

## M.Sc. Environmental Earth Sciences

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All information on the M.Sc. Environmental Earth Sciences provided on this website aims to give a basic overview about the master's program and is subject to change. You can find more detailed information in the [study and examination regulations](#) (PDF) and in the [regulations on the allocation of study placements](#) (PDF).

### Overview

The **double degree master's program in Environmental Earth Sciences**, which is offered by the Department of Earth Sciences (FU Berlin) in collaboration with the Nanjing University (China), has a standard study period of four semesters and closes with a Master of Science degree (M.Sc.). **The language used in class is English**, German is optional.

*The informations given refer to the study and examination regulations of 2011 (from the beginning of the winter semester 2011/12).*

### Qualification objectives

The graduates of the master's program will be able to familiarize themselves rapidly and independently with subject matter in the **Earth and Environmental Sciences** and to plan, implement and finalize **process- and system-oriented projects** using a **goal-oriented approach**. They are able to select the appropriate working methods, instruments, and techniques for the topic in question.

They are familiar with the **interrelations between the solid Earth, the atmosphere, the hydrosphere, and the biosphere** in terms of **environmental science**; they have a comprehensive understanding of the processes within and between the various geospheres and are able to analyze and interpret them. They have gained **knowledge of fundamental and advanced geoscientific methods**, including field methods, and are able to apply them.

As a result of their study stay in China, graduates possess knowledge of **regional environmental systems and geoscientific processes**.

### Program Structure

In the master's program, evidence of a study and examination performance totaling 120 credit points (CP) has to be provided, comprising

- 60 CP in modules at Freie Universität Berlin and 30 CP in course units of the study period abroad at Nanjing University (China)
- 30 CP for the master's thesis with defense and accompanying colloquium.

**The Sample Degree Program can be found [here](#) (PDF).**

**Studying at Nanjing University (China) for one semester is an integral part of the master's curriculum** and is scheduled for the second semester of the master's program. The coursework and exams during this study period abroad are part of the master's program.

The supervisors responsible for the master's program support students in their plans and preparations for studying abroad. They provide information about possible funding of travel and subsistence costs.

The Chinese Nanjing University will issue a separate certificate confirming the coursework performed in the course units studied at the Chinese Nanjing University. [Portrait of the Nanjing University](#).

### 1. Modules totaling 60 CP are taken at Freie Universität Berlin:

1.1. Of the required courses, modules totaling 44 CP are taken at Freie Universität Berlin as follows:

- Module: Geographical Information Processing for Advanced Students (10 CP)
- Module: Ecosystem Dynamics (20 CP)
- Module: Environmental Hydrogeology (6 CP)
- Module: Weather and Climate Diagnosis (8 CP)

1.2. Of the elective courses, modules totaling 16 CP are taken at Freie Universität Berlin as follows:

1.2.1 Of the following two modules, one module totaling 6 CP must be chosen and completed:

- Module: Landscape-Forming Processes and Material Flows (6 CP)
- Module: Morphodynamics (6 CP)

1.2.2 Of the following modules, a student must choose and complete one module totaling 10 CP or two modules each totaling 5 CP:

- Module: Modelling in Environmental Hydrology (10 CP)
- Module: Landscape Archaeology (10 CP)
- Module: Climate Models (5 CP)
- Module: Environmental Hydrology in Practice (5 CP).

### 2. The mandatory study period at Nanjing University, China, comprises 900 hours (30 CP).

2.1. The CU Chinese language course totaling 300 hours (10 CP) must be completed.

2.2. A total of 5 CU from at least three different subject areas must be chosen and completed.

Each CU totals 120 hours:

- a) Subject area "Ocean Dynamics"
- b) Subject area "Terrestrial Environmental Systems"
- c) Subject area "Global Change and geochemical processes"
- d) Subject area "Atmospheric processes"
- e) Subject area "Laboratory and computer analysis"

The individual modules of the mandatory and elective areas of the master's program can be found in the current [study and examination regulations of 2012](#) (PDF).

At the end of the master's program a **master's thesis** must be submitted. The master's thesis is about **18,000 words** long and must be written in English.

### Study and examination regulations, sample degree program

- Contents and qualification objectives of the modules are regulated by the study and examination regulations.
- The structure of the master's program is further illustrated by the sample degree program. Both can be found [here](#).

## **Application, Admission and Enrollment**

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### **Application period**

April 15 - May 31, Program start: Winter semester

[Addresses and information](#) about the application.

### **Admission requirements**

The prerequisite for entry to the master's program is a professionally qualifying degree from a German or equivalent foreign university in

- Geological Sciences
- Geographical Sciences
- Meteorology
- Biology
- Geoecology

or a university degree in natural sciences in which 15 credits were obtained in the fields of

- Geological Sciences or
- Geographical Sciences or
- Meteorology

Applicants who did not obtain their university degree at an educational institution where instruction was in English must provide evidence **of English language skills at the C1 level of the Common European Framework of Reference for Languages (CEFR) or one of the following equivalents:**

- TOEFL: 550 paper, 213 computer and 90 Internet
- IELTS: Overall Band Score at least 6.5
- Cambridge Certificate of Proficiency in English (CPE)
- Cambridge Certificate of Proficiency of Advanced English (CAE)
- UNICERT III

**Admission is limited.** The number of placements available in the master's degree program is specified in the [admission regulations of Freie Universität Berlin](#) for each admission date.

The application for admission must be submitted in writing to the university management – Applications and Admissions Office – of Freie Universität Berlin. Applications sent only by fax, e-mail or other electronic media will not be accepted as valid.

Further informations about application and decision on admission can be found in the [regulations on the allocation of study placements](#) (PDF).

## **Fees**

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Students do not pay any tuition fees, the university only charges semester fees and contributions each semester. Further information can be found [here](#):

## Contact and Academic Advising

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Throughout the degree program, students will be advised by both a German supervisor (Department of Earth Sciences of Freie Universität Berlin) and a Chinese supervisor (School of Geographic and Oceanographic Sciences, School of Earth Sciences and Engineering, and School of Atmospheric Sciences of Nanjing University, China).

The Center for Academic Advising and Psychological Counseling of Freie Universität Berlin will provide general student advisory services.

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General information and addresses for application can be found [here](#).

The mentors offer consultation and support by students for students (mainly for new students). Contact details of the lecturers and mentors can be found [here](#) (only in German).

## Perspectives

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Graduates of the master's program are qualified for **professional employment** or for **doctoral studies**. Possible fields of employment and activity include **public authorities, associations, organizations**, industry, **NGOs, development agencies, engineering and geo consulting, insurance companies, consultancy, administration and politics**.

Graduates can work within the **public sector**, mainly in higher education and **research establishments** as well as subject-related **federal and regional authorities**.

**International research establishments and organizations** also provide various employment opportunities. The study period at the University of Nanjing and the regional competences they have acquired open up fields of employment in China as well.

## Literature

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