

Job outline

Safety and economy are vital factors in the daily services provided by the technically advanced field of aviation. In the long term, only technologies that are ecologically sustainable will be used. On completion of the Bachelor's degree programme in Aviation you will understand the role of aviation within the world of transportation and will use what you have learned to make a valuable contribution as a specialist or leader in this field.

The ZHW's newly designed Bachelor's degree programme, unique in Switzerland and its neighbouring countries, provides you with the ideal preparation for a demanding position in many areas of aviation.

Programme aims

In all fields of work, but particularly in aviation, it is essential to cope with a vast variety of tasks in the shortest possible time. This requires a broad range of specialised competences, interdisciplinary thinking, excellent teamwork and communication skills, and the ability to act independently and responsibly within the fields of conflict that naturally occur between people, technology and the environment. The Bachelor's degree programme in Aviation provides graduates with the following competences:

1. Professional competence

You can apply the latest findings in engineering science and the natural sciences to the field of aviation, taking into account economic, ecological and safety aspects. You can discuss a broad range of cultural, political and social questions, and communicate clearly and convincingly.

2. Methodological competence

You are experienced in detecting and analysing problems and solving them systematically, taking technical and economic aspects into account.

3. Social competence

You have acquired a high level of social competence. The execution of projects in interdisciplinary teams has developed your teamwork and communication skills.

4. Personal competence

You have the strategies to expand your knowledge independently and understand the importance of life-long learning. Self-reliance, flexibility, ability to work under pressure and logical thinking are essential qualities you bring to your everyday work.

Course of studies

The course of studies comprises 6 semesters of 16 weeks each and leads to a Bachelor of Science ZFH in Aviation. An internship in the industry can take place between the 4th and 5th semesters. Graduates may go on to study for a Master's degree.

Teaching/Learning methods

Learning takes place through lectures and supervised self-study (blended learning). The modularised Bachelor's degree programme comprises both obligatory courses and electives. Course descriptions include learning objectives, content and requirements for attendance, as well as the method of performance assessment.

Examinations

Every module includes assessment of performance, which forms the basis for the awarding of ECTS credit points. At the end of the first year of study (assessment year) exams take place. Success in these exams is the precondition for entry to the main study period. Towards the end of their studies, students are required to write an undergraduate dissertation.

ECTS credit points

The European Credit Transfer System (ECTS) allows students' performance to be compared internationally, thus facilitating studies of one or more semesters at another university at home or abroad. One ECTS credit point is awarded for 30 working hours (class instruction and self study). As a full-time student you acquire 30 ECTS credit points per semester, corresponding to 1800 working hours per year.

Module categories

1. Fundamentals of mathematics and natural sciences

You acquire the necessary basic knowledge of the natural sciences through the study of mathematics, physics, informatics, chemistry and materials science.

2. Subject-specific fundamentals

You acquire a solid knowledge of fundamentals that prepares you for your subject-specific education and your later career. These basics include knowledge of flight operation, air traffic management, air laws, meteorology, human factors, aerodynamics, flight performance and electrical and control engineering.

3. Subject-specific specialisation modules

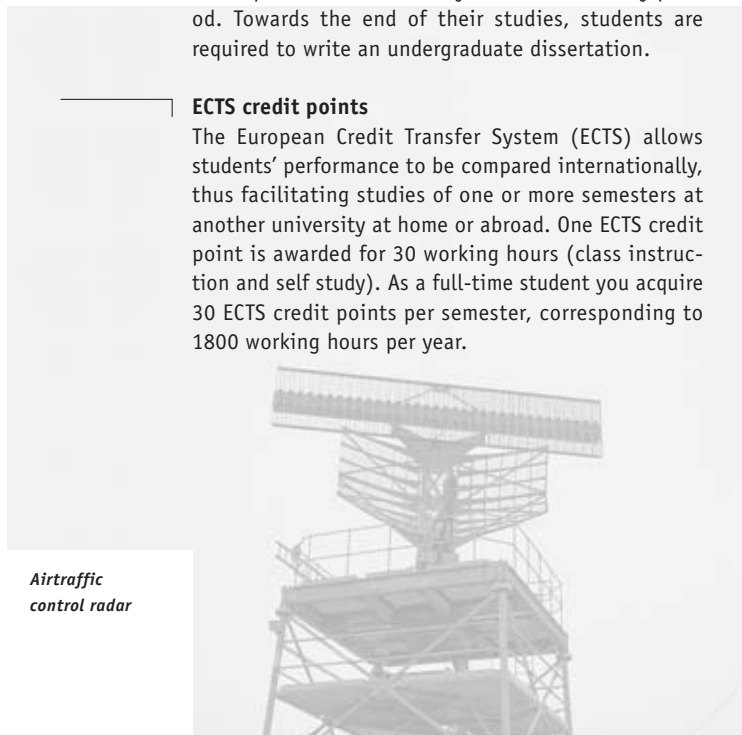
These modules enable you to specialise in subject-specific areas which you are likely to encounter in your future career. They emphasise topics in the following two major areas: Technics & Engineering (topics include certification, maintenance and repair, airport systems and air traffic control technology) or Operation & Management (topics include security-, safety- and risk-management, airport processes, national and international aviation authorities, trends & developments in aviation, air transport economics). If you choose to concentrate on Operation & Management, the special studies required to qualify for a licence (e.g. airline pilot) may be started during the degree programme. In your project assignments and undergraduate dissertation you carry out applied research and development projects in teams which include lecturers and external partners.

4. Interdisciplinary, non-technical subjects

Throughout your studies we ensure that you gain broad competence in non-technical subjects. Communicative competence in English and German are vital, as are a degree of expertise in management, law and business administration. A large part of your studies is composed of practical assignments; these are set up as projects to ensure that you acquire thorough, hands-on training in project and quality management.



Flight simulator for pilot training



Airtraffic control radar



Interaction between people, the environment and technology

Entry requirements

Entry without examination

For holders of a federally recognised technical or commercial professional baccalaureate (Berufsmatura) and basic training in a profession related to the area of study.

Holders of a university entrance qualification

Admission after experience of at least 12 months in an appropriate profession, as described in a guideline issued by the programme director.

Admission with entry exam

Graduates of other courses of study after professional experience lasting at least twelve months in an appropriate profession, as described in a guideline issued by the programme director.

Laptop computers

The ZHW expressly recommends that students purchase a laptop computer.

Interesting career prospects

This practically oriented degree programme with a solid theoretical basis, designed in collaboration with leaders in the Swiss aviation industry, is the best qualification for a demanding career in the fascinating area of aviation. You will find interesting opportunities in the following occupational areas and positions, among others:

In aviation companies:

- Project leadership/Project management
- Procurement, introduction and certification of new systems
- Development of new processes and methods
- Quality, safety and risk management

In maintenance and production companies:

- Airworthiness approval
- Maintenance, repair and overhaul
- Solution development

In airports:

- Airport manager
- Security manager
- Handling agent

In airlines:

- Flight Operation Officer (Dispatch)
- Pilot/Managementpilot
- Operational engineer
- Postholder
- Training officer (TRTO, FTO)
- Network manager
- In air traffic control:**
- Expert functions
- Aeronautical Information Management (AIM)
- Air traffic control technology

In the airforce:

- Regular officer (pilot, UAV operator)
- Control centre duties

In public authorities:

- Authorisation and supervision
- International responsibilities

In banks and insurance companies:

- Expert advisor

Interested?

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Aircraft clearance

Degree programmes

Specializations

- Architecture (at Bachelor's and Master's level)
- Aviation**
- Business Administration
 - Business Administration
 - Banking and Finance
 - Business Information Technology
- Business Law
- Civil Engineering
- Communication
 - Journalism and Organizational Communication
- Computer Science
- Electrical Engineering
- Engineering and Management
 - Industrial Engineering
 - Business Mathematics
- Enterprise Computing
- International Management
- Interpreting (graduate degree programme)
- Language and Communication
 - Multilingual Communication
 - Technical Communication
- Mechanical Engineering
 - Mechanical Design and Engineering
 - Mechanical Engineering Informatics
 - Materials and Process Engineering
- Nursing
- Occupational Therapy
- Physiotherapy
- System Engineering (Mechatronics)

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Bachelor's degree programme in Aviation

Aviation



The cockpit
as a workplace