Degree Program in Brief

Duration of Study/Credits
4 semesters/120 credits, full-time program

Degree Type
Master of Science (M. Sc.)

Start of Course
Summer & Winter semester

Language
English/German

Admission Requirements
Bachelor’s degree
Aptitude assessment procedure, based on (1) average grades of relevant modules of Bachelor’s degree, (2) professional knowledge, (3) letter of motivation.

Costs per Semester
No tuition fee. Detailed information:

Further Information
www.lrg.tum.de/en/lur/ma-aerospace

Contact

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Program-specific Questions
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Objectives

Novel aircraft concepts like unmanned aerial vehicles and electrical aircraft, smart transportation networks and the exciting potential of New Space call for excellently trained engineers who are fascinated by high-tech and eager to explore future topics. Scientific and technological developments, for example in automation and drive systems, rely on aerospace engineers who break new ground in interdisciplinary and international cooperation and drive these developments forward. Our Master's program in Aerospace conveys a comprehensive understanding of the entire aircraft and spacecraft systems and gives an understanding of the design and development process. New mobility concepts – be it in space, in the air, or on the ground – take us to the limits of what is technically feasible and make their very own contribution to a resource-efficient future.

Students in the field of aerospace can expand their technical language competence in English, which is central to working in the international aerospace industry, by choosing from the extensive range of English modules or by completing their studies completely in English.

Requirements

Expertise in basic areas of mechanical engineering:

- higher mathematics
- engineering mechanics
- machine elements
- materials science
- thermodynamics
- fluid mechanics
- control theory

German or English language skills (level B2 or higher).

Degree Program Structure

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The program allows students to create their own individual curriculum by choosing from a broad catalogue of modules.

Distinctive Features of the Program

Students are free to choose modules from seven core areas of aerospace technology, as well as other specialized modules offered by TUM, thus creating their own individual study plan.

The program can be studied either in English or German. However, it is also possible to attend modules in both languages.

Graduates will have skills in the field of complete flying systems. Depending on the individually chosen orientation, they gain expert knowledge in the areas of transport systems, endo- and exoatmospheric flight systems as well as in the specialist disciplines of aerodynamics, lightweight construction, flight system dynamics, flight propulsion, control theory, aircraft design or space technology. In addition, they will be familiar with production methods as well as materials science and materials engineering from development to application.

Furthermore, during their training, students are repeatedly confronted with practical problems that require optimization with regard to economic and ecological aspects. In addition, possible solutions have to comply with specific legal constraints in the development, design, certification and operation of flying systems.

Career Profile

Opportunities arise in the fields of aerospace systems, propulsion technology, and armaments, as well as materials technology or components. Civil aviation, defense and security and space travel are all potential fields of employment. Furthermore, aerospace engineers have attractive career opportunities at universities and research institutions, in the public service, and in the service sector.