Physical Geography: Environmental History

Master
Description of the programme
The M. Sc. “Physical Geography: Environmental History” focusses on the reconstruction of environmental and climatic history as scientific expertise in this field is paramount today. The programme provides physical-geographical knowledge and skills that will enable you to analyse, interpret and evaluate the complex effects of natural and anthropogenic environmental changes on nature and society. Global environmental changes are one of the biggest social, political and cultural issues of the 21st century. In order to cope with their complexity, innovative and interdisciplinary approaches in teaching and research are developed to qualify you for linking natural and anthropogenic phenomena.

Requirements and admission procedure

• Completed bachelor programme with 180 CP/ECTS or another comparable scientific study programme with a relation to the M. Sc. “Physical Geography: Environmental History”:
  
  o Geography
    (with a focus on Physical Geography)
  o Geology
    (with a focus on sedimentology and Quaternary geology)
  o Earth Sciences
    (with a focus on sedimentology and Quaternary geology)
  o Geosciences
    (with a focus on sedimentology and Quaternary geology)
  o Geoarchaeology

Environmental Studies: Biology, Chemistry, Physics: here you have to explain explicitly the relation of your bachelor programme to this master programme in your letter of motivation.

Letter of motivation
explain your interests as well as your academic or professional background
maximum length of 1000 words
Language skills
English: level C1 according to the Common European Framework; recognised English proficiency test: www.fremdsprachenzentrum-bremen.de/vergleichstabelle. (This does not apply to applicants who obtained their university entrance qualification or prior academic degree in English.)

CV in tabular form
Certificates (in German or English, certificates in other languages have to be translated)
Bachelor certificate and report or a preliminary transcript of records attesting at least 135 CP/ECTS

During the selection process following the application deadline, you can earn points based on your average grade, your letter of motivation and the technical relation of your bachelor programme to this master programme. According to your score a ranking is set up and applicants are selected accordingly. No responsibility is taken for the correctness of the admission requirements. The information shows an excerpt of the admission regulations from 2015-06-24. Please be aware, that the requirements may change from year to year. For updated information please visit www.uni-bremen.de/master.

Additional premises
- Explicit interest in environmental history and related methods
- Team work as well as independent work
- Intercultural competence
- Willingness to work both in the field and in the laboratory
- German: basic knowledge is desirable

Perspectives
- Scientific careers at universities and related research institutes
- Public administration
- Planning offices
- Adult education
- Media sectors and information technology
Structure of the study programme

The first semester addresses the different levels of knowledge in the form of the module Research Process I (RP1) offering training in presentation techniques and providing an overview of cutting-edge research publications related to the respective fields of the master programme. In addition, the election of 3 out of 6 Consecutive Core Subjects (CCS) allows students to develop their individual profiles. During the second semester most CCS focus on field and laboratory exercises while the compulsory modules (CBA: Computer-based Analysis, HPE: Historical Political Ecology) strengthen methodological skills. The individualisation phase (third semester) involves project work (RP2: Research Process II) as well as Additional Core Subjects (ACS) with specialised lectures, exercises and field trips. You can combine these options with a study abroad (SA) or an internship. The last semester is dedicated to thesis work.
# Curriculum

Explanation of abbreviations: HPW - hours per week, c / e - compulsory / elective, CP - Credit Points

## 1. Semester

<table>
<thead>
<tr>
<th>Module</th>
<th>Lecture</th>
<th>HPW</th>
<th>c / e</th>
<th>CP</th>
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</thead>
<tbody>
<tr>
<td>PG-1-RP1</td>
<td><strong>Research Process I</strong>&lt;br&gt;Exercise: Orientation and Introduction&lt;br&gt;Seminar: Graduate Reading Seminar</td>
<td>1</td>
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<td>3</td>
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<tr>
<td>PG-1-CL1</td>
<td><strong>Climatology I</strong>&lt;br&gt;Lecture: Introduction to Climatology&lt;br&gt;Seminar/Exercise: Methods in Climatology</td>
<td>2</td>
<td>e₁</td>
<td>9</td>
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<td>3</td>
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<tr>
<td>PG-1-EA1</td>
<td><strong>Lacustrine Environmental Archives I</strong>&lt;br&gt;Lecture: Lakes and lacustrine sediments&lt;br&gt;Lecture/Exercise: Methods in Limnogeology</td>
<td>2</td>
<td>e₁</td>
<td>9</td>
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<tr>
<td>PG-1-VA1</td>
<td><strong>Vegetation History and Archaeobotany I</strong>&lt;br&gt;Lecture: Vegetation History of Central Europe&lt;br&gt;Laboratory course: Pollen Analytical Practical</td>
<td>1</td>
<td>e₁</td>
<td>9</td>
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<tr>
<td>PG-1-AR1</td>
<td><strong>Archaeology I</strong>&lt;br&gt;Lecture: Introduction to European Prehistoric Archaeology&lt;br&gt;Exercise: Methods of European Prehistoric Archaeology</td>
<td>2</td>
<td>e₁</td>
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<tr>
<td>PG-1-EP1</td>
<td><strong>Environmental Physics I</strong>&lt;br&gt;Lecture/Exercise: Atmospheric Physics&lt;br&gt;Lecture/Exercise: Soil Physics</td>
<td>4</td>
<td>e₁</td>
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<tr>
<td>MAR-C1</td>
<td><strong>Climate Change I: Fundamentals</strong>&lt;br&gt;Lecture/Exercise: Earth System Modelling&lt;br&gt;Lecture/Exercise: The Role of High Latitude Oceans in Climate Change</td>
<td>3</td>
<td>e₁</td>
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₁: Consecutive Core Subjects from which 3 out of 6 have to be elected.
## 2. Semester

<table>
<thead>
<tr>
<th>Module</th>
<th>Lecture</th>
<th>HPW</th>
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<th>CP</th>
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<tbody>
<tr>
<td>PG-2-CL2</td>
<td><strong>Climatology II</strong>&lt;br&gt;Lecture: Palaeoclimatology&lt;br&gt;Lecture: Sea-level Change</td>
<td>2</td>
<td>e²</td>
<td>6</td>
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<tr>
<td>PG-2-EA2</td>
<td><strong>Lacustrine Environmental Archives II</strong>&lt;br&gt;Field course: Field Course in Limnogeology&lt;br&gt;Laboratory course: Laboratory Course in Limnogeology</td>
<td>2</td>
<td>e²</td>
<td>6</td>
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<tr>
<td>PG-2-VA2</td>
<td><strong>Vegetation History and Archaeobotany II</strong>&lt;br&gt;Lecture: Introduction to the History of Cultural Plants&lt;br&gt;Laboratory course: Laboratory Course in Archaeobotany</td>
<td>1</td>
<td>e²</td>
<td>6</td>
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<tr>
<td>PG-1-AR2</td>
<td><strong>Archaeology II</strong>&lt;br&gt;Exercise: Introduction into the Practical Methods of Settlement and Maritime Archaeology&lt;br&gt;Field course: Introduction to Field Archaeology and Excavation Techniques</td>
<td>1</td>
<td>e²</td>
<td>6</td>
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<tr>
<td>PG-2-EP2</td>
<td><strong>Environmental Physics II</strong>&lt;br&gt;Lecture/Exercise: Remote Sensing I&lt;br&gt;Lecture/Exercise: Environmental Radioactivity</td>
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<td>e²</td>
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<tr>
<td>MAR-C7</td>
<td><strong>Climate Change II: Models and Data</strong>&lt;br&gt;Lecture/Exercise/Seminar: Abrupt Climate Changes&lt;br&gt;Lecture/Exercise: Modelling Past and Future Climate Changes</td>
<td>2</td>
<td>e²</td>
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<tr>
<td>PG-2-CBA</td>
<td><strong>Computer-Based Analysis</strong>&lt;br&gt;Lecture/Exercise: Data Analysis and Visualisation&lt;br&gt;Lecture/Exercise: Geographical Information System (GIS)</td>
<td>2</td>
<td>c</td>
<td>6</td>
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<tr>
<td>PG-2-HPE</td>
<td><strong>Historical Political Ecology</strong>&lt;br&gt;Seminar: Historical Political Ecology</td>
<td>2</td>
<td>c</td>
<td>6</td>
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</tbody>
</table>

²: Consecutive Core Subjects from which the 3 selected in the first semester have to be completed.
### 3. Semester

<table>
<thead>
<tr>
<th>Module</th>
<th>Lecture</th>
<th>HPW</th>
<th>c / e</th>
<th>CP</th>
</tr>
</thead>
</table>
| PG-3-RP2  | Research Process II  
Exercise/Seminar: Project Seminar | 4   | c     | 12  |
| PG-3-BOK  | Bodenkunde (Soil Science)  
Lecture: Bodenkunde  
Lecture: Spezielle Bodenkunde  
Lecture: Soils of the World | 1  
1  
2 | e³     | 6   |
| PG-3-REH  | Regional Environmental History  
Seminar: Regional Environmental History  
Field course: Regional Environmental History | 2  
1 | e³     | 6   |
| MAR-C2    | Marine Environmental Archives: Methods  
Lecture/Exercise: Marine Ecosystems as Environmental Indicators  
Lecture/Exercise: Environmental Magnetism  
Lecture/Seminar: Terrigenous Signals  
Lecture/Exercise: Stable Isotopes and Trace Elements in Palaeoenvironmental Research | 1  
1  
1  
2 | e³     | 9   |
| PG-3-INS  | Internship                                                      |     | e³    | 12  |

³: Additional Core Subjects which can be combined with the Internship, General Studies (max. of 6 CP) and the Study Abroad (max. of 18 CP). The latter two are not in a module structure and thus not listed here.

### 4. Semester

<table>
<thead>
<tr>
<th>Module</th>
<th>Lecture</th>
<th>HPW</th>
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<th>CP</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Masterthesis</td>
<td></td>
<td>c</td>
<td>30</td>
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</tbody>
</table>
**Major fields of study**
- Climatology
- Environmental physics
- Geosciences
- Limnogeology
- Prehistoric archaeology
- Vegetation history and archaeobotany

**Teaching**
You will be trained in interdisciplinary lectures, seminars, projects as well as in laboratory and field courses. Lecturers are leading experts in their respective fields of science and will provide you with information about up-to-date research questions. Thus, you participate in ongoing research by working on own projects while preparing your master thesis.

**Teaching language**
English

**Study abroad and internship**
Optional and with no extension of the study programme

**Cooperation in teaching and research**
- Faculty 1: Physics and Electrical Engineering, Institute of Environmental Physics (IUP), University of Bremen
- Faculty 5: Geosciences, University of Bremen
- Faculty 8: Social Sciences, Institute of History, University of Bremen
- Landesarchäologie Bremen
- Lower Saxony Institute for Historical Coastal Research, Wilhelmshaven
- Center for Marine Environmental Sciences (marum), University of Bremen
- Sustainability Research Center (artec), University of Bremen
- Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven
- School of Mathematics and Science, Institute for Biology und Environmental Sciences, University of Oldenburg
Programme start and duration of study
Programme start: every winter term
Standard period of study: 4 semester

Degree
Master of Science M.Sc.

Teaching staff
Full-time professors involved in the master programme: 12
Other scientific staff members: 14

First-year students
Status as of winter term 2015/2016: 0 (Programme starts in October 2016)

Costs and accommodation
The University of Bremen levies a mandatory semester contribution of currently 283 € to cover administration, payment to the German student organization and a ticket for local and regional public transport (www.uni-bremen.de/semesterbeitrag). Only students, who have been studying free of tuition fees for more than 14 semesters in an EU-country (including Iceland, Norway and Switzerland), have to pay a study fee of 500 € per semester (www.uni-bremen.de/studiengebuehren).

Students have to make arrangements for their own living expenses. We estimate that one person will face monthly expenses of about 800 €. This includes the rent and maintenance of a room or a small apartment and basic food costs. Please be aware that you may have to pay for some additional bills to cover requirements like books, different study materials or field courses, as well as for warm clothes and rain gear to get you through the fresh and cold winter season.

Information on helpdesks, residential offer and Bremen City
www.uni-bremen.de/studium/beratung-service
www.bremen.de
www.studentenwerk.bremen.de
Application and enrolment

Application deadline
Application for master beginners is only possible to the winter semester. Application deadline for the winter semester: 30 April.
Application is possible, if the undergraduate degree is not finished until April 30\textsuperscript{th}, but at least 135 ECTS credit points out of a total of 180 credit points or an equivalent amount of study points have been gained.
To get successfully enrolled the bachelor degree and the language certificate must be sent/handed in two weeks after the start of the lecture period at the very latest.

Online application portal
The online application portal is open each year from February 1\textsuperscript{st} until April 30\textsuperscript{th}. Please follow the instructions under: www.uni-bremen.de/master

Enrolment Office (Secretariat for Students International)
Visiting address: Bibliothekstraße 1, Verwaltungsgebäude, Ground floor
Postal address: Universität Bremen SfS-International Postfach 33 04 40 28334 Bremen
phone: +49 421 218-61002
master@uni-bremen.de
www.uni-bremen.de/master
Visisting hours: Mo, Tue & Thu 9–12 a.m., Wed 14–16 p.m. (no advanced notification necessary)
Contact

Homepage
www.geographie.uni-bremen.de/en/msc-physical-geography-environmental-history

Academic counseling
For questions focusing on study design and aspects regarding study-programme regulations please contact the programme director or the student counsellor:

Programme director
Prof. Dr. Bernd Zolitschka
FVG-M, room 2120
+49 421 218-67150
zoli@uni-bremen.de

Student counselling
Michael Thiele
GW 2, room B2811
+49 421 218-67001
thiele@uni-bremen.de

Student’s union (AStA)
Student representation for the entire University
Services: BAföG- and social advisory, childcare
AStA-Floor, Studentenhaus (StH)
www.asta.uni-bremen.de
Central Student Advisory Service

Visiting address:
Bibliothekstr. 1, Verwaltungsgebäude
Ground floor

Postal address:
Universität Bremen
Zentrale Studienberatung
Postfach 33 04 40
28334 Bremen
Germany

+49 421 218-61160
zsb@uni-bremen.de
www.zsb.uni-bremen.de

Advisory hours (no advanced notification necessary):
Mo, Tue & Thur 9–12 a.m.
Wed 14–16 p.m.
Additional appointments by agreement