AT A GLANCE

DEGREE
Master of Science

LANGUAGE OF INSTRUCTION
English

CREDITS
120

STANDARD PERIOD OF STUDY
4 semesters

AVAILABLE PLACES IN THE PROGRAMME
10

APPLICATION DEADLINES

FIRST SUBJECT-RELATED SEMESTER
winter semester: 15 May

SECOND SUBJECT-RELATED SEMESTER
winter semester: 15 May
summer semester: 15 January

ADMISSION REQUIREMENTS
- Bachelor's degree (180 credits) or equivalent
- Language skills: English

SELECTION CRITERIA
- Final GPA of Bachelor's degree
- Subject-specific coursework
- Vocational training, work experience, internships, further qualifications
- Letter of motivation

WHAT QUALITIES SHOULD I BRING?
- Interest in the natural sciences
- Previous experimental and practical work in the laboratory and the field
- Interest in interdisciplinary and transdisciplinary contexts

CAREER PROSPECTS

Our graduates make their own contributions to Earth system analyses and research as well as to ecologically-sustainable developments in society. Their interdisciplinary thinking and flexibility prepares them especially well for positions of responsibility in the following areas:

- Research activities in the field of Earth system science (meteorology, environmental science, geoscience, etc.)
- Consultancy in the public service, private business sector, and non-governmental organisations
- Development assistance
- Science journalism

FURTHER INFORMATION

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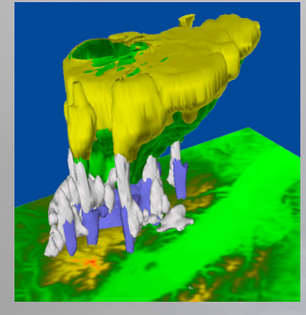
UNIVERSITY OF HOHENHEIM
FACULTY OF NATURAL SCIENCES

Master of Science Earth System Science

Information for Prospective Students



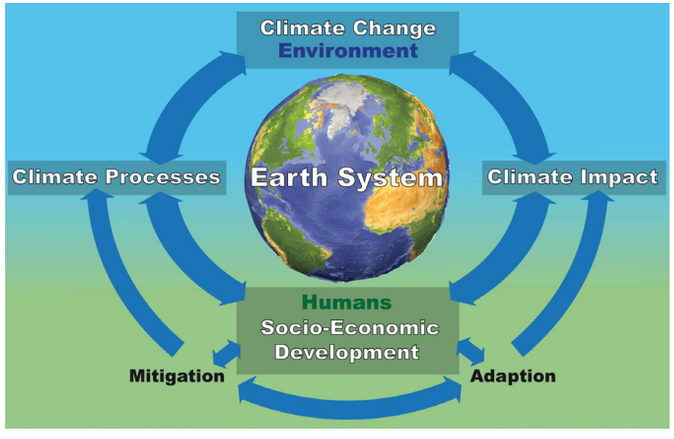
EARTH SYSTEM SCIENCE

catalogue module

ABOUT THE PROGRAMME

The innovative Master's programme in Earth System Science promotes a comprehensive scientific approach to the Earth as a system. Aspects of the natural sciences are linked to topics in the agricultural sciences and economics in this interdisciplinary programme.

Viewing the Earth as a complex system, the focus of this programme lies on understanding the processes and interactions of the Earth system's various components. This requires the study of key processes occurring within the Earth system, including human activities, population growth, food production and security, land use and management, as well as climate change. The analysis and simulation of interrelated phenomena, such as feedbacks in the soil-vegetation-atmosphere system and their impacts on the regional climate, allow for the creation of models. These provide useful insights into how the Earth as a system functions. Coupling climate models with agricultural and economic models provides a broader view of the Earth system and aids in creating concepts of sustainable development for all aspects of human life on Earth.



STRUCTURE OF THE PROGRAMME

FIRST YEAR

The first year of the programme focuses on bringing all of our students to the same level of knowledge in mathematics, the natural and agricultural sciences, as well as economics. You acquire a comprehensive overview of the Earth system and familiarise yourself with its basic functioning. During the course of the second semester, you develop transdisciplinary thinking skills essential to Earth system science by taking modules with cross-cutting topics, bringing the natural and agricultural sciences together with economics. This way you arrive at a unique perspective on our Earth. You are also introduced to taking measurements in the field, their analysis and interpretation, as well as the application of computer models. With the completion of the first year, you are able to create a representation of the state of the Earth system at a given time by combining measurement data with physical process descriptions.

SECOND YEAR

During the second year you expand your expertise in creating models based on collected data by more strongly factoring in social and economic aspects. This will enable you to create models of the Earth system and use them as the foundation for developing concepts of sustainability aimed at the Earth system's preservation and protection. The "Debate Seminar" allows you to use your knowledge in scientific discussions on various topics related to the Earth system, thus testing and refining your debating skills. Before commencing to write a research-intensive Master's thesis in the fourth semester, you have the opportunity to choose elective modules based on your personal and professional interests. Upon completion of the programme you will have acquired a comprehensive understanding of the Earth system and knowledge of the various ways in which human behaviour impacts on this fragile system.

COURSE OF STUDIES

30 credits

semester						
1st	Lecture Series Earth System Science	Economics for Earth System Science	Measurement, Modelling and Data Assimilation I	Physics of the Earth System	Chemistry of the Earth System	Biology of the Earth System and Biodiversity
2nd	Climate History and Evolution of the Earth System	Energy and Water Regime at the Land Surface	Debate Seminar	Mathematical Methods in Earth System Science	Elective modules	
3rd	Land Use Economics					
4th	Master's Thesis Earth System Science					

ELECTIVE MODULES (SELECTION)

- Project in Soil Sciences
- Agricultural and Forestry Meteorology
- Data Assimilation III
- Research Internship Chemical Evolution
- Statistics for Natural Sciences

INFORMATION ON ELECTIVE MODULES

In addition to the compulsory modules displayed above, you may also choose elective modules based on your personal and professional interests and areas of specialisation. Elective modules can be integrated flexibly into the second or third semester, depending on their availability.

Apart from being able to choose elective modules of the Earth System Science programme, it is also possible to take modules of other natural science Master's programmes of the University of Hohenheim or of other degree programmes offered at the University of Hohenheim or at other German or foreign universities.