

Marine Geosciences

International Master's Program at the University of Bremen

Biogeochemistry
Climate Change
Environmental Archives
Ocean Crust Evolution

Marine Geobiology
Marine Technology
Marine Resources
Sedimentary Structures

In brief

Degree: Master of Science (M.Sc.) Marine Geosciences

Duration: 2 years

Admission requirements:
B.Sc. in a geoscientific field

English proficiency B2.2

Teaching language:
English

Application deadline: Feb. 28

Program start: October

Program

The international postgraduate study program in Marine Geosciences is designed to research-related topics, with particular emphasis placed on the specialities of the Bremen department. The program comprises skills and methods enabling graduates to critically evaluate scientific results, and it provides a solid professional qualification for tasks in science and its applications.

The interdisciplinary character of marine geosciences is reflected in a topic-oriented course structure. The program strongly emphasizes the understanding and modelling of processes and dynamics in natural systems.



Prospects

- ◉ Marine geoscientific research (both basic and applied) at universities, research centres or authorities
- ◉ Consulting on engineering projects (e.g. off-shore wind power farms, harbours)
- ◉ Exploration and exploitation of resources (oil, gas, ore) off shore or at sea
- ◉ Coastal management (water management, monitoring of sediment movements, coastal protection, etc.)
- ◉ Public relations, scientific writing
- ◉ Science management



Marine Geosciences at the University of Bremen

Research in marine geosciences has a long tradition in Bremen and constitutes the main focus at the Department of Geosciences. All aspects of marine geosciences are covered, from sedimentology to petrology, from geophysics to biogeochemistry, from basic research to applied technology.

With establishment of the MARUM, Center for Marine Environmental Sciences, the University of Bremen created a leading international institute for planning and carrying out interdisciplinary marine science. The studies within MARUM focus on the three research areas »Ocean and Climate«, »Geosphere-Biosphere Interactions« and »Sediment Dynamics«. The multidisciplinary nature of marine geoscientific research and the application of up-to-date scientific instruments play an important role in teaching methods and topics.



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Program structure

3-4 core subjects out of 8, each with 2 modules in the 1st year	2-4 modules in field-, digital application or soft skill training	1st year
Geoscientific Project	Research Seminar	2nd year
Master Thesis		

The first year is addressed to teaching; lectures, seminars and projects are dedicated to so-called core subjects. Choosing 3-4 out of 8 core subjects (see syllabus), students can develop an individual profile. Up to 4 modules complement the core subjects with field- and laboratory training, digital computer applications and soft skills. The 2nd year geoscientific project can either be a marine survey, a geomeia project or an external/ international project in marine geosciences. The research seminar is about the development and presentation of research projects and prepares the students for their master thesis. The fourth semester is dedicated to thesis work. A colloquium completes the course.

Teaching units are scheduled mainly as weekly assignments throughout an academic semester (Oct. - Feb., April - July). However, field excursions, laboratories or special projects may be scheduled as blocks assigned to a few weeks within a semester break.

Application

Until Feb. 28 online via <https://moin-uni-bremen.de>
An aptitude test has to be completed successfully before the application documents are submitted.

Application documents: Bachelor certificate, transcript of records, motivation letter, CV, English proficiency proof, completed aptitude test, working experience certificates.
Admission results are not published before May.

Specialization Offer

CORE SUBJECTS

Modules

BIOGEOCHEMISTRY

Biogeochemical Processes: Concepts
Biogeochemical Processes: Projects

CLIMATE CHANGE

Climate Change I: Fundamentals
Climate Change II: Models and Data

ENVIRONMENTAL ARCHIVES

Environmental Archives Methods
Environmental Archives Projects

OCEAN CRUST EVOLUTION

Magmatic and Hydrothermal Processes
Geophysics of Plates, Mantle and Margins

MARINE GEOBIOLOGY

Evolution of Marine Ecosystems
Marine Molecular Geobiology

MARINE TECHNOLOGY

Geophysical Surveying and Observation Technology
Drilling, in-situ Measurements and Robotic Systems

MARINE RESOURCES

Continental Margin Resources
Deep-Sea Resources

SEDIMENTARY STRUCTURES

Sedimentary Structures of Shelves and Passive Margins
Sedimentary Structures of Active Margins

...and several more from the master's program Applied Geosciences.

Professionalization and Complementary Skills

Advanced Digital Competences
Field and Lab Practice
Field, Marine and Lab Practice
General Studies - Complementary Skills



Requirements

- B. Sc. in a geoscientific major (a qualification in marine sciences will be assessed regarding specialisation)
- at least 60 ECTS CP in geosciences
- 30 ECTS CP in science
- English proficiency B2.2
- Ability to work both independently and as part of a team
- Intercultural competence
- Willingness to participate in partly strenuous field courses

Information

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