

## At a glance

### Target group

Highly qualified bachelor students from Natural Sciences and Technology inclined towards research and development.

### Conclusion

Master of Science (M.Sc.)  
Advanced Materials and Manufacturing

### Term of studying

- 3 semesters incl. Master's thesis
- Scope:  
90 Credit Points (ECTS)

### Admission-requirements

A professionally qualifying university degree (Bachelor, Diploma) in Materials, Mechanical or Manufacturing Engineering or a related field (such as Physics or Chemistry) with an above-average degree.

### Special Features

Besides working on your research topic, you will in semesters one and two attend to specific elective lectures as well as to methodological courses. The third semester will conclude with your Master's thesis.

### Application

Take your opportunity to apply online.

- ☎ +49 (0) 7361 576-1299
- ✉ [zulassungsamt@hs-aalen.de](mailto:zulassungsamt@hs-aalen.de)
- 🌐 [www.hs-aalen.de/bewerbung](http://www.hs-aalen.de/bewerbung)

You may start the programme each winter or summer semester.

The relevant application deadline is 30 November (summer semester) or 15 June (winter semester) of each year.

### The Aalen University of Applied Sciences

Innovative educational models, excellent lecturers, well developed research, learning rooms to feel at home in as well as state-of-the-art laboratories, promotion of personal development and business thinking, close integration with the industry, both regionally and internationally. The Aalen University hosts 5.600 students in more than 60 study programmes at one of the most attractive campuses in Germany: In the Innovation Centre, young start-ups are supported while the explorino Science Centre inspires children for acquiring interest in science and technology. The construction of the new Waldcampus will begin soon, featuring a business sciences building, a new canteen, a childcare centre and dormitories.



[hs-aalen.de/amm](http://hs-aalen.de/amm)



## Contact

Student Advisory Service  
Faculty Mechanical Engineering /  
Materials Science

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Further information

**WhatsApp Advisory Service**  
0152-27 14 93 14

**Instagram**  
[@maschinenbau.hsaalen](https://www.instagram.com/maschinenbau.hsaalen)

Course Coordinator



**Prof. Dr. Dagmar Goll**



Advanced Materials  
and Manufacturing  
Master of Science (M.Sc.)

 **Aalen University**

# Research Master Advanced Materials and Manufacturing

The Research Masters programme covering three semesters at the most research-focused University of Applied Sciences in Baden-Württemberg is an attractive, innovative Masters programme that only few German universities provide.

Differing from the traditional Masters programme, this study programme is focusing on applied research. In the research modules, you will work independently right from the start on an up-to-date, self-selected research topic from the various topics of the degree programme. These project works have to be carried out in close exchange with the supervising professors. You will be an active member of a research group from the start. By attending the associated lectures from related fields such as Materials Sciences, Machine Learning, Electromobility or Product Development, you will acquire in-depth theoretical expertise in the environment of your research topic.

## Degree programme

In the course of study, you will learn to structure complex research and development tasks independently, developing solutions and examining them critically.

Besides obtaining professional qualifications, you will learn how to persuasively present results, how to publish them academically and how to successfully plan and manage larger research and development projects.



- Top position in Germany's national CHE ranking of 2019 in the categories 'General Studies Situation', 'Lectures Available' as well as 'Support'.



## Programme offer

Applied research in state-of-the-art institutes and laboratories, such as:

- Battery technology
- Magnets for electromobility and renewable energies
- Additive manufacturing
- Laser materials processing
- Lightweight construction and polymer/fibre composites
- Chemical and mechanical surface engineering
- Innovative materials analytics/machine learning
- Innovative drive technology
- Innovative automation and robotics

### Studies layout and didactic concept

You will have access to many state-of-the-art laboratories and institutes with high-quality equipment for practical working on research topics. You will receive sound guidance in procedures and experience in-depth discussion of results with your mentoring professor as well as the members of your research group. Many research projects are part of national and international collaborations with renowned companies and universities, so that you will be gaining intensive insight into industrial R&D work and benefit from collaboration in interdisciplinary teams.

### After graduation

You will enjoy excellent prospects in industrial research, development and production, e. g. as a project manager or general manager with in-depth expertise in future-related topics. As an alternative to your direct entry into your career, you are perfectly prepared for continuing with your PhD. Your prospects lie in various industries such as automotive or aerospace, classical mechanical engineering or energy and medical technology.

## Programme overview

Semester	3	Master's thesis 29 CP + Studium Generale 1 CP			Doctorate
	2	Research module II (20 CP)	Engineering (5 CP) or Project management (5 CP)	Optional compulsory module 2 (5 CP)	
	1	Research module I (20 CP)	Project management (5 CP) or Engineering (5 CP)	Optional compulsory module 1 (5 CP)	

You may achieve 30 Credit Points per semester up to a total of 90 Credit Points

■ Lecture module

■ Project work