



**Steinbeis University  
Berlin SHB**



**TECNOLÓGICO  
DE MONTERREY®**



DOUBLE-DEGREE MASTER'S PROGRAM

**A job-oriented international study  
program fostering competences**



Master of Engineering from the Steinbeis University Berlin (SHB)

**Aerospace Engineering and Lightweight Technologies**

Master of Science from the Tecnológico de Monterrey (TEC)

**Manufacturing Systems**

# AEROSPACE ENGINEERING AND LIGHTWEIGHT TECHNOLOGIES

The design, development, launch and operation of aircrafts, satellites, space probes and space stations are the objectives of Aerospace Engineering. Aerospace is a key driving force for new technologies. Many trend-setting innovations were developed in enterprises and scientific bodies belonging to the aerospace industry. Products have to be lightweight and must fulfill stringent quality requirements. They must also work reliable and under extreme conditions. Therefore lightweight technology issues are of great importance in this industry sector since the beginning.

These days lightweight technology and a deepened knowledge in material science and material design are also of great importance for the automotive, the machinery and related industries. Most of the small and medium-sized enterprises develop products for all these branches. They are therefore highly interested in employees trained in aerospace engineering and lightweight technologies.

## How is the study program organized?

- Each student is supervised by three mentors, one normally from its company or research institution, one from the TEC and one from the ASA
- Throughout the whole program all students work on a defined company project
- The knowledge gained in the seminars is applied to work on the project
- The project leads to the Master's thesis

**Phase 1 at ASA for 2 months:** Students assign to a company or research institution in Germany for their competence project, contact their mentors, define their project and gain basic knowledge in aerospace technologies.

**Phase 2 at TEC for 10 months:** Students complete their basic course work, get experience in a company in Mexico and work on their competence project.

**Phase 3 at ASA for 12 months:** Students work in their companies or research institutions on their competence project and Master's thesis, select special courses - approximately 50 seminar days alternate with self-learn phases and transfer work. They complete their project and finalize and defend their Master's thesis.

## What are the advantages of this specific Master's program?

### ■ Students

- › study in Germany and in Mexico, gain industry experience in both countries and build up an international network
- › develop new skills on a technical, personal, interpersonal and intercultural level
- › complete their studies in English- today's business language
- › get trained for a leading position as an engineer in the aerospace, automotive, machinery and related industries
- › get two different internationally recognized and state approved university degrees at the same time as base for an excellent career
- › Small classes with a maximum of 20 students enable an intense and individual support and a graduation within two years

### ■ Companies

- › get a live problem solved, which forms the competence project
- › work with students who get a scientifically sound and methodical education and thus providing a foundation for innovation, competitive advantage and profit growth
- › obtain high-qualified personnel with international experiences and intercultural competences, which are the base for innovation, networking and success in today's international industry environment



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## ADMISSION REQUIREMENTS

- A Bachelor or an equivalent degree in Engineering, Physics, Mathematics or similar background
- A competence project in industry or research organization

## THE COMPETENCE PROJECT

### STUDY PROGRAM

**First year at ASA and at TEC:** Basic knowledge is imparted in the subject areas of aerospace, lightweight technologies and management.

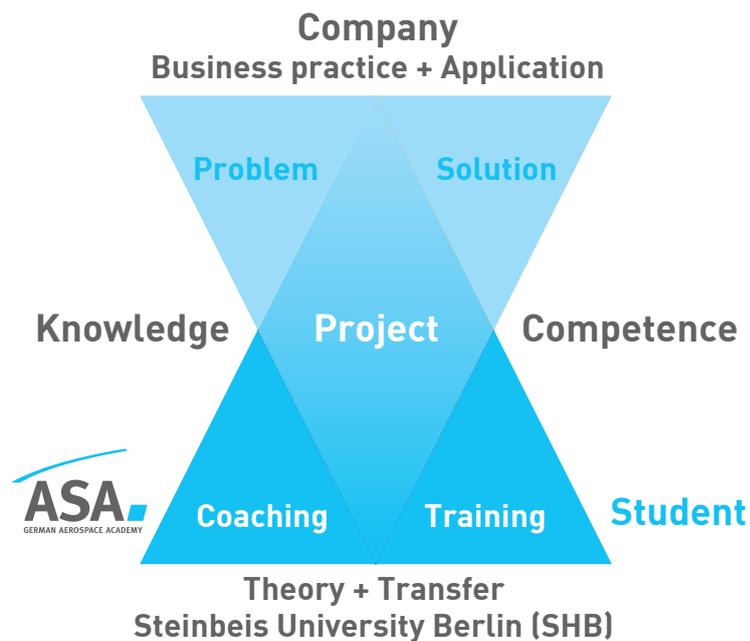
**Second year at ASA:** The students have the possibility to specialize themselves in accordance with the project and their personal preferences. They are able to choose from a large variety of study modules in aeronautics, space and lightweight technologies.

### MASTER THESIS



# STEINBEIS PROJECT COMPETENCE CONCEPT

This Double Degree program is based on the Steinbeis Project Competence Concept. To take any of the degrees offered by ASA, students must have a company project plus a contract of employment at a company or similar organization. Therefore as a first step the student, its company and ASA have to define and agree upon this project. Young degree holders are supported by ASA to find a suitable company. Throughout the whole study program all students work on their defined competence project, which is of special interest for their company and forms the backbone of every degree program at the ASA.



## The competence project

- is based on a specific challenge facing the students' company or research institution
- is in this Double Degree program parallel supervised by three mentors, one normally from the company, one from the ASA and one from TEC
- acts as a bridge between knowledge and methodologies
- finally leads to the master thesis

## Working on a live project ensures that the students

- "keep their feet on the ground"    ■ focus on real industry issues
- make decisions independently    ■ pinpoint solutions.

This approach – drawing on the knowledge imparted in seminars, and thus facilitating learning and doing – fosters competence. Based on this unique Project Competence Concept, all degree programs of the Steinbeis University lead to state-approved bachelor and master qualifications.

## ASA NETWORK FOR THE STUDY PROGRAM

- Professors and lecturers from renowned universities, research institutions and companies teach at the ASA.
- National and regional Industry Associations in Germany support the study program at ASA.



**Universität Stuttgart**  
Faculty 6



Research  
Institutes

**DLR**



**AFBW**  
Allianz Faserbasierte Werkstoffe  
Baden-Württemberg e.V.



**IWT**  
Stiftung Institut  
für Werkstofftechnik  
Bremen

VIRTUAL DIMENSION CENTER



University  
Dresden



Informationsmanagement  
im Ingenieurwesen  
University Karlsruhe



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An OHB Company



**LR BW**  
Forum Luft- und Raumfahrt  
Baden-Württemberg e.V.



Landesverband der Baden-Württembergischen Industrie e.V.

# CONTACT



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## Steinbeis University Berlin (SHB)

Steinbeis University Berlin is a private, state-approved university that offers students and companies practically-oriented degree programs that dovetail with full-time employment. It also conducts research into issues related to business practice. The SHB portfolio includes certification courses, Master and Bachelor degrees and PhD programs, all recognized by the German state. The SHB is an enterprise in the Steinbeis Network, which operates throughout the world in the field of application-based knowledge and technology transfer.



## German Aerospace Academy (ASA)

The German Aerospace Academy is a Transfer Institute and part of Steinbeis University Berlin. The ASA provides a variety of specialized courses and professional trainings to allow companies to hone the skills of their employees and continuously build on their capabilities. Working with leading international experts, we provide insights into the very latest research and technological advances.

The ASA offers Bachelor's and a Master's degrees to people who have already embarked on a working career but wish to gain a more advanced university qualification. On the other hand, young degree holders have the opportunity for further graduation as they gain experience in a company. By consistently focusing on the needs of the industry, the ASA provides companies with exactly what they're looking for: training that reflects the needs of the industry, training that dovetails with careers as well as education as a fresh start.

The ASA headquarters is located in the greater Stuttgart Area, at the train station Böblingen, nearby the motorway junction Stuttgart and just 20 minutes apart from Stuttgart city center and the airport.



## Tecnológico de Monterrey (TEC)

The Tecnológico de Monterrey is a private, non-profit, independent educational institution that operates under the statute of an Independent University. Its educational offering consists of a wide assortment of undergraduate majors, specializations, Master's degree programs, medical specialty programs, and PhD programs. For many years TEC is internationally high ranked in the field of engineering and technology. The TEC is a multi-campus university system with 33 campuses throughout Mexico and has also established an international presence in 12 foreign countries. Civil associations made up of a large number of prominent leaders from across the country who are committed to quality in higher education support the work of TEC. Currently TEC is an essential part of the Tecnológico de Monterrey System.