

Facts and figures

Start: Winter and summer semesters Duration: 4 semesters Degree: Master of Science Language: English Admission restricted

Application and enrolment



Admission requirements General admission requirements: www.uol.de/stud/2en

Language skills: English native speaker or level B2

Application Application deadline: 15 July or 15 January

German university degree: Online application www.uol.de/studium/bewerben/master

EU or international applicants: www.uol.de/en/application/international-students/master



Contact

For questions about the subject/degree programme Academic counselling for Engineering Physics www.uol.de/en/subject-specific-student-advice

Student representatives for Physics www.uol.de/en/student-bodies/ student-council-of-physics fsphysik@uol.de

For questions about your studies Study and Career Counselling Service www.uol.de/en/zskb

Basic questions about application and enrolment Student InfoLine Phone +49 441 798 - 2728 study@uol.de

Visitor address Student Service Centre – SSC Haarentor campus, building A12 26129 Oldenburg www.uol.de/en/students/service-advice

Further information

Engineering Physics website www.uol.de/en/ep

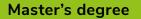
Degree programmes at the University of Oldenburg www.uol.de/en/students/degree-programmes

Financing your studies www.uol.de/en/students/fees/financing-your-studies

Optional period abroad www.uol.de/en/going-abroad

Published by Study and Career Counselling Service, Division 3 Last updated: 04/2022, reviewed annually Carl von Ossietzky Universität Oldenburg

Engineering Physics





In cooperation with

Engineering Physics (M. Sc.)

The University of Oldenburg and the University of Applied Sciences Emden/Leer jointly offer the Engineering Physics programme, which bridges the gap between traditional physics and engineering. The Master's degree is suitable for students with an initial university degree in Physics or related disciplines.

The curriculum is strongly oriented toward classic Physics degree programmes. Students gain a comprehensive understanding in selected areas of physics as well as in applications of physics and engineering sciences.

Students are prepared for work in research and industry with introductions to modern technologies. During their research project, students gain valuable experience in a research institution or a company. This practical part of the programme gives students a good insight into future fields of work. Due to the close links of the degree programme with practical applications, many students write their thesis while working in technologycompanies or external research institutions. The degree programme has an international character, with around half of students coming from foreign countries.

Students from around the world work closely together in lectures, practice sessions and projects. The programme is taught in English.

Career opportunities

As a result of the programme's solid scientific and practical qualities, graduates are very well prepared for various areas:

- Technology-oriented industrial and research facilities
- Management roles
- Academic career (PhD)

Structure and contents

Compulsory modules / 36 CP Advanced Metrology / 6 CP Seminar Advanced Topics in Engineering Physics / 3 CP Theoretical Methods / 6 CP Tools and Skills in Engineering Sciences / 6 CP Advanced Research Project (Preparation Master Thesis) / 15 CP Elective modules / 54 CP Advanced Physics / 12 CP Engineering Sciences / 12 CP Specialisation / 18 CP Possible specialist fields: Biomedical Physics, Acoustics, Laser & Optics Renewable Energies Further modules from the elective area / 12 CP Master's thesis module	SUBJECT MODULES 90 CP		
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Master's thesis module		4	
		SEM.	
	MASTER OF SCIENCE 12	120 CP	

Specialisations

The degree programme consists of the areas Physics, Engineering Sciences and specialist fields. Students complete their studies with a project in a research institution or a company.

The specialist fields available are Laser & Optics, Biomedical Physics, Acoustics and Renewable Energies:

The **Laser & Optics** option focuses on the fundamental physics of lasers as well as how lasers are used in optical communication technology, macro, micro and nano-materials processing, medical technology, optical metrology and the development of compact, powerful laser equipment. **Biomedical Physics** focuses on the application of physical principles in medical diagnostics (X-ray, ultrasound, NMR, biophotonics) and therapy (e.g. laser medicine, minimally invasive surgery, radiation therapy). Students who choose the relevant courses can attain the qualification of Medical Physicist from the German Society for Medical Physics (DGMP).

Acoustics focuses on the physical fundamentals of acoustics (electroacoustics, room acoustics, psychoacoustics), advanced methods of signal processing and machine learning as well as their applications in acoustic metrology and technical devices for speech and audio processing.

The specialisation option **Renewable Energies** teaches students the theoretical principles of conversion options for these forms of energy and the corresponding limitations. The programme also includes discussion of the functioning, limits to and applications of physical and technical concepts. This specialisation also offers the opportunity to gain the qualification European Wind Energy Master (www.ewem.uol.de) awarded jointly with the leading universities in the field of wind energy.

Language skills

English proficiency to B2 level is required.