

# Aerospace Engineering\*

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**Bachelor**

**Engineering**

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**FH**



Wiener Neustadt

**University of Applied Sciences Wiener Neustadt**  
Business . Engineering . Health . Security . Sport

\* Subject to the approval of the FH Council (FHR)

# University of Applied Sciences Wiener Neustadt

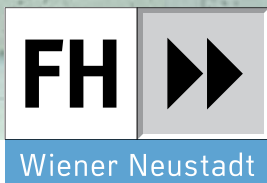
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professional

practical

international



## IMPRESSUM

Publisher: University of Applied Sciences Wiener Neustadt für Wirtschaft und Technik Ges.m.b.H.

Design: Dr. Andrea Grimm . Realisation: Jürgen Undeutsch, B.A. . Text: FHWN . Pictures: weinfranz.at .

Issue: 02/2011 . Subject to modifications and printing errors. No liability assumed for any price information.

Sponsored by: Department of Culture and Science, Lower Austria Government



# Engineering beyond limits.

## Aerospace

The „Aerospace Engineering“ programme offers a classical high level engineering education for students who are fascinated by air & space technology.

Apart from lectures, an important part of your studies will be in designing and building flying machines or rocket engines! Experts from the industry and leading scientists will bring air & space technology closer to participants – Aerospace Engineering is truly a programme without limits!

The historic city of Wiener Neustadt as well as the close proximity to leading aircraft manufacturers such as Diamond or Schiebel, close to the University and to Wiener Neustadt airport, creates a great atmosphere for this fascinating programme.

The University of Applied Sciences has excellent connections thanks to numerous contracts with NASA, ESA and others and can therefore offer students top placements for future jobs or research opportunities therefore enabling them to stay in the aerospace field or related industries such as automotive or new energies.

**“An internationally-orientated study programme is a ‘must-have’ for the space industry.”**

**Prof. Dr. Martin Tajmar**  
Degree Programme Leader

# A unique study programme in Austria.

## Short Facts

<b>Length of study</b>	6 semesters
<b>Organisational form</b>	full time
<b>Degree awarded</b>	BSc. (Bachelor of Science in Engineering)
<b>Pre-requisites</b>	<ul style="list-style-type: none"><li>&gt; School leaving certificate from an Austrian High School or an equivalent foreign certificate</li><li>&gt; Successful graduation from a vocational middle school (in a specialist area) with sufficient competence in both Mathematics and English (both at a suitable level / or suitable evidence that you have studied both for a consistent period of time)</li><li>&gt; An Austrian (or equivalent foreign) entry certificate for the study of technical programmes / engineering (that contain Mathematics and English at an appropriate level)</li><li>&gt; A suitable apprenticeship as an electrician, or work in the steel industry, technical areas or commerce (that contain Mathematics and English at an appropriate level)</li><li>&gt; Or an Austrian „Berufsreifeprüfungszeugnis“</li></ul>
<b>Application Procedure</b>	letter of motivation written in english written entrance test (This test is PC based and consists of an intelligence test and personality test, lasting no longer than 2 hours. No specific preparation is required for these tests.)
<b>Language</b>	English
<b>ECTS</b>	180
<b>Internship</b>	during the 6th semester
<b>Study start</b>	September
<b>Degree Programme Leader</b>	Prof. Dr. Martin Tajmar
<b>Place of location</b>	Campus Wiener Neustadt

## EMPLOYER (Sample)

**ACC.Austrian Engine.RUAG.**  
**Magna Fahrzeugtechnik. Dia-**  
**mond Aircraft Industries. Schie-**  
**bel Elektronische Geräte. Prime**  
**Aerostructures. FACC. Pankl.**  
**Böhler.Isovolta. Austrian Air-**  
**lines Technik. Greiner Purtec.**



# Get to know your study program!

In this day and age of rapidly changing technologies, processes and the general working environment, aircraft and space technology is considered to be a major technology driver, setting new benchmarks which are later assimilated by other engineering disciplines.

The aerospace engineering programme at the University of Applied Sciences Wiener Neustadt provides participants with the best pre-requisites to participate in cutting edge

## HIGHLIGHTS.

- > Aerospace Engineering – A unique study programme in Austria!
- > Cross-discipline in-depth engineering education
- > Practice oriented studies with an international spirit
- > Design projects parallel to lectures – e.g. development of a cube (Nano) satellite

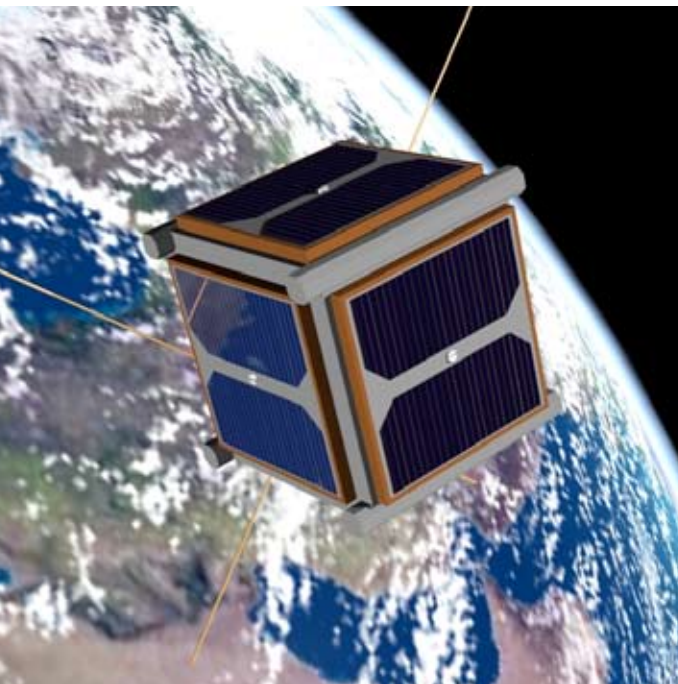
Aerospace engineers have numerous competences which are relevant for practically all engineering disciplines.

engineering developments and enables contributions to technologies which are literally 'out of this world'.

## CAREER OPPORTUNITIES

- > Research & Development
- > Design Engineer
- > Project Manager
- > Sales
- > Consultant
- > Innovation Manager

in the field of Aerospace, Aircraft and Aeronautics Industries, Automotive, Communication and Mobility Industries or Medical Technologies



# Top-Assets



Prof. Dr. Martin Tajmar  
Degree Programme Leader

## // The ultimate engineering discipline

Aerospace technology is not only a truly fascinating subject, it's also the ultimate engineering discipline. Aerospace components and systems must weigh a minimum, consume little electricity and must remain maintenance-free for up to 10-15 years (eg. in space). That's a real challenge especially while working in a stimulating environment for example on the development of aircraft, satellites or instruments for navigation, satellite-TV or space probes for planet exploration. This Aerospace Engineering programme is the only one of its kind in Austria and therefore offers a unique opportunity for entering the world of air & space technology.

## // An outstanding engineering education

Aerospace Engineering is an outstanding engineering education which combines many application disciplines, such as lightweight engineering, new materials, thermodynamics, fluid mechanics or propulsion technologies.

Up to date tools such as CATIA for virtual design or ANSYS for finite-element simulations will be taught with practical examples integrated into recent R&D topics. Due to the high standards required for the aerospace industry as a technology driver, graduates from this discipline are also highly sought after engineers in many other areas such as in automotive or energy and environmental engineering.

## // Practice orientation

The active participation of aerospace industries in the development of our aerospace curriculum and in lectures guarantees a practice oriented education close to actual future job needs. From the very beginning numerous lecturers from industry and respective research centres act as first contacts and are available to advise regarding future diploma research and employment.

Our programme also benefits from the aerospace departments at FOTEC, the R&D company at the University of Applied Sciences in Wiener Neustadt, where experts in the area of propulsion and new energy technologies carry out cutting-edge research for ESA (European Space Agency), NASA as well as leading industries around the world.

## // Designing real-world projects

Distinctive features of our aerospace programme are design projects across semesters and lectures in order to apply theoretical skills in fascinating real-world projects. Examples are the development of an FHWN satellite, an unmanned aerial robot, the development of a moon lander or a sounding rocket which will blast off from our campus!



# Feedback from professionals

„The ideal engineer is a composite ... He is not a scientist, he is not a mathematician, he is not a sociologist or a writer; but he may use the knowledge and techniques of any or all of these disciplines in solving engineering problems.“

N. W. Dougherty

## //. EMPLOYER

„A study programme such as this is invaluable. The synergies from aerospace to other related engineering fields are extremely beneficial. We meet future employees early on, the students gain practical experience from the start, and the whole location in and around Wiener Neustadt will benefit from this.“

Dr. Gert Berchtold  
CEO of Diamond Aircraft Industries GmbH

## APPLICATION PROCEDURE.

### STEP 1.

Please send the completed application form with copies of the required documents as well as a letter of motivation written in English.

### STEP 2.

After registration you will be invited to a written entrance test. These are currently on-going. (This test is PC based and consists of an intelligence test and personality test, lasting no longer than 2 hours. No specific preparation is required for these tests.)

### STEP 3.

Within a 2 week period following your test you will receive official notification detailing further entry requirements and conditions of study.

### STEP 4.

Sign the agreement and send it back to us.

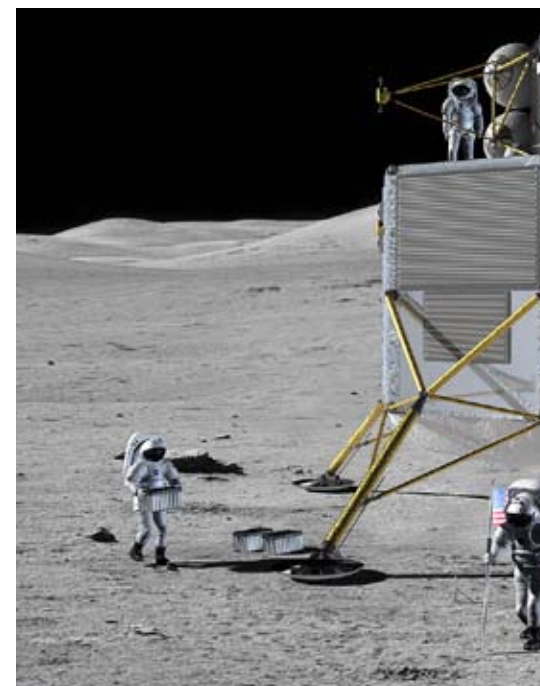
### STEP 5.

On the first day of your first semester you will receive your own personal study agreement, therefore attendance on the first day of the semester is obligatory.

## „GLAD TO HELP“ Student Advisory Service.

Prof. Dr. Martin Tajmar

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martin.tajmar@fhwn.ac.at





# Curriculum.

ECTS

1. SEMESTER	30	3. SEMESTER	30	5. SEMESTER	30
Math 1	5	Engineering Thermodynamics 1	5	Space System Design	3
Physics	4	Engineering Fluidynamics 1	5	Measurement and Instrumentation	4
Mechanics 1	5	Energy Systems	3	Aircraft Design 2	5
Aerospace Technology 1	3	Economics for Engineers	2	Control Systems in Aeronautics	6
Engineering Fundamentals 1	6	Lightweight Construction 2	3	Quality Management in Aeronautics	4
Soft Skills 1	2	Soft Skills 2	2	Material Science 2	3
Technical English	5	Manufacturing Methods in Aerospace	3	Senior Design Project	4
		Electrical Engineering	3		
2. SEMESTER	30	4. SEMESTER	30	6. SEMESTER	30
Math 2	5	Engineering Thermodynamics 2	6	Project Thesis Seminar	3
Mechanics 2	5	Engineering Fluidynamics 2	6	Internship	27
Aerospace Technology 2	3	Aircraft Design 1	3		
Lightweight Construction 1	3	Soft Skills 3	2		
Fundamentals for Project Management	2	Finite Elements Computation	7		
Engineering Fundamentals 2	7	Material Science 1	3		
Simulation and Modelling	5	Junior Design Project	3		

subject to change

