Study info

Type of study:
Full-time course

Beginning of course:
Summer semester (March) and winter semester (September)

Language of instruction:
English

Course duration:
3 semesters

Degree:
Master of Science (M.Sc.)
with an additional double degree option in cooperation with the University of Bolton, U.K.

Contributions and fees:
About 290€ per semester (including a semester ticket for public transport)

Place of Study:
South Westphalia University of Applied Sciences
Lübecker Ring 2, 59494 Soest, Germany

Study course on the web:
www.fh-swf.de/cms/mse

Application

- Applicants from Germany, members of EU countries or Iceland, Liechtenstein and Norway: Please use the online procedure on the website **www.fh-swf.de/cms/bewerbung-einschreibung**
- All other applicants: Online via Uni-Assist at **www.uni-assist.de**

Consultation

Further information about the Master's Degree course:
Prof. Dr. Dominik Aufderheide
Phone +49 2921 378-3380
aufderheide.dominik@fh-swf.de
Ulrike Mester
Phone +49 2921 378-3400
mester.ulrike@fh-swf.de

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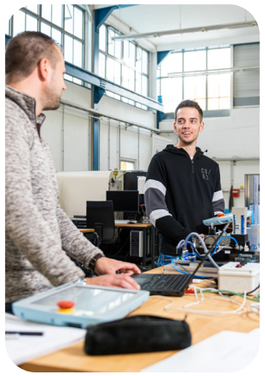

Study course on the web:

Homepage: **www.fh-swf.de**

The university on social media:
www.fh-swf.de/cms/socialmedia

Why study here?

- Ideal group sizes create a pleasant learning atmosphere and enable efficient studying
- Intensive personal exchange with the lecturers
- High practical relevance through application-oriented project work
- Strong international orientation due to the study contents, the language of instruction and the cooperation with the University of Bolton, UK.
- Attractive place to study
- Students from all parts of the world
- Close link to the PhD programs in the faculty

Double Degree in Bolton

The course has undergone an international accreditation and validation process as a joint MSc programme of the South Westphalia University of Applied Sciences and the University of Bolton in the UK. Hence, a Master's Degree can be awarded by both Universities. This dual award option requires one semester to be studied at the University of Bolton, the semester fee for this is currently about £ 3 000 GBP.

Fachhochschule Südwestfalen
University of Applied Sciences

Degree Course

Systems Engineering and Engineering Management (M.Sc.)

The right thing for me?

Design complex systems holistically
In the wake of digitisation, formerly separated sub-disciplines from the fields of engineering and computer science continue to grow together. In the course of Industry 4.0, entire production processes are organising themselves. Technical prerequisites are interconnected systems and the use of artificial intelligence and machine learning. Various engineering disciplines with different focuses in the fields of mechanical engineering, mechatronics, electrical engineering and computer science are applied. To develop and implement complex, technical solutions, a holistic approach such as in systems engineering is necessary. Leading interdisciplinary teams, even beyond national and linguistic barriers, is becoming a core competency in the development of new technical products and services in a globalised world.

From engineer to manager at the interface between technology and management
Graduates of the Systems Engineering and Engineering Management programme carry out complex projects at the interface between electrical engineering, mechatronics, mechanical engineering and management. Emphasis is put on the qualification for management tasks, for example in project management, product management or technical sales. As experts in networked industrial systems, they are qualified for tasks ranging from development to production. More specifically, they link and develop relevant assemblies, components and controls, optimise production processes and are responsible for quality management. They lead international teams and are the first contact for management and customers. Their broad expertise enables them to pursue a wide range of job opportunities in the automotive industry, mechanical and plant engineering, the food industry, medical technology, or the chemical and pharmaceutical industries.

For whom is the study course suitable?

The Systems Engineering and Engineering Management programme is perfect for graduates of electrical engineering, mechanical engineering, mechatronics or comparable programmes who would like to deepen their knowledge in the area of systems engineering and their management skills. Also experienced graduates with the intention to take over management and leadership tasks in the future are perfectly at the right place. The lectures are taught exclusively in English. Consequently, the content of the Master›s programme is international and the student group multicultural.

How is the course structured?

The standard period of study is three semesters. The different pathways of the course: Electronic, Mechatronics and Mechanical Systems provide a flexible programme that is responsive to the needs of students and industry and science. It combines these strands as important aspects of modern industrial and engineering practice. Five sys¬tems engineering and management modules are core modules while different engineering modules can be selected to focus on a specific discipline according to three different pathways.

Modules

Advanced Control Technology
Design, development and application of control systems for industrial automation.

Advanced Production Engineering
Management and control of the production environment and production system design including performance analysis and optimisation.

Business in Engineering
Essential elements of management for developing and marketing of technologies and entrepreneurial management processes.

Integrated Management
Total Quality Management, Environmental Management Systems, Innovation and Technology Management and Systems Engineering.

Systems Engineering
System Engineering Approach for the implementation of machine learning algorithms and reinforcement learning approaches.

Microprocessor Based Systems
Microprocessor hardware and soft¬ware to solve real-time embedded system monitoring and control design problems.

Modelling and Simulation of Mechanical Systems
Mathematical-physical modelling of mechanical systems and simulation in software for analytical evaluation of system properties.

International Project Management
Modern project management approaches for product development projects, which is essential for engineers from all disciplines.

Signal Processing
Development and application of digital systems for processing and analysing signals.

Technical Publications and Presentations
Enabling the student to plan, compose and present scientific publications.

Master's Project
This module enables students to bring together the knowledge and skills attained in the taught modules. Industrial based or research topics can be chosen. Results have to be presented in seminars and prepared for publication..

How is the study course structured?

	Module
Winter semester	**Pathway Electronic Systems:** Signal Processing, Systems Engineering, Technical Publications and Presentations, Business in Engineering **Pathway Mechanical Systems:** Advanced Production Engineering, Systems Engineering, Technical Publications and Presentations, Business in Engineering **Pathway Mechatronic Systems:** Advanced Production Engineering, Systems Engineering, Technical Publications and Presentations,Business in Engineering
Summer semester	**Pathway Electronic Systems:** Microprocessor-based Systems, Advanced Control Technology, International Project Management, Integrated Management **Pathway Mechanical Systems:** Modelling and Simulation of Mechanical Systems, Advanced Control Technology, International Project Management, Integrated Management **Pathway Mechatronic Systems:** Microprocessor-based Systems, Advanced Control Technology, International Project Management, Integrated Management
3rd sem.	Master Project and Thesis Viva (Colloquium)

All modules/subjects and more details see the Website of the study course

What are the admission requirements?

Successfully completed :

a) a degree (Bachelor or diploma) in a course of studies of at least seven semesters

b) or a Bachelor's degree in a course of studies of six semesters PLUS one semester of additional qualification according to the conditions of the Examination Board. Enrolment at the South Westphalia University during this additional qualification is limited to one semester,

with a final grade of at least »Good« or the equivalent ECTS-grade »A« or »B«

- Proof of English language proficiency: current TOEFL score at least 575 (paper-based), 232 (computer-based), 90 (internet-based); IELTS band 6,5 or English-language proficiency exam at the South Westphalia University