Faculty of Aerospace Engineering

Bachelor’s degree programme

Aerospace Engineering
Flight to excellence

How do you ensure that a satellite is launched into orbit around the earth or how do you design a micro-aircraft that can save people’s lives? While studying Aerospace Engineering you will learn all of this and much more. In order to design, build and work with aircraft or satellites, you need to have knowledge of a range of different disciplines and know how to combine them.

You come into contact with technologies and materials from the aerospace industry every day. GPS tracking and weather forecasting are both made possible by the presence of satellites in space. The mirrors on a lorry or car have been designed in such a way as to generate as little resistance as possible. Just try to imagine how much food is transported by air every single day. More than 2,500 Bachelor and Master students study at the faculty of Aerospace Engineering, 41% of them are international students. The faculty is unique in Europe and enjoys worldwide acclaim. We have state-of-the-art facilities at our disposal, including an advanced flight simulator, our own aircraft as a flying classroom, a cleanroom to develop our own satellites, subsonic, supersonic and hypersonic wind tunnels and a large laboratory for the development, manufacturing and testing of materials and structures.

What does the study programme involve?
From the very first day of studying at our faculty, you will be involved in aerospace engineering. The aircraft, rocket and satellite are used as study objects to teach you basic technical knowledge. As the programme progresses, the emphasis shifts gradually from theory to application.

Each academic year is divided into quarters of 10 weeks each. This means that you will have examinations four times a year. Lectures alternate with seminars, laboratory courses, and projects where you put the knowledge you have acquired into practice. During project education, the focus is on learning to design as a team.

Together with your team, you will work hard to solve problems and achieve an optimal design.

First year
Introduction to the field
In the first year, you will be taught the basic techniques of design. You will also spend a relatively large amount of your time on mathematics and physics modules. The necessary theory will be taught by means of various modes of instruction under the supervision of lecturers and senior students. From the first year onwards, the programme is taught exclusively in English.
Second year

Exploring the field in greater depth
From the second year onwards, the focus of education increasingly shifts from basic theory to courses in aerospace engineering. The basic knowledge acquired in the first year will be further enhanced and applied. In the second year, the lectures will be further supplemented by project education and laboratory courses. You will learn to design systems and to process measurement data.

“During a ten-week period you will work with a team of students on an original and relevant design assignment”

Third year

Free curriculum and graduation
Starting from the first semester of the third year, the study programme is no longer identical for every student. You will choose a minor subject at TU Delft or elsewhere. During this period, you can also go on an exchange to a university abroad.

The second semester focuses on the final stage in the design process: verification and validation. For this you will join five other students in the Cessna Citation II, a.k.a. the faculty’s flying classroom, which you will use to carry out measurements in the air.

Everyone completes their third year with the Design Synthesis Exercise (DSE). During a ten-week period, you will work with a team of students on an original and relevant design assignment, in many cases commissioned by industries, institutes or scientists. This assignment can vary from the design of an aircraft to the planning of a Mars mission. You will complete your DSE with a presentation to a panel of judges.
## Curriculum (indicative)

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<td>Technical Writing</td>
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<td>Introduction to Aerospace Engineering II</td>
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<td>System Design</td>
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For more information about all modules: [www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)
Do you have what it takes to be an Aerospace Engineering student?
Do you enjoy testing your limits and achieving breakthroughs? Are you interested in mathematics and physics and how they are applied in the field of aerospace engineering? Do you enjoy working with others? Do you have enough self-discipline to work and plan independently? In that case, Aerospace Engineering might be the programme for you.

What can you do after your Bachelor’s degree programme?

**Master’s degree programmes**
After completing the Bachelor, you can transfer to the two-year Master’s programme in Aerospace Engineering or the EWEM (European Wind Energy Master), but you will also be welcome at countless other Master’s degree programmes in the Netherlands and abroad. In the Master’s degree programme, you will explore an area of expertise in aerospace engineering in greater depth. You will also conduct independent graduation research in the same area. During the Master’s degree programme in Aerospace Engineering you can choose to specialise in various different fields.

The following MSc Aerospace Engineering tracks are currently available:

- Aerospace Structures & Materials
- Flight Performance & Propulsion
- Aerodynamics & Wind Energy
- Control & Operations
- Space Flight

“The emphasis shifts gradually from theory to application.”
Career prospects
Your career profile
As many as 88% of our MSc graduates find a suitable job within six months. Approximately 40% of these graduates actually find employment at companies within the aerospace engineering industry. Examples of such technical companies include Airbus, NASA, KLM, Schiphol, Fokker/GKN or Boeing. Other graduates find engineering jobs at companies in other sectors, such as Shell, Siemens, BMW, Philips, TNO and Ferrari. In addition, many graduates also end up in the consultancy, finance and management business, at firms such as McKinsey & Company and the Boston Consulting Group, or banks like ING and Goldman Sachs. All of these companies are always on the look-out for people with advanced analytical skills and have had good experience with aerospace engineers.

‘Delft is the place to be!’

Daan Snijders
3rd year student

Studying in Delft, at the Faculty of Aerospace Engineering, has taught me a lot about both aviation and space already, which becomes more interesting every day. The combination of having projects and courses in parallel, gives you the ability to put the theory you’ve learned into practice immediately. This leads to a lot more fun and a connection between the different subjects. During my first year I experienced a high workload. It is expected that you spend around 40-45 hours a week studying, but it is also required to plan ahead. What kept me motivated was the incredible work environment at this faculty. Many students are motivated to learn and to study hard, in order to achieve their goals, which helped me to stay driven. During your studies you will find plenty of opportunities to broaden your knowledge and experience. One of these possibilities is to join one of the many dreamteams of the TU Delft, such as the Nuon Solar Team or the Delft Hyperloop. Something else I greatly enjoy at this faculty is its cultural diversity, which comes with its international orientation. As a student it is likely that you’ll get to go abroad, because of the international network the faculty has established.
Come and see for yourself
If you would like to know more about this Bachelor’s degree programme, why not come to Delft?
Please refer to the following pages for specifics on upcoming BSc Open Days.
For students with a Dutch diploma: www.tudelft.nl/lr/opendagen
For students with an International diploma: www.tudelft.nl/ae/opendays

Get to know our BSc online (mini-MOOC)
Participate in our free 3-hour online course Introduction to Aeronautical Engineering
www.tudelft.nl/ae/mini-mooc

Numerus Clausus
Because the Bachelor’s degree programme has a limited capacity, the available places are allocated by means of a selection procedure. With this procedure a good match between the student and the educational programme is ensured.
For students with a Dutch diploma: www.tudelft.nl/lr/numerusfixus
For students with an International diploma: www.tudelft.nl/ae/numerusclausus

Admission requirements
Dutch diploma
You will be directly admitted to the selection procedure when you are in possession of a Dutch VWO diploma with a N&T profile.
If you have a N&G profile, you must have Mathematics B and Physics in your curriculum.
More information: www.tudelft.nl/lr/toelatingseisen

Non-Dutch diploma
For students with an non-Dutch diploma, the admission requirements vary depending on the country in which the diploma is obtained. More information:
www.tudelft.nl/ae/admissionrequirements

Binding recommendation on continuation of studies (BSA)
If you study at TU Delft, you will be subject to the binding recommendation on the continuation of studies (BSA). This means that you must obtain at least 45 of the 60 first-year ECTS credits. If you do not meet this criterion, you cannot continue the programme and will not be able to enrol for Aerospace Engineering at the TU Delft for the next four years.
For more information: www.tudelft.nl/ae/BSA

Delft Honours Programme
The Delft Honours Programme is intended for students in search of an additional challenge who are capable of achieving more than the standard teaching programme. This is in addition to the regular study programme. It provides you with the opportunity to acquire additional knowledge in or outside the scope of your study programme, to work on your personal development and also to collaborate with students of other programmes:
www.honours.tudelft.nl

Digital brochures
View this and other brochures online:
www.brochures.tudelft.nl

Virtual campus
If you would like to explore our campus, take a look at: www.campus.tudelft.nl

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