



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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# Master's degree



TUM Asia

## Master of Science in Aerospace Engineering

Technical University of Munich • Singapore



## Overview

Degree	Master of Science in Aerospace Engineering
Teaching language	<ul style="list-style-type: none"><li>English</li></ul>
Languages	<p>Courses are held in English (100%) only.</p> <p>After agreement with the supervisor, the participants can choose to write their Master's thesis in English or German.</p>
Full-time / part-time	<ul style="list-style-type: none"><li>full-time</li></ul>
Programme duration	4 semesters
Beginning	Winter semester
Additional information on beginning, duration and mode of study	The programme starts on 1 August.
Application deadline	31 May
Tuition fees per semester in EUR	Yes
Additional information on tuition fees	<p><a href="https://tum-asia.edu.sg/admissions/graduate/msc-aerospace-engineering/">https://tum-asia.edu.sg/admissions/graduate/msc-aerospace-engineering/</a></p> <p>38,983.34 SGD (Singapore dollars)</p>
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No

## Description/content

The Master of Science in Aerospace Engineering programme is awarded by Technische Universität München (Technical University of Munich, TUM). The programme is conducted in Singapore, and it serves to provide graduates with an in-depth knowledge in the field of aerospace engineering, focusing on the areas of aeronautical design, space design and research.

### COMPULSORY MODULES:

- Introduction to Aeronautics
- Mechanics for Aerospace Engineers

### CORE MODULES\*:

- Aerodynamics
- Introduction to Flight Mechanics
- Flight Propulsion
- Structures and Materials

### LABORATORY MODULES

- Numerical Methods & Tools in Aerospace Engineering
- Structural Modelling Lab
- Aerodynamic Modelling Lab

### ELECTIVE MODULES\*:

- Advanced Flight Control Systems
- Aerodynamics Design of Turbomachines
- Aeroelasticity
- Aerospace Structures
- Aircraft Design
- Boundary Layer Theory
- Fiber Composite Materials
- Flight Control Systems
- Helicopter Engineering
- Safety and Certificate of Aircraft
- Safety & Certification of Avionics & Flight Control Systems
- Spacecraft Technology

**NON-TECHNICAL ELECTIVE MODULES\*** – Students choose one module from the following:

- Business Administration
- Innovation and Technology Management

\*Disclaimer: Modules available for selection are subject to availability. Unforeseen circumstances that affect the availability of the module include an insufficient number of students taking up the module and/or the unavailability of the professor. TUM Asia reserves the right to cancel or postpone the module under such circumstances.

## Course Details

### Course organisation

All theoretical and practical modules will be held in Singapore. After the coursework, all students are required to complete a mandatory internship at an industrial partner and a six-month Master's thesis.

All coursework is conducted in English, and students will be taught by German and Singaporean lecturers.

» [PDF Download](#)

### International elements

- International guest lecturers

- Training in intercultural skills
- Courses are led with foreign partners
- Projects with partners in Germany and abroad
- International comparisons and thematic reference to the international context

#### Integrated internships

After the coursework, all students have to complete an internship with the industry or with an academic institution. It is required for the student to complete an internship related to his or her field of study at TUM Asia.

One can secure an internship in Singapore, Germany, or in any other country in Asia, Europe or the rest of the world. Students who have secured scholarships with their sponsoring companies will conduct their internships in these companies (this can be conducted in any branch of the company worldwide). Students without industrial sponsorship are to look for internships independently. It is expected that all students take an active approach in this search for internships. TUM Asia will help provide students with any possible internship opportunities, but students are to lead the search for internships on their own.

#### Course-specific, integrated German language courses

No

#### Course-specific, integrated English language courses

Yes

## Costs / Funding

#### Tuition fees per semester in EUR

Yes

#### Additional information on tuition fees

<https://tum-asia.edu.sg/admissions/graduate/msc-aerospace-engineering/>

38,983.34 SGD (Singapore dollars)

#### Semester contribution

Included in tuition fees

#### Funding opportunities within the university

Yes

#### Description of the above-mentioned funding opportunities within the university

The following scholarships are awarded to students in graduate programmes (subject to eligibility):

- Industry scholarships
- TUM Asia scholarships

<https://tum-asia.edu.sg/admissions/graduate/scholarships/>

## Requirements / Registration

#### Academic admission requirements

Applicants must have completed at least a Bachelor's degree (honours) or European/German FH Diploma or its equivalent in the areas of aerospace/mechanical engineering or a closely related discipline from a university of recognised standing, with at least upper second class honours or equivalent.

"Akademische Prüfstelle" (APS) certificate is required for applicants with education qualifications from China, Vietnam and Mongolia.

**Language requirements**

Applicants whose native language or medium of instruction from previous studies (e.g., Bachelor's programme) is not English must submit at least one of the following:

- TOEFL: minimum 605 for paper-based test, 234 for computer-based test, 88 for Internet-based test
- IELTS: overall IELTS results of at least 6.5

**Application deadline**

31 May

**Submit application to**

Technical University of Munich (Asia Campus)  
510 Dover Road SIT@SP Building  
#05-01 Singapore 139660

E-mail: [admission@tum-asia.edu.sg](mailto:admission@tum-asia.edu.sg)

## Services

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**Accommodation**

As Singapore is a relatively small island city with easy access via public transport, students are able to reside in any residential zones convenient to them. TUM Asia has no in-campus accommodation facilities and our students search for their own accommodation that fits their budget and preferred area of residence. They may choose to live in student hostels when they first arrive in Singapore and, after they have made new friends at university, they rent and share a private apartment with some other friends/classmates. The living expenses in Singapore (including accommodation) are approximately 1,200 SGD per month. The actual amount will vary across individuals.

**Support for international students and doctoral candidates**

- Welcome event
- Tutors
- Visa matters



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**Aswin Haridas**  
PhD

The best thing about my experience at TUM Asia is the diversity of cultures and experiences through my internship and thesis in Munich. I learned a lot from the conversations I have had with many different people, which changed me to be more inquisitive about the things I see and experience. Connecting with like-minded individuals was truly a game changer. The conversations during the Alumni events will stay with me beyond the static knowledge that anyone could glean from books.

## Technical University of Munich



Founded in 1868, the Technical University of Munich (TUM) is one of Europe's leading research universities. In international rankings (QS World Ranking 2023, Times Higher Education 2022, and Shanghai Ranking 2022), TUM regularly places among the best universities in Germany. As one of the most research-intensive and most innovative universities in Europe, TUM strives to create sustainable solutions for society through excellence in education and research. In 2006 and 2012, it won recognition as a German "Excellence University".

TUM's unwavering commitment to the betterment of society has led to the establishment of its first and only overseas campus, TUM Asia, offering Bachelor's and Master's degree conferred by TUM and other top universities in Singapore. Since opening its doors in 2002, TUM Asia has since produced close to 2,300 graduates in the area of engineering and natural sciences from different countries.

As the first German academic venture abroad, TUM Asia is supported by the Singapore Government through the Economic Development Board (EDB), and by the German Government through the Federal Ministry of Education and Research and the German Academic Exchange Service (DAAD).

The overseas campus TUM Asia currently has more than 600 active students in its various programmes.



## University location

Nestled off the southern tip of the Malay Peninsula, Singapore is often endearingly known as the “Little Red Dot” as it remains one of the smallest countries in the world. Despite its small size, the 710 square kilometres metropolis is constantly bursting with economic activities straddling electronics, chemicals and engineering.


Also known as the “Aerospace City of the Future” Singapore boasts one of Asia’s largest and most diverse eco-systems playing host to a growing satellite industry with more than 30 firms including SES, and Inmarsat and space start-ups like Astroscale. Lauded for its developed infrastructure, political stability, open business policies, skilled workforce and the use of English as the main working language, Singapore is the top choice for multinational companies and start-ups to set their business here as a springboard to tap into emerging markets. Singapore has one of the largest and most diverse aerospace companies in Asia, boasting 130 aerospace players in its ecosystem. From a tiny swamp-covered island, Singapore quickly grew to a major home to a motley of cultures, ethnicities and religious with various festivities, traditions, and practices. Be it its swanky architecture, diverse culture, lush greenery or tropical weather, there are many reasons why people choose to come to Singapore as a choice of destination.

## Contact

**Technical University of Munich**  
Asia Campus

510 Dover Road SIT@SP Building  
#05-01 Singapore 139660


Tel. +65 67777407

 [admission@tum-asia.edu.sg](mailto:admission@tum-asia.edu.sg)

 Course website: <https://tum-asia.edu.sg/admissions/graduate/msc-aerospace-engineering/>

 <https://www.facebook.com/tum.asia/>

 [https://twitter.com/TUM\\_Asia](https://twitter.com/TUM_Asia)

 <https://www.linkedin.com/company/technische-universit-t-m-nchen-asia-german-institute-of-science-&-technology---tum-asia->

 <https://www.youtube.com/user/TUMAsiaOfficial>

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# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

DAAD - Deutscher Akademischer Austauschdienst e.V.  
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## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://www.gate-germany.de)

## Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

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of Education  
and Research