Bachelor / Aerospace Engineering

Are you ready to make a difference?

How do you make an aircraft climate neutral? How do you design satellites that can monitor climate change? How will you dispose of them when they fail? How can you make aircraft quieter? These are questions you will encounter during the Aerospace Engineering bachelor's programme.

Are you ready to become a multidisciplinary engineer who makes a change in society, within the aerospace sector as well as in many other industries?

What does the programme look like?

The programme starts off with a series of introductory courses in the field of Aerospace Engineering, as well as general engineering topics such as calculus and mechanics. Quickly you will realise that every course builds upon the foundations provided by previous courses, which requires you to really keep up the pace in order to be successful. Lectures are taught by experienced lecturers and professors, who use examples to illustrate the importance of their disciplines. Extensive group projects are employed to integrate the skills and knowledge you acquired during lectures. During the projects you will solve design challenges, based on real-life cases, such as ultra-efficient new aircraft designs and drone swarms. You learn how to work in international teams, think outside the box and communicate effectively.

Study environment

You will study alongside more than 2500 BSc and MSc students at the Faculty of Aerospace Engineering. The Faculty is unique in Europe and enjoys worldwide acclaim.

Aside from the theoretical part of the BSc programme, the Faculty is able to offer you access to state-of-the-art facilities over the course of several practicals, including an advanced flight simulator, our own jet aircraft as a flying classroom, subsonic, supersonic and hypersonic wind tunnels and a large laboratory for the development, manufacturing and testing of structures and materials.

Admission requirements
Selection procedure

Language
English

Numerus Fixus - Selection procedure
Yes. 440 first year students

Binding Study Advice
60-65% of students get a positive BSA

Average study week (42 hours)
Lectures: 16 hours
Projects and laboratory courses: 8 hours
Self-study/tutorials: 18 hours

"The study is actually broader than you think, you learn mathematics, physics, aerodynamics, structures and apply these skills to aerospace related modules."

Noortje
Master's student Aerospace Engineering

TUDelft

What will you learn?

First year

From the very first day of your studies, you will be able to dive into the specifics of aerospace engineering. While you are also taught the basic engineering sciences such as mechanics and calculus, the programme focuses on how to apply these engineering disciplines to aerospace design problems as soon as possible. In the first year this occurs mainly in the aerospace design projects, which will take up a significant portion of your weekly schedule.

Second year

In the second year, you will learn more about designing systems and processing measurement data. A series of intensive mathematics courses will provide you with the tools required to tackle the aerospace courses. Topics that were discussed briefly in the first year are now explored in depth providing you with a solid theoretical background in subjects such as aerodynamics and orbital mechanics. The aerodynamics courses are supplemented by two wind tunnel practicals.

Third year

The first semester of the third year allows you to broaden the scope of your education by means of a minor programme. You can choose to do this at other TU Delft faculties, at other universities in the Netherlands or at one of our many partner universities abroad.

Your last semester consists of the final BSc courses as well as a flight practical in the faculty's flying classroom, a Cessna Citation aircraft, which you will use to carry out measurements in flight. Everyone finishes 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 aerospace companies or research organisations.

1392
BSc students

46%
International BSc students

100%
English-language BSc & MSc programmes

1299
MSc students

49%
International MSc students

What is the profile of an AE student?

- Good at acquiring new maths and physics skills at a rapid pace
- Likes solving multidisciplinary design problems with a group of fellow students
- Able to study in a very internationally-oriented environment with English as the main language

Follow-on Master's programmes

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

Job prospects

- 88% of MSc graduates find a job they like within 6 months after graduating
- 40% become employed in the Aerospace sector
- 60% find a job within other engineering sectors, consultancy or management

6%
Academic Development

17%
Minor

23%
Basic Engineering Sciences

24%
Aerospace Design Projects

30%
Aerospace Engineering Sciences and Technology

More information?
Check the programme website.

Find us on Social Media @aetudelft

BSc Aerospace Engineering

First quarter	Second quarter	Third quarter	Fourth quarter

First year

First quarter	Second quarter	Third quarter	Fourth quarter
Exploring Aerospace Engineering		Design and Construction	
Engineering Drawing		Technical Writing	
Introduction to Aerospace Engineering I	Introduction to Aerospace Engineering II	Aerospace Design and Systems Engineering I	
Statics	Aerospace Materials	Aerospace Mechanics of Materials	Linear Algebra
Calculus I.a	Calculus I.b	Physics: Thermodynamics, Waves and Electromagnetism	
	Dynamics	Calculus II	Programming & Scientific Computing in Python

Second year

First quarter	Second quarter	Third quarter	Fourth quarter
System Design		Test, Analysis and Simulation	
Oral Presentations		Scientific Writing	
Aerospace Design and Systems Engineering II	Low Speed Wind Tunnel Test	Flight and Orbital Mechanics	Aerospace Systems and Control Theory
Aerodynamics I	Aerodynamics II	Propulsion and Power	Signal Analysis and Telecommunication
Differential Equations	Structural Analysis and Design	Artificial Intelligence for Aerospace Engineering	Computational Modeling
Probability and Statistics	Vibrations	Applied Numerical Analysis	

Third year

First quarter	Second quarter	Third quarter	Fourth quarter
Minor Programme		Simulation, Verification and Validation	Design Synthesis Exercise
		Production of Aerospace Materials	
		Systems Engineering & Aerospace Design	
		Aerospace Flight Dynamics & Simulation	

Legend:
- Aerospace Design Projects
- Aerospace Engineering and Technology
- Academic Development
- Basic Engineering Sciences

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Mini-MOOC

What will you learn?

A selection of first year BSc topics, including a basic history of flight, the atmosphere and how aircraft fly.

Why take the course?

The mini-MOOC gives a good impression of the level of difficulty and the material taught in the first year of the BSc Aerospace Engineering at TU Delft. It can help you decide whether this BSc is right for you and if it is, it will give you a head start to the programme.

Is it compulsory?

Everybody can take part in the free online course voluntarily. But it is compulsory for all students taking part in the decentralised selection procedure to enrol in the BSc.

Step 1
Find more information on: https://www.tudelft.nl/en/ae/mini-mooc

Step 2
Create an account on onlinecourses.tudelft.nl

Step 3
Confirm your account by clicking on the link in the e-mail sent to you

Step 4
Fill in the form on: forms.office.com/r/t7EBXPcfDr

Important Dates & Deadlines

Visit us at college fairs, open days and student-for-a-day events. And register in Studielink.

January 15th **Registration deadline**

Complete the mini-MOOC, an online introduction course, to get acquainted with the first year material.

End of January **Deadline mini-MOOC**

Work on the Questionnaire on Motivation and Academic Attitude.

End of February **Deadline Motivational Questionnaire**

Work on the three part academic test and write a reflection on your application procedure.

End of March **Deadline Academic Test**

Wait for your ranking number.

April 15th **Receive ranking number**

This information is based on the selection procedure for the academic year of 2022/2023 and is subject to change. For up-to-date information, please check our website.

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