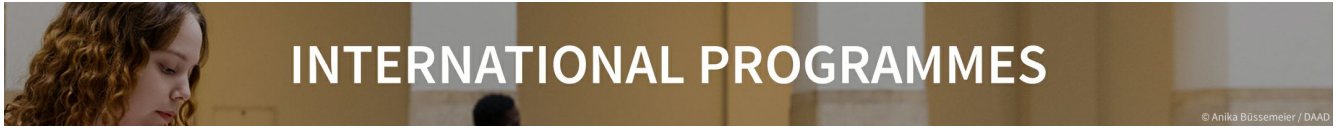




Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



## Table of Contents

<b>Master's degree .....</b>	<b>2</b>
<b>MSc Advanced Engineering &amp; Engineering Management • South Westphalia University of Applied Sciences • Soest .....</b>	<b>2</b>

# Master's degree



## MSc Advanced Engineering & Engineering Management

South Westphalia University of Applied Sciences • Soest

### Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none"><li>English</li></ul>
Languages	The course is entirely taught in English.
Full-time / part-time	<ul style="list-style-type: none"><li>full-time</li></ul>
Programme duration	3 semesters
Beginning	Winter and summer semester
Application deadline	<b>Non-EU applicants:</b> 15 May for the winter semester 15 November for the summer semester  <b>EU applicants:</b> Please check the <a href="#">university website</a> for the online application deadline.
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	Yes
Description/content	<p>The central aims for the course "Advanced Engineering and Engineering Management" (formerly Systems Engineering and Engineering Management) arise out of the changed catalogue of requirements in the area of engineering. Changing working procedures and rationalised processes force engineers to be more and more involved with organisational duties. Key qualifications like team and group work, project organisation, communication and presentation thus become more important as parallel skills and activities alongside the classical technical spectrum of requirements. These requirements can be conveyed by combining the fields of engineering, management, and economics.</p> <p>The course offers three different pathways: Electronics, Mechanical, and Mechatronic Systems. Students taking the Electronics pathway will take two electronic modules. Likewise, students taking the Mechanical pathway will take two mechanical modules. Students taking the Mechatronics pathway will take one mechanical and one electronic module.</p>

The final project module will be related to the pathway subject.

The course structure has four subject-based components. These are:

- Systems Engineering
- Engineering Management
- Advanced Engineering in
  - Electronic Systems
  - Mechanical Systems
  - Mechatronic Systems
- Research-oriented Project

Only the engineering subject discipline differentiates the taught elements of the course, the other components are common to all pathways. The engineering discipline bears the pathway name. The course treats the systems approach to engineering as generic; this is reflected in the two systems modules: Intelligent Systems and Advanced Control Technology. A separate module, Systems Engineering, explicitly focuses on the aspect of systems engineering. Engineering management is addressed by three modules: Business in Engineering, Technical Publications and Presentations, and International Project Management. Two advanced engineering modules define the pathway and focus on the application of the generic systems engineering methods in specific application areas. The two electronics modules are Microprocessor based systems and Signal Processing. The two mechanical modules are Monitoring of Mechanical Systems and Advanced Production Engineering. A Master's project module integrates the taught elements of the course. The project can be based on either the engineering pathway or engineering management.

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## Course Details

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### Course organisation

The teaching strategy for this course is aimed at producing graduates who can be readily employed in engineering-based industrial or research organisations and who have all the skills necessary to succeed. The course is targeted at high calibre students wishing to study in the disciplines of the course and as such it is not suitable for students who merely wish to acquire further knowledge without the application of that knowledge in any meaningful sense. In short, although the course is in many ways generic, it is vocational in terms of systems engineering and engineering management.

Emphasis is placed on imparting the understanding of the subject including essential facts, concepts and principles underlying the subject. This should leave the student with an ability to critically evaluate, design and apply technologies in a systematic manner to engineering and management issues.

For this reason, there are no traditional lectures of the type which merely impart straightforward information. This is too passive a mode of education for students of the 21st century. However, there is still a strong place for the exposition and clarification of themes and difficulties in a lecture-type situation. The acquisition of straightforward knowledge is facilitated by provision of learning material (e.g. via electronic media) and by assigned or recommended reading. The onus for its assimilation is on the students themselves.

One major component of the concept of the course is to enhance the students' research competence. The large amount of coursework assessment in the course demands self-directed studies. Although this coursework is based on the lectures and supervised by tutors, the students are challenged to develop their own solutions by using additional resources. This basis established during the first two semesters is extended further in the final projects.

A Diploma supplement will be issued

Yes

International elements

- International guest lecturers

Integrated internships

None

Course-specific, integrated German language courses	Yes
Course-specific, integrated English language courses	No

## Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	Approximately 328 EUR per semester, including public transport ticket
Costs of living	Approximately 934 EUR per month, including accommodation and student health insurance (Students applying for a visa must demonstrate funds of 934 EUR per month.)
Funding opportunities within the university	No

## Requirements / Registration

Academic admission requirements	<p>Applicants must have completed a Bachelor's degree or university diploma in the field of electrical engineering, mechanical engineering or mechatronics, or a comparable degree programme with a predominance of engineering sciences, computer science or software engineering. The final grade must be better than or equivalent to the German grade 2.5.</p> <p>University certificates must indicate the final grade and include all university end of year exam certificates with individual grades. All certificates must be accompanied by an explanation of the grading system. Copies must be officially authenticated.</p>
Language requirements	<p>Applicants must provide proof of their English skills: TOEFL 575 (paper-based), 232 (computer-based), 90 (Internet-based) IELTS 6.5</p>
Application deadline	<p><b>Non-EU applicants:</b> 15 May for the winter semester 15 November for the summer semester</p> <p><b>EU applicants:</b> Please check the <a href="#">university website</a> for the online application deadline.</p>
Submit application to	<p>Non-EU applicants: Please apply via uni-assist Fachhochschule Südwestfalen c/o uni-assist e.V. 11507 Berlin Germany</p> <p>EU applicants:</p>

Nationals of EU member states, Iceland, Liechtenstein, and Norway, or applicants with a Bachelor's degree from the countries mentioned above, please use the [online application](#) on the website of South Westphalia University.

## Services

### Possibility of finding part-time employment

Job opportunities cannot be guaranteed to prospective students. Participants have to verify that they can carry the costs without any additional income.

### Accommodation

We will help with finding accommodation either at the Soest campus halls of residence or through private landlords.

### Support for international students and doctoral candidates

- Welcome event
- Tutors
- Specialist counselling

# South Westphalia University of Applied Sciences



View of campus

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South Westphalia University of Applied Sciences has campuses in Hagen, Iserlohn, Meschede, Lüdenscheid and Soest and offers a wide spectrum of studies in modern, trend-setting issues and subjects. This is not a "mass production" university. Studying here is application-oriented, group sizes are manageable, and teaching takes place in a face-to-face situation. In the 2023/2024 winter semester, 10,900 students were enrolled at all campuses.

The university focuses mainly on engineering, natural sciences, information and communication technology, business administration with informatics, and agriculture.

South Westphalia University of Applied Sciences maintains close contacts with industry, agriculture and trade. It is actively involved in

working on solutions to current problems in the region, thus gaining experience for application-oriented study. At the university, companies can find expert advice on innovation and technology, and joint projects have often led to the development of product and process innovations. With many final theses being written in cooperation with companies, research and teaching are successfully linked. Several research institutes have been founded and thus the university has broken new ground in the area of cooperation with local industry.

For more details, please visit [https://www.fh-swf.de/en/international\\_3/index.php](https://www.fh-swf.de/en/international_3/index.php).



## University location

The campus is located a few minutes' walking distance from the city centre. The cosy city of Soest offers everything from shopping to culture as well as historic restaurants and pubs. Although a thousand years old, it is not in the least antiquated. The surroundings provide all kinds of leisure activities, including water sports. Soest is conveniently located with regard to transport facilities, with regular IC and ICE train connections as well as two nearby airports, Dortmund and Paderborn-Lippstadt.

For a first impression of Soest, please visit [https://www.so-ist-soest.de/de-wAssets/docs/service/medienbereich-downloads/WMS\\_Stadtrundgang\\_Flyer\\_englisch\\_20210224-final.pdf](https://www.so-ist-soest.de/de-wAssets/docs/service/medienbereich-downloads/WMS_Stadtrundgang_Flyer_englisch_20210224-final.pdf).

## Contact

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🌐 Course website: [https://www.fh-](https://www.fh-swf.de/en/studienangebot/studiengaenge/systems_engineering_and_engineering_management_m_sc_/Index.php)

[swf.de/en/studienangebot/studiengaenge/systems\\_engineering\\_and\\_engineering\\_management\\_m\\_sc\\_/Index.php](https://www.fh-swf.de/en/studienangebot/studiengaenge/systems_engineering_and_engineering_management_m_sc_/Index.php)

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# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
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