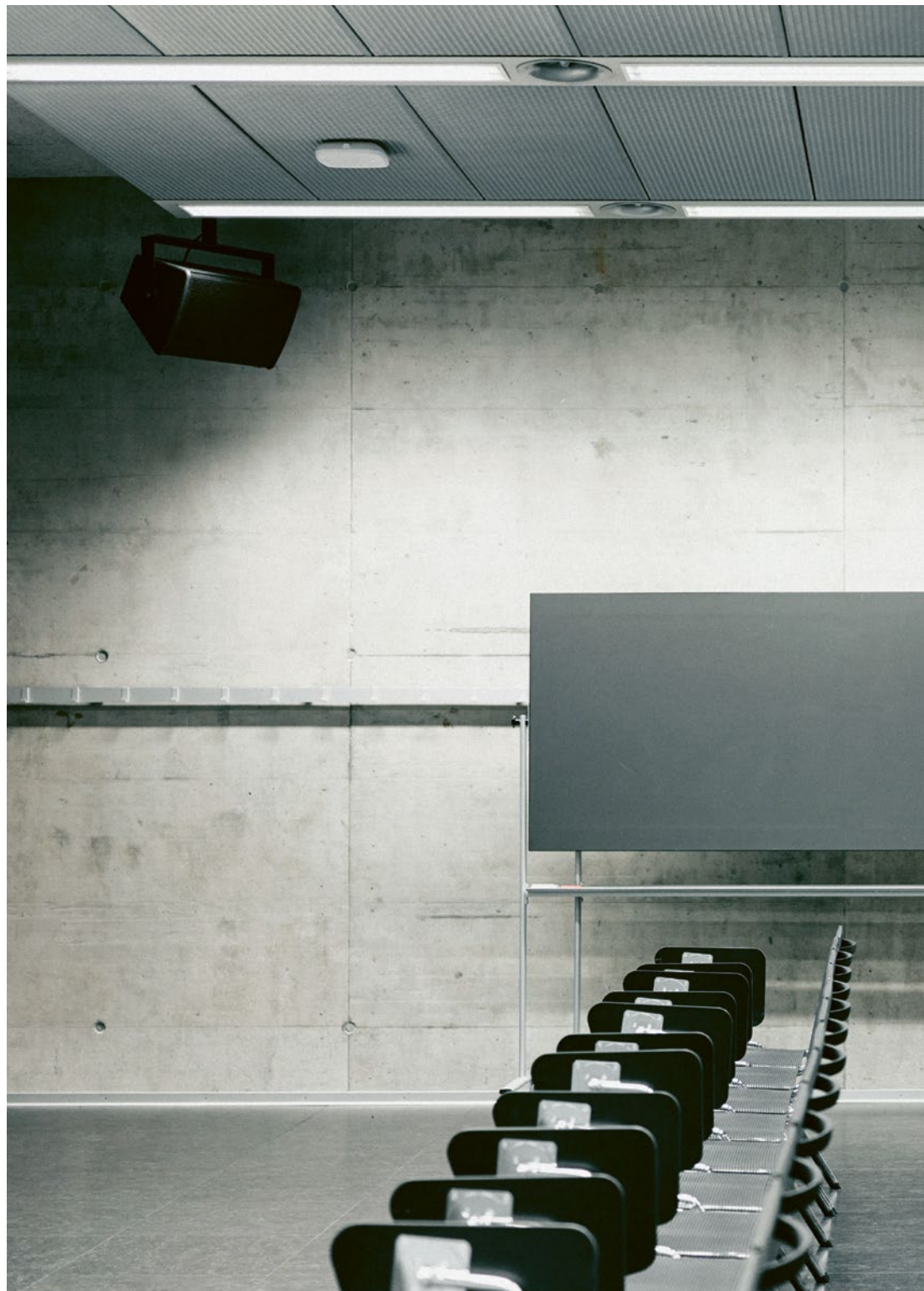
The sports programme at ASVZ is perfect after a long day at ZHAW. Besides a gym, there are over 120 different types of sport to choose from.

After her last class, Fabienne goes into Winterthur to do a bit of shopping before getting the train home.



“My favourite spot on campus is the cafeteria. There you can meet other students and get into spontaneous conversations.”

Sandro



Study formats and pre-courses



Gain international experience: study abroad

Time abroad or experience in an intercultural environment are a frequent requirement of companies today and increase the number of careers available to you. For many, a semester abroad is one of the highlights of their time as a student and also brings personal benefits.



“My semester in Prague gave me the opportunity to develop both culturally and professionally. I was able to build up an international network and meet friends from all over Europe.”

James Levell
Computer Science graduate

“The International Profile was the perfect preparation for working as part of a multi-national team. My semester at Worcester Polytechnic Institute (WPI) in the US was particularly valuable.”

Siro Fritzmann
International Profile graduate



International Profile

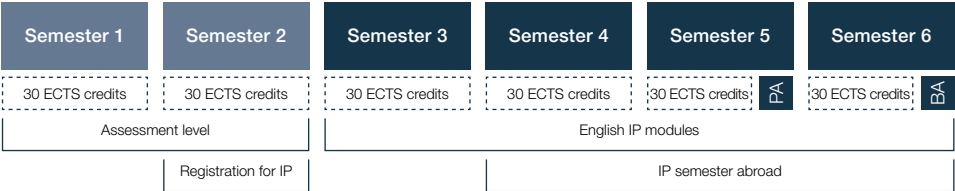
The International Profile (IP) gives your degree an international perspective. From the second year, you enrol for at least 20 ECTS credits of regular curriculum content in English, take a semester or placement abroad or write your Bachelor’s dissertation abroad.

- Degree programmes: Aviation, Data Science, Electrical Engineering, Computer Science, Mechanical Engineering, Systems Engineering and Engineering and Management
- Part-time programmes: Aviation, Computer Science, Electrical Engineering, Mechanical Engineering, and Engineering and Management

- Course requirements: you must pass the assessment with an average grade of at least 4.50 and have good English skills (at least B2 level)
- Degree type: Certificate International Profile
- Registration: during the second semester

Semester abroad

Even if you don’t enrol for the International Profile, you can still spend a semester abroad. In this way, you not only experience another culture, but also another university and new teaching styles. We encourage and support student exchanges with a network of over 100 partner universities all over the world, but especially in Europe, Asia and the US.



On the IP, the semester abroad can be taken between the fourth and sixth semester, preferably in the fifth. All details given refer to full-time study.

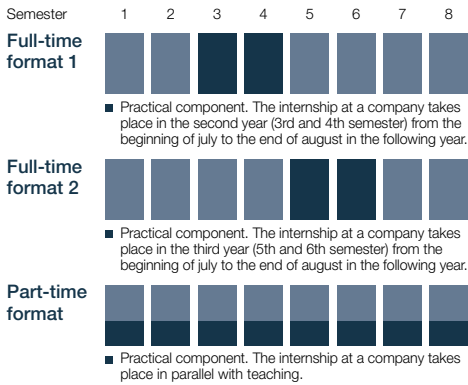
Work-study Bachelor’s degree programme: from school straight into university

Do you have an upper secondary school leaving certificate and would you prefer to complete the obligatory internship during rather than before university? If so, then the work-study Bachelor’s programme is for you.

The four-year work-study Bachelor’s degree programme is available for all undergraduate degrees at the School of Engineering and brings together professional experience and theory. To be admitted to the programme, you need an upper secondary school leaving certificate and a signed training contract (internship contract) with a company (you apply to this company directly). The application period for the autumn semester starts every January.

Study formats

There are three study formats to choose from. The format depends on the employers available, as not all companies offer internships.



Partner companies

We have agreements with over 40 companies offering internships for the work-study Bachelor’s programme. A complete overview of all partner companies is available on our website.



“This course met all of my needs in terms of combining study and part-time employment. From the very beginning, I was welcomed as part of the team and was able to work on projects in a variety of areas.”

Jan Scheuermeier
Work-study BA graduate

Pre-College: the perfect preparation for your degree

Whether you have an apprenticeship and vocational diploma or a high school diploma, our Pre-College offers the perfect preparation for your degree.

Preparatory courses

Depending on your educational background and desired course of study, we recommend the following courses to smooth your transition to a degree programme:

Mathematics and Physics – refresher courses

For prospective students who obtained their technical school leaving certificate several years ago

Mathematics and Physics – intensive courses

For prospective students with a school leaving certificate in a non-technical subject

Programming

For students interested in the Computer Science programme who need a basic knowledge of object-oriented programming

Technical drawing and CAD

For students interested in the Mechanical Engineering programme who need a basic knowledge of technical drawing and CAD

Youth2Engineers pre-study internship

Do you have a high school leaving certificate or a vocational diploma in a non-technical subject but haven't yet completed the 12-month internship needed for admission to a university degree course? If so, the Youth2Engineers programme is the perfect place to start.

On the programme, you complete a two-month pre-study internship at the ZHAW School of Engineering and are introduced to working in a workshop and programming. You also work on an independent project at one of our institutes. In parallel, you apply for a follow-on 10-month internship at a company. We have an extensive network and will help you find an internship. After completing your internship, you can progress straight onto your degree.

All current dates and courses can be found at:

www.zhaw.ch/en/engineering/study/pre-college

Part-time studies: combine work and study

If you already have a career or a family, would you like to finance your degree through your work? Our Bachelor's degrees are available on both a full-time and part-time basis, in all subjects.



“By studying while working, you can earn money, gain work experience and enjoy a lot of variety between the workplace and university.”

Kia Farokhnia
Part-time Engineering and Management student

The content of the part-time programme essentially corresponds to the full-time programme. The part-time format runs for four rather than three years, with three contact days per week. If your occupation corresponds to your field of study, you can integrate some of your studies into your professional activities. We recommend a maximum workload of 60% during teaching time.

Full-time format

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6
30 ECTS credits	30 ECTS credits	30 ECTS credits	30 ECTS credits	30 ECTS credits	30 ECTS credits
Assessment level		Main degree programme			

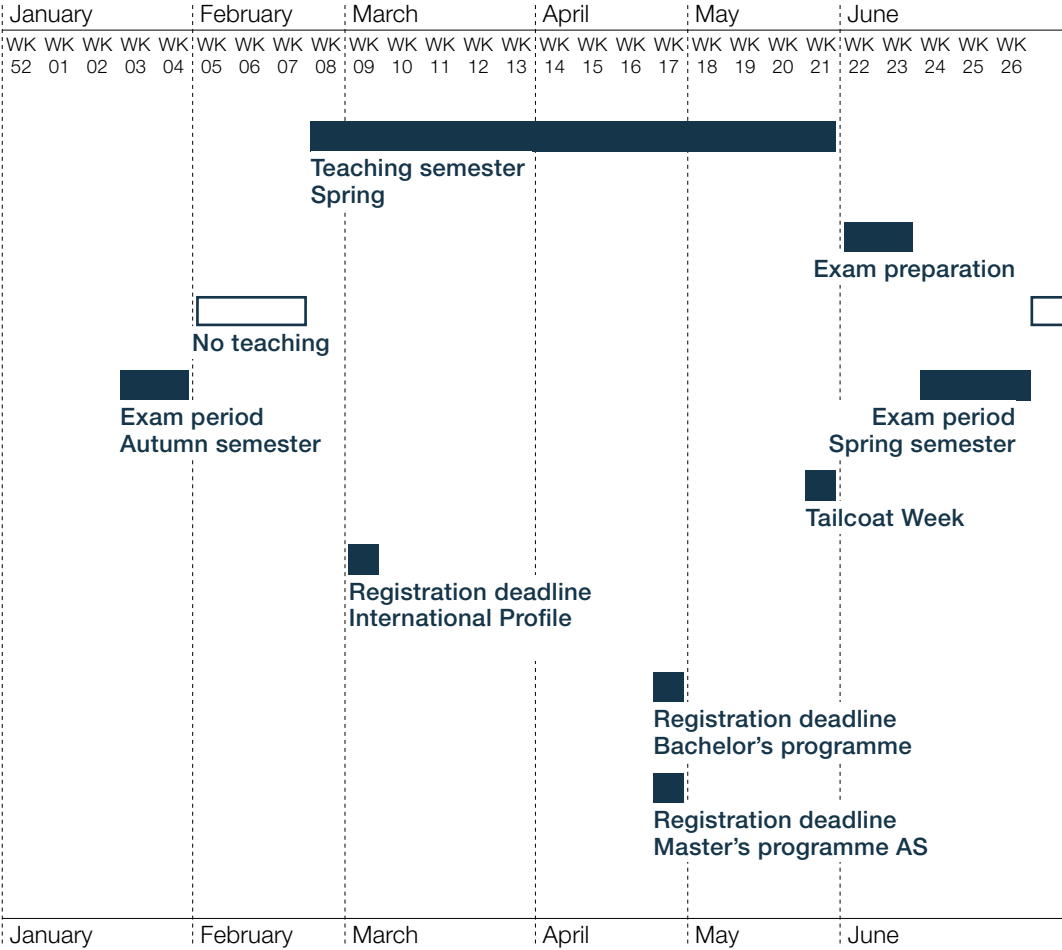
Part-time format

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
22 ECTS credits	22 ECTS credits	22 ECTS credits	22 ECTS credits	22 ECTS credits	22 ECTS credits	24 ECTS credits	24 ECTS credits
Assessment level					Main degree programme		

A pass in the assessment is a pre-requisite for admission to the main degree programme.
 Project = 6 credits in the penultimate semester; Bachelor's dissertation = 12 credits in the last semester.
 The project and Bachelor's dissertation can be integrated into your employment or completed outside of it.

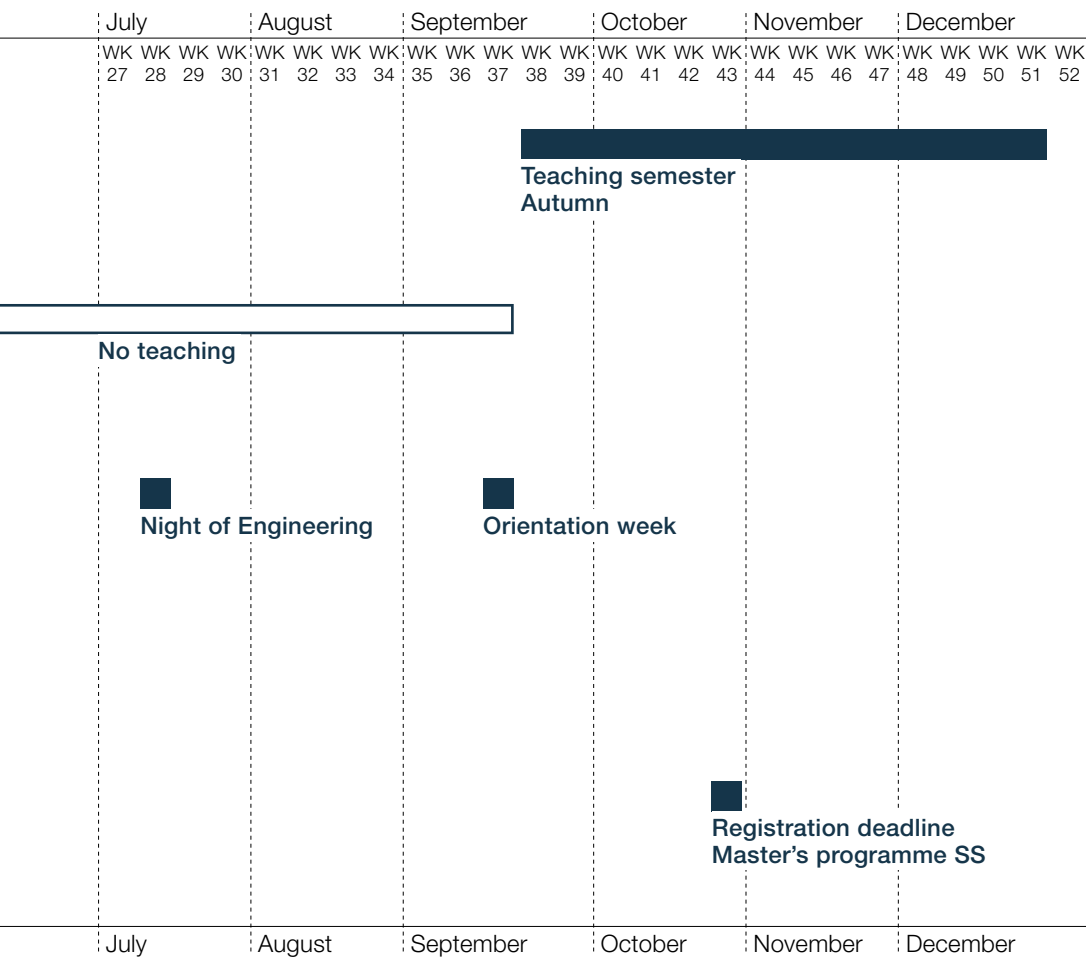
Academic year structure

The autumn semester starts in mid-September each year, in week 38; the spring semester starts at the end of February in week 8. In the first year, the compulsory orientation week takes place in week 37, before teaching begins.



Each semester runs for 14 weeks. Teaching mainly takes place through lectures, group instruction, exercises and practicals in the lab. The exam preparation period is followed by two weeks of end-of-semester exams. Each module ends with a module exam.

Holidays between the autumn and spring semesters run for three weeks and for 11 weeks between the spring and autumn semester. During the holidays, block teaching, summer schools and other activities may be planned depending on your programme, study format and year of study.





After
your degree



I have my degree. Now what?

Graduates of the ZHAW School of Engineering have many careers available to them post-graduation. What do our former students – and today's engineers – do now?



Tilon Holtz,
Energy and Environmental Engineering graduate
and project leader in photovoltaic planning at Energie
Netzwerk GmbH

Electricity from the roof

Tilon Holtz studied Energy and Environmental Engineering at ZHAW. He now works for the engineering company Energie Netzwerk in Zurich, which focuses on photovoltaic planning for customers.

At the moment, he looks after one of Zurich's larger solar projects: a housing development with nine sloped and three flat roofs. This brings a variety of challenges: the flat roofs are protected and the sloped roofs are partly made of asbestos, while some of the roof substructures need to be reinforced. The engineer always keeps sight of the bigger picture. His keen interest in renewable energies and safeguarding the environment developed gradually over the years: after 10 years working in insurance, he wanted to take his career in another direction, and the degree in Energy and Environmental Engineering, he felt, spoke directly to his needs. The decision, therefore, was easy. Tilon recommends that all career changers complete an internship in a similar industry before the start of their programme so they begin with a specific problem in mind.



“I got the impression that industry was searching for experts like me. I had my pick of where I wanted to apply. I received my first job offer while I was still a student.”

Claudia Monsch,
Engineering and Management graduate and lean coordinator at Burckhardt Compression

“I chose the Bachelor’s in Mechanical Engineering because, in my view, it’s the technical specialisation which covers the broadest spectrum of topics. It is also reflective of the range of industries and sectors my former fellow students now work in.”

Pascal Studerus,
Mechanical Engineering graduate and
head of after-sales at Kenny's Gruppe



“We can’t afford to wait for industry and politicians. We need to bring about the changes ourselves.”

Mirco Egloff,
Energy and Environmental Engineering graduate
and founder of the start-up Loopie



Jacqueline Keller,
Mobility Science graduate

Good planning for all

Jacqueline Keller is a public transport planner at Südostbahn. Her calculations are used to set timetables, routes and train configurations in a way that takes all stakeholders into account. She learned this holistic approach on her Mobility Science degree course. How long is the train, when does it depart and where does it stop? The answers depend on complex calculations and analysis. The planner seems to be confronted with the almost impossible task of satisfying all stakeholders. Passengers want to travel efficiently and in comfort. Local and regional government want to be as well connected by rail as possible. And finally, all measures need to be within the company's technical and financial capabilities. So good planning is a win for all sides. For the graduate, a holistic, far-sighted view of transportation is also important, as it helps her navigate her current challenge of better integrating cycle traffic into public transport planning. Understanding and exploring the interactions between traffic is, according to Jacqueline, one of the programme's unique features.



“I’m interested in everything related to flying, and with a degree in Aviation under my belt, I can find my dream job anywhere.”

Sandro Rizzo,
Aviation graduate and safety expert at the Federal Office of Civil Aviation (FOCA)

Stay in touch!

ALUMNI ZHAW Engineering & Architecture is the organisation for all BSc, MSc, MAS and DAS graduates of the ZHAW School of Engineering. With around 3,300 active members, it is one of Switzerland's largest university alumni organisations for engineering.

Membership offers many benefits. Besides numerous discounts, events and a platform for building and maintaining your personal network, the ZHAW alumni organisation is also a point of contact for your professional development.

Membership of ALUMNI ZHAW includes access to a variety of services and discounts.

As a paying member, your benefits include:

- Access to the online members' directory Who is Who
- 5% discount on postgraduate courses and programmes at ZHAW (after graduating with a Bachelor's degree or MAS and up to a maximum of CHF 500 per annum)
- Invitations to exciting networking and professional events for fun or career development
- Offers and discounts as Member Benefits of the University of Applied Sciences Switzerland

ALUMNI zhaw

Graduates of the ZHAW School of Engineering become members automatically in the first year after receiving their degree. After the first free year, unless you opt out, membership automatically renews as an individual membership.

The annual membership fee is CHF 90.

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Tanja Blättler
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www.alumni-zhaw.ch





Ich beschäftige mich
nicht mit dem,
was getan worden ist.
Mich interessiert,
was getan werden muss.
Marie Curie



Legal notice

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