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Facts and figures

Start: Winter semester
Duration: 4 semesters
Degree: Master of Science
Language: German
Admission not restricted

Application and enrolment

Admission requirements

General admission requirements:
www.uol.de/stud/320en

Language skills:
German native speaker or DSH 2
English recommended (level B2)

Application

Application deadline: 30 September

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 Environmental Modelling
www.uol.de/en/subject-specific-student-advice

Student representatives for Environmental Modelling
www.uol.de/en/student-council-of-the-icbm-masters
master.icbm@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

Environmental Modelling website
www.uol.de/en/icbm/study-and-teaching/courses-of-study/umweltmodellierung-msc

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

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Carl von Ossietzky
Universität
Oldenburg

Environmental Modelling

Master's degree

Environmental Modelling (M. Sc.)

In order to support sustainable use of our environment and give sound policy advice, experts must have comprehensive knowledge of different environmental systems (ecosystems, ocean, climate) and renewable energy technologies, and understand how these are linked to the social-economic system.

The Environmental Modelling Master's programme provides the necessary knowledge of various models and methods of environmental modelling, environmental data analysis and environmental computing. Equally important in the degree programme are the application fields of these models and methods in all areas of the Earth system, renewable energies and sustainable economy. In addition to linking a general understanding of environmental systems with economic and social issues, the research-oriented Master's programme places particular emphasis on the use of mathematical-scientific and informatics-related methods.

The Environmental Modelling Master's programme is organised by scientists at the Institute of Chemistry and Marine Biology (ICBM). Lecturers come from the Institutes for Biology and Environmental Sciences, Chemistry and Marine Biology, Mathematics, Physics, Economics and Computing Science.

Career opportunities

Due to their complex and diverse qualifications, Master graduates, depending on their specialisation, can fill positions in single-discipline and interdisciplinary environmental and energy research:

– Environmental monitoring and statistics
– Environmental database management
– Forecasting and management of renewable energies
– Environmental, wind farm and energy grid planning
– Environmental education

Structure and contents

BASIC COMPETENCES 24 CP — SEMESTER 1
Compulsory modules
3 modules from the mathematics-natural sciences area of Computing Science (possibly as a requirement of the Admissions Committee) / 18 CP
Introduction to Environmental Modelling / 6 CP

SPECIALISATION 12 CP — SEM. 1/2
Elective module from an area
Environmental Systems and Biodiversity (USB)
Energy Systems (ES)
Environmental and Resource Economy (URÖ)

SPECIALISATION 18 CP — SEMESTER 2/3
Elective module of a focus area
Process and System-Oriented Modelling (PSM)
Statistical and Stochastic Modelling (SSM)
Modelling of Large Systems (MGS)

SUPPLEMENTARY MODULE 18 CP — SEMESTER 2/3
Elective modules
3 modules from the other specialisations or the Master Cluster "Environment and Sustainability"

PRACTICAL WORK 18 CP — SEMESTER 2/3
Compulsory modules
Practical seminar Modelling Study / 6 CP
Internship/research project / 12 CP

COMPULSORY 30 CP — SEM. 4
Master's thesis module

MASTER OF SCIENCE 120 CP

Specialisations

In the course of the programme, students can specialise according to their interests in one of the three areas of specialisation:

– Process and System-Oriented Modelling (PSM)
– Statistical Environmental Modelling
– Modelling of Large Systems

The modules in the Master's programme include:

– Models of Population Dynamics (PSM)
– Non-Linear Dynamics in the Earth System (PSM)
– Climate Models (PSM)
– Statistical Ecology (SM)
– Time Series Analysis (SM)
– Stochastic Processes (SM)
– Environmental Information Systems (MGS)
– Smart Grid Management (MGS)
– Computational Intelligence (MGS)
– Theory of Ecological Communities (USB)
– Functional marine biodiversity (USB)
– Energy Resources and Systems (ES)
– Wind Resource and its Application (ES)
– Ecological Economics (URÖ)
– Climate Economics (URÖ)

Language skills

The degree programme includes some English-language modules, however they are not compulsory. Nevertheless, students are expected to be able to follow courses in English.

Stay abroad

A period abroad is not compulsory, but strongly recommended. Ideal for this is e.g. the practical seminar Modelling Study and the internship/research project.