inholland
university of
applied sciences

Space Engineering minor

Aeronautical Engineering

Course guide 2026-2027

Semester	Fall & Spring (semester 1 & 2)
Inholland location(s)	Delft
Inholland faculty	Engineering, Design & Computing
Language of instruction	English
Cycle	Bachelor level
Number of ECTS	30

Content

Since the dawn of the Space Age in 1957, the exploration of Space has brought an immense prosperity to humanity: Telecom satellites connect all corners of the globe, Earth observation satellites provide crucial insight into global natural and man-made processes, Navigation satellites guide the aviation, shipping and mobility sector, Space Science satellites unlock the secrets of the Universe, and Human & Robotic exploration missions appeal to human's exploring nature, inspire society in reaching new heights and positively weigh-in on geopolitical matters.

The Inholland Aeronautical Engineering "Space Engineering minor" aims to prepare engineering students for their entry into the Space workforce (or other related high-tech sectors such as semi-conductor or Precision) that make all these space missions get off the ground and into Space. The many Dutch companies and institutes that are active in the Space domain, are mostly affiliated with SpaceNed.

In the Space Engineering Minor, the student will focus on further specialization in the field of Space. In its broad technical context, Space missions and its underlying engineering disciplines will be lectured. From rockets to satellites, from Moon landers to Space Stations. Hands-on projects will be carried out to get a deeper understanding of the hardware aspects related to Space Engineering.

Learning goals

Student is able:

- to understand and describe the different aspects of the space environment, and the effects of this environment to astronauts and spacecraft,
- describe the basic characteristics of solid and liquid propellants, the build-up of propulsion systems and most important performance parameters of rocket engines, and be able to calculate chemical rocket engine performance parameters,
- understand which, and the reason why, materials (and related processes) are suitable for use in the space environment,
- understand the purpose of a spacecraft mission (specification and requirements and accuracy),
- understand, describe and have an overview of all elements that encompass a space mission for all relevant applications, both in space and on the ground,
- work with technical specifications of all systems, subsystems and components involved in a space mission and be able to select suitable hardware and software for a specific mission.

Entry requirements

This module is intended for non-Inholland students with a maximum capacity of 25 students. Besides exchange students, the following Dutch educational programs can enroll:

- Aviation
- Automotive
- Engineering
- Maritime Engineering
- Mechatronics
- Applied Mathematics
- Mechanical Engineering

- Applied Physics

Students have completed first and second year of studies, plus internship.

Literature

Spacecraft Systems Engineering – P. Fortescue / J. Starke

Mode of delivery, planned activities and teaching methods

Courses with lectures, practicals and project work in Delft, The Netherlands.

Programme information

Education form	Fulltime
Mandatory contact hours:	20
Language:	English
Schedule:	An average of 3 days courses and projects at faculty in Delft, The Netherlands.
Assessment:	Exam, personal and group portfolio.
Remarks:	Guest lectures are offered and international conferences (extracurricular) are additional to the program.

Course overview

The total study load of the Space Engineering Minor is 30 EC with each EC study credit equal to 28 hours of work.

The table shows an overview of the course titles with some additional information.

Course title	Term	Study credits (EC)	Assessment	Lecturer(s)
Astrodynamics & Orbit Mechanics	1	3	Assignment	Erik Laan
Space Propulsion	1	3	Assignment	Jean-Luc Moerel
Engineering for Space 1	1	3	Assignment	Erik Laan Marcel van Varik
Space Project 1	1	6	Project dossier	Inholland Coaches + Experts
Space Applications & Mission Analysis	2	3	Assignment	Erik Laan
Satellite Instrumentation	2	3	Exam	Frank Brandse
Engineering for Space 2	2	3	Assignment	Martin Lemmen (LPD) Marcel Bruin
Space Project 2	2	6	Project dossier	Inholland Coaches + Experts
	Total:	30		

Application information

Terms:	Semester 1 2025, Semester 2 2026
Contact person:	Richelle Winkster – International coordinator richelle.winkster@inholland.nl
Cost (numerical):	Possible extra costs when attending conferences (extracurricular)
Programme:	Aeronautical Engineering
Location module:	Delft, The Netherlands.
Keywords:	Space Engineering, Rockets, Launchers, Satellites, CubeSat.