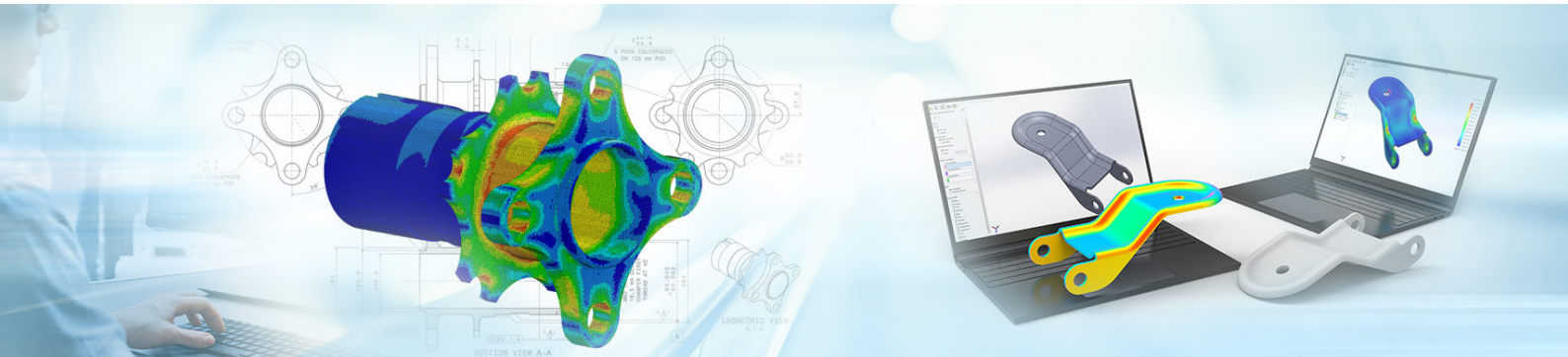


Computer Aided Mechanical Engineering

RWTH Aachen | Lehrstuhl und Institut für Allgemeine Mechanik



From 11
countries



~ 2 years working
experience



2-year full-time
Master's Program



Internship in Germany
> 9 weeks



M. Sc.
Degree



28
Average Age



Multi-
Lingual



Focus of the Program

2 specialisations
Conception of machines | Production of machines

Qualification profile

Engineers with extended and specialised knowledge of advanced methods, processes and technology in the field of computer-aided design of individual parts, assemblies and production

Computer-aided solution finding for practice-oriented problems has been increased rapidly in the last decades. As a result, computer-aided solutions and development approaches with the use of modern techniques such as Machine Learning (ML), Artificial Neural Networks (ANN) can be found in various fields, such as mechanical and plant engineering, construction, the automotive industry, medicine (bio-mechanics) or biology.

The basic concept that makes this development possible is based on the interdisciplinary linking of the fields through theory - experiment - modelling and simulation. The specialisation **Conception of Machines** enables students to develop and apply computer-aided methods for the design and construction of components and systems in mechanical engineering.

The specialisation **Production of Machines** trains students to become specialists in the development and application of computer-aided methods for industrial production. The successful graduates of the two specialisations thus not only acquire extensive knowledge in the application of computer-aided engineering softwares for the design and generation of complex technical solutions, but also process and technology knowledge.

Technical Know-How & Skills of our Students

Technical, Methodological & Analytical Skills

- ▶ Computational Intelligence in Engineering
- ▶ Artificial Neural Networks in Structural Mechanics
- ▶ Advanced Finite Element Methods for Engineers
- ▶ Porous Media Mechanics
- ▶ Computational Fluid Dynamics
- ▶ Computational Methods for Advanced Materials and Structures
- ▶ Intelligent Monitoring of Engineering Systems
- ▶ Fundamentals of Lightweight Design
- ▶ Machine Design Process

Interpersonal Skills

- ▶ Ability to abstract, system-analytical thinking,
- ▶ Team and communication skills
- ▶ Presentation skills
- ▶ International and intercultural experience
- ▶ German Language skills