

Master of Science (M.Sc.) in Automotive Engineering

The programme *Master of Science in Automotive Engineering* focuses on all disciplines within Automotive Systems Engineering, including concept, development, design and construction and also the manufacturing process of vehicles. The knowledge obtained from ongoing research at RWTH flows directly into lectures, seminars and workshops, thus ensuring an up to date and innovative curriculum.

The programme provides in-depth knowledge and understanding of Automotive Engineering. Its particular focus is on industrial R & D practices and on modern manufacturing processes of vehicles and their subsystems. The programme is also meant to enhance the students' ability to lead and coordinate project teams and to strengthen their skills of scientific documentation and communication.

Naturally, the most important target of the master programme in "Automotive Systems Engineering" is to provide excellent education in all the different fields of automotive engineering. This is done by permanently monitoring the status of course contents and materials in view of possible improvements. The result are top-quality courses in terms of up-to-dateness, completeness and awareness of future trends.

With personal coaching, especially in project works, students also acquire extraordinary skills in scientific methods, self-organisation, technical documentation and presentation.

Considering the favourable location of RWTH Aachen, students also benefit from excursions offered regularly, for industrial, academic and exhibition (e.g. Frankfurt Motor Show) visits. These insights to the industrial landscape can be considered priceless.

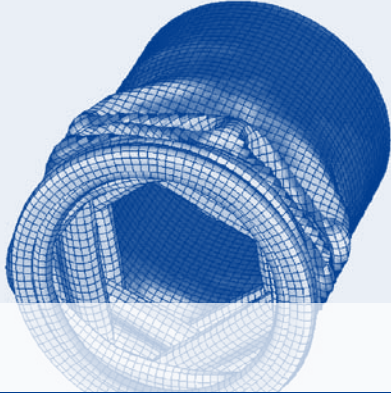
Career Opportunities

Graduates will be qualified to work in a multitude of different areas of industry, including research and development, design, manufacturing and production. In granting the RWTH Master Degree, the programme gives the graduate a degree that is recognised world-wide and qualifies for further PhD studies.

Your Contact:

RWTH International Academy GmbH
Templergraben 55
52062 Aachen • Germany

Phone: +49 (0) 2 41 / 80 952 57 • Fax: +49 (0) 2 41 / 80 925 25
Email: education@rwth-academy.com
Internet: www.master-automotive-engineering.com



Preface

Good skills in computer-aided methods are of growing importance for every engineer in all fields of activity. This is taken into account in modern teaching of all leading institutions of higher education all around the world.

In contrast to other programmes, the RWTH master programme *Computer Aided Conception and Production in Mechanical Engineering* addresses specifically the purposes of the practicing mechanical engineer, with emphasis on conception and production. According to your educational and professional background, we design together with you in the forefield of your stay with us a customized learning programme that enables you to carry out your studies according to your personal professional ideas and plans. You will be exposed to the most advanced techniques in the field, presented by internationally known specialists, in an environment focusing on your intellectual, professional and personal advancement.

Our candidates typically detain a B.Sc. degree with good results in all subjects. Their educational record reflects their interest in theoretical and numerical approaches to solve mechanical engineering problems. Industrial experience beyond the requirements of the B.Sc. curriculum is highly welcome but not obligatory to join the programme.

Prof. Dr.-Ing. Dieter Weichert, Scientific Director
Prof. Dr.-Ing. Rüdiger Schmidt, Programme Coordinator
(Institute of General Mechanics of RWTH Aachen University)



Structure of the Programme

This programme is comprised of three semesters of lectures, exercises, seminars, and laboratory courses, a two month industrial internship, and a four month period devoted to preparing a master's thesis. In the 4th semester the master's thesis has to be performed.

The programme is especially designed for international students and offers particular services aimed at this target group:

- **Content Coaching**

The participants of the master programme will benefit from personal coaching on all issues regarding the contents of the course. The students will find assistance with the preparation and the wrap-up of classes as well as the preparation of exams.

- **Social Coaching**

The content coaching will be complemented by an extensive social coaching on a broad spectrum of issues. The aim is to create an efficient learning and working environment at the study place Aachen. Support is offered from the admission all the way to graduation and beyond.



Subjects of the Programme

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The course work is divided into two sections (Compulsory and Elective Courses). All subjects of the "Compulsory Courses" section must be covered. A total amount of 18 hours of the per week (during lecture period) must be covered from subjects of the "Elective Courses" section. This total amount includes lectures and exercises. Depending on the volume of the selected subjects in the "Elective Course" section, 5 subjects must be chosen. The selection of these subjects may be discussed with the programme coordinator at ika.

	SUBJECT	ECTS Credits	SWH
COMPULSORY COURSES	Automatic Control	7	5
	Automotive Engineering I & II	12	8
	Automotive Engineering III	6	4
	Internal Combustion Engine Fundamentals	5	3
	Production Management A (or I)	5	4
	Quality Management	5	4
	Systematic Engineering Design I	6	4
	Tribology	6	4
	Total Compulsory Courses	52	36
	Technical Elective Course	24	18
	German Language Course	6	4
	Industrial Internship	9	9 weeks
	Mini thesis	9	260 h
	Master's thesis	20	4 months
	TOTAL	120	58

SWH = numbers of hours per week per semester



Organisational Information

Duration of Study:	4 semesters (2 years)
Next Start:	every year, 1 st of October + 6 weeks before start: German Course
Master Certificate:	Master Certificate of RWTH Aachen University
Master Degree:	M.Sc. (Master of Science) in Automotive Engineering
Tuition Fee:	3700 € per semester
Scientific Director:	Univ.-Prof. Dr.-Ing. Henning Wallentowitz Institute of Automotive Engineering (ika) of Aachen University
Place of Study:	Aachen, RWTH Aachen University

Prerequisites

A candidate should have a recognized first degree (Bachelor of Science or Engineering) in an engineering discipline such as Mechanical or Energy Engineering awarded by an internationally recognized university-level institution. Candidates should have also performed above average in their undergraduate studies. The Graduate Record Examination (GRE) is required. The candidates must be able to speak and write fluently in English (TOEFL 550 paper-based / 213 computer-based or IELTS 6.0). Please check our website for special entrance requirements.

RWTH Aachen University

RWTH Aachen University is the largest university of technology in Germany and one of the most renowned technical universities in Europe, with around 28,000 students, more than half of which are in engineering. Every year numerous international students and scientists come to the RWTH Aachen to benefit from the internationally recognised world-class courses and facilities. Almost 5,000 international students are currently enrolled within the undergraduate, graduate or PhD programmes. The proximity of Aachen to the Netherlands, Belgium and Luxembourg combined with the subsequent exposure to a variety of cultural heritages has placed RWTH Aachen University in a unique position with regards to the reflection and promotion of international aspects and intensive interaction with other universities.

Please send your application
until 1st of March to:

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