



Applied & Environmental Geosciences

University of Tübingen

AEG Staff

Program Director

Prof. Dr. Olaf Cirpka
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coordination of study program,
student counselling

Office Manager

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any problems

General Structure

Five mandatory modules: (30 credits)

- Scientific Practice
- Scientific Presentation
- Environmental Chemistry
- Global Change
- Groundwater Modeling 1

Three additional mandatory modules in the respective area of specialization (18 credits)

- Hydrogeology
- Environmental Chemistry and Environmental Microbiology
- Environmental Physics

Seven elective modules (42 credits) from

- the modules listed in the module handbook
- additional science and geoscience modules can be accepted upon request and after approval

Master Thesis (30 credits)

Hydrogeology

- Hydrogeological Field Investigation Techniques
- Remediation of Contaminated Sites
- Groundwater Modeling 2

Environmental Chemistry and Environmental Microbiology

- Biotransformation of Pollutants
- Hydrogeochemical Modeling (Modeling of Reactions, Microbial Dynamics and Bioreactive Transport)
- Environmental Analytical Chemistry

Environmental Physics

- Climate Dynamics
- Atmospheric Physics
- Physics of the Earth's Surface

Elective modules including

- GIS and Remote Sensing
- Environmental Microbiology and Geomicrobiology
- Geomicrobiology Lab
- Environmental Isotope Chemistry
- Environmental Chemistry Lab
- Environmental and Human Health Risk Assessment of Chemicals
- Geotechnical Engineering
- Geophysics
- Sustainable Environmental Biotechnology Systems 1 & 2
- and many more ...

Module Number	Module Title	Module Coordinator	CP	Semester
Accepted B.Sc. Modules				
B 408	Geophysik / Geophysics	Drews	6	S
B 504	Hydrology	Mishra	6	W
B 506	Water Treatment	Angenent	3	W
B 514	Introduction Earth Surface Processes	Beer	6	W
M.Sc. Modules Applied Geosciences				
M 202	Hydrogeological Field Investigation Techniques	Leven	6	S
M 203	Groundwater Modeling 2	Yuan	6	S
M 205	Remediation of Contaminated Sites	Grathwohl	6	S
M 206	Case Studies in Environmental Geosciences	Cirpka	6	W
M 208	Environmental Isotope Chemistry	Taubald	6	S
M 209	Environmental Chemistry Lab	Haderlein	6	W
M 210	Environmental Microbiology and Geomicrobiology	Kappler	6	S
M 211	Geomicrobiology Lab	Kappler	6	S
M 212	Advanced Geophysics	Drews	6	W
M 213	GIS and Remote Sensing	Schäuble, Lörcher	6	W
M 214	Geotechnical Engineering	Leven/Giere	6	W
M 216	Atmospheric Physics	Platis	6	S
M 218	Environmental Analytical Chemistry	Zwiener	6	W
M 219	Earth Processes	Süß	6	W
M 220	Field Seminars in Applied Geosciences	Merkel	6	W / S
M 221	Environmental and Human Health Risk Assessment of Chemicals	Escher	6	W
M 222	Hydrogeochemical Modeling ➔ substituted by module M 242		6	S
M 225	Field Seminars in Applied Geosciences 2	Merkel	3	W / S
M 227	Sustainable Environmental Biotechnology Systems 1	Angenent	6	S
M 228	Sustainable Environmental Biotechnology Systems 2	Angenent	6	W
M 230	Geosphere-Biosphere Interactions	Dippold	6	S
M 232	Internship	Glotzbach	6	S / W
M 233	Biotransformation of Pollutants	Joshi	6	W
M 236	Modelling for Sustainable River Management	Zarfl	6	S

M 238	Rhizosphere Processes in a Changing World	Mühe	6	W
M 239	Geo-Bio-Interactions in Tropical Landscapes of Kenya	Otieno, Dippold	6	W
M 240	Isotopes in Ecosystem Sciences	Dippold, Stock	6	W
M 241	Climate Modeling	Rehfeld	6	S
M 242	Modeling of Reactions, Microbial Dynamics and Bioreactive Transport	Cirpka	6	S
M 243	Tropical Ecology of South America	Ebner	6	W, every other year
M 244	Geothermal Reservoirs	Süß	6	S
M.Sc. Modules Mineralogy and Geology, Biogeology				
M 301	Physics of the Earth's Surface	Glottzbach	6	W
M 305	Advanced Field Methods in Geoscience	Bons	6	W / S
M 308	Isotope Geochemistry	Schönberg	6	S
M 311	Carbonate Facies Analysis	Nebelsick	6	W
M 312	Advanced Sedimentology	Fitzsimmons	6	W
M 315	Glaciology	Weikusat	6	W
M 317	Data Analysis and Modeling Methods in Geoscience and Environmental Science	Drews	6	W / S
M 321	Experimental and Analytical Methods in Geoscience and Environmental Science	Schulz, Berthold	6	W
M 322	Climate Dynamics	Rehfeld	6	S
M 324	Economic Geology	Staude	6	S
M 325	Data Analysis and Modeling Methods in Geoscience and Environmental Science 2	Drews	6	W / S
M 326	Experimental and Analytical Methods in Geoscience and Environmental Science 2	Schulz, Berthold	6	S
M 409	Marine Geology and Geochemistry	Schulz	6	W

1. Sem.	2. Sem.	3. Sem.	4. Sem.
6 ECTS Groundwater Modeling 1	6 ECTS Hydrogeological Field Investigation Techniques	6 ECTS Elective Module	6 ECTS Elective Module
6 ECTS Environmental Chemistry	6 ECTS Remediation of Contaminated Sites	6 ECTS Elective Module	6 ECTS Scientific Presentation
6 ECTS Global Change	6 ECTS Groundwater Modeling 2	6 ECTS Scientific Practice	30 ECTS Master Thesis
6 ECTS Elective Module	6 ECTS Elective Module		
6 ECTS Elective Module	6 ECTS Elective Module		

-  Master Thesis (30 ECTS)
-  Mandatory Modules (30 ECTS)
-  Elective Modules Specialization (18 ECTS)
-  Elective Modules (42 ECTS)

1. Sem.	2. Sem.	3. Sem.	4. Sem.	
6 ECTS Groundwater Modeling 1	6 ECTS Hydrogeochemical Modeling (Modeling of Reactions, Microbial Dynamics and Bioreactive Transport)	6 ECTS Elective Module	6 ECTS Elective Module	
6 ECTS Environmental Chemistry	6 ECTS Elective Module	6 ECTS Elective Module	6 ECTS Scientific Presentation	
6 ECTS Global Change	6 ECTS Elective Module	6 ECTS Scientific Practice	30 ECTS Master Thesis	
6 ECTS Environmental Analytical Chemistry	6 ECTS Elective Module			
6 ECTS Biotransformation of Pollutants	6 ECTS Elective Module			

 Master Thesis (30 ECTS)

 Mandatory Modules (30 ECTS)

 Elective Modules Specialization (18 ECTS)

 Elective Modules (42 ECTS)

1. Sem.	2. Sem.	3. Sem.	4. Sem.	
6 ECTS Groundwater Modeling 1	6 ECTS Atmospheric Physics	6 ECTS Elective Module	6 ECTS Elective Module	
6 ECTS Environmental Chemistry	6 ECTS Climate Dynamics	6 ECTS Elective Module	6 ECTS Scientific Presentation	
6 ECTS Global Change	6 ECTS Elective Module	6 ECTS Scientific Practice	30 ECTS Master Thesis	
6 ECTS Physics of the Earth's Surface	6 ECTS Elective Module			
6 ECTS Elective Module	6 ECTS Elective Module			

-  Master Thesis (30 ECTS)
-  Mandatory Modules (30 ECTS)
-  Elective Modules Specialization (18 ECTS)
-  Elective Modules (42 ECTS)

Hydrogeology

6 ECTS
Groundwater Modeling 1
6 ECTS
Environmental Chemistry
6 ECTS
Global Change
6 ECTS
Elective Module
6 ECTS
Elective Module

**Environmental Chemistry
and Environmental Microbiology**

6 ECTS
Groundwater Modeling 1
6 ECTS
Environmental Chemistry
6 ECTS
Global Change
6 ECTS
Environmental Analytical Chemistry
6 ECTS
Biotransformation of Pollutants

Environmental Physics

6 ECTS
Groundwater Modeling 1
6 ECTS
Environmental Chemistry
6 ECTS
Global Change
6 ECTS
Physics of the Earth's Surface
6 ECTS
Elective Module

Block Courses

6 ECTS
Environmental Chemistry Lab Block Course
6 ECTS
Geographical Informations Systems Block Course
3 ECTS
Glaciology Block Part
3 ECTS
Environmental Analytical Chemistry Lab Part

Additional Courses

6 ECTS
Earth Processes required for students with no background in Geosciences
2 ECTS
Python/AEG 14.10.2025 - 06.01.2026

Hydrogeology

6 ECTS
Hydrogeological Field Investigation Techniques
6 ECTS
Remediation of Contaminated Sites
6 ECTS
Groundwater Modeling 2
6 ECTS
Elective Module
6 ECTS
Elective Module

Environmental Chemistry and Environmental Microbiology

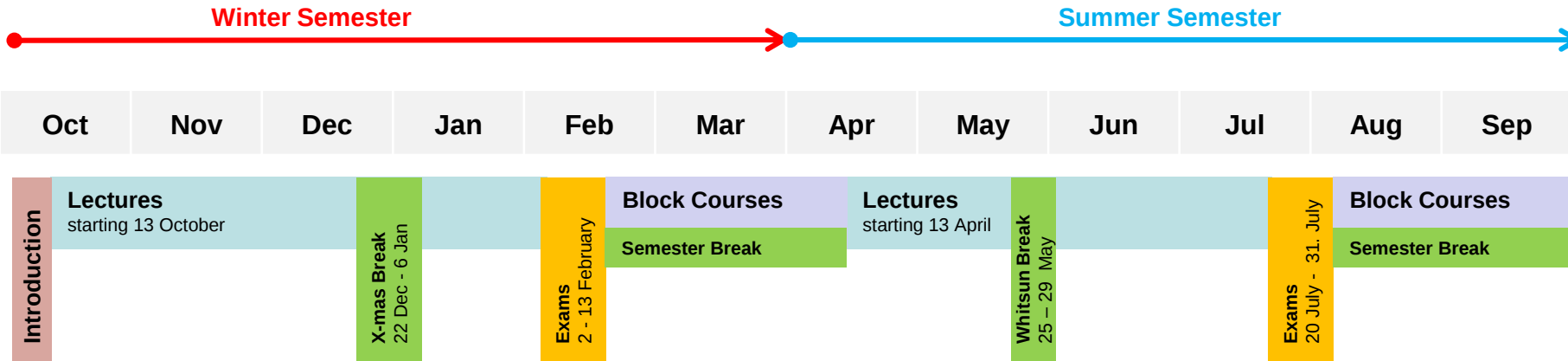
6 ECTS
Hydrogeochemical Modeling (Modeling of Reactions, Microbial Dynamics and Bioreactive Transport)
6 ECTS
Elective Module
6 ECTS
Elective Module
6 ECTS
Elective Module
6 ECTS
Elective Module

Environmental Physics

6 ECTS
Atmospheric Physics
6 ECTS
Climate Dynamics
6 ECTS
Elective Module
6 ECTS
Elective Module
6 ECTS
Elective Module

Block Courses

3 ECTS
Hydrogeological Field Investigation Techniques
6 ECTS
Geomicrobiology Lab Block Course
3 ECTS
Geosphere-Biosphere Interactions
6 ECTS
Field Seminars in Applied Geosciences Block Course



ILIAS Learning Management System

ILIAS is an online platform which lecturers use to

- Distribute study materials
- Contact students

https://ovidius.uni-tuebingen.de/ilias3/login.php?target=&client_id=pr02&auth_stat=&lang=en

alma Portal

- Offers an online course catalogue
- Registration for courses and exams
- Makes it possible to re-enroll, print records of enrollment, change your address, as well as carry out other administrative functions online

<https://alma.uni-tuebingen.de/alma/pages/cs/sys/portal/hisinoneStartPage.faces>

- **FAQ on alma** <https://uni-tuebingen.de/en/172170>
- Video guide for frequently used functions
 - https://timms.uni-tuebingen.de/tp/UT_20221018_001_almaeng_0001
 - https://timms.uni-tuebingen.de/tp/UT_20221018_001_almaengut_0001

Information about ALMA and Ilias by the Fachschaft on 8. October at 5pm in room 4F03

Support for International Students by the University

<https://uni-tuebingen.de/en/182071>

Team: Simone Hahne / Manuel Hengge / Thomas Lauterwasser

University of Tübingen

Division IV – Student Affairs

Wilhelmstraße 19 (Room 3.24)

72074 Tübingen

degree-seeking@zv.uni-tuebingen.de

- **Help Desk** <https://uni-tuebingen.de/en/182215>
- **Info and Courses** <https://uni-tuebingen.de/en/182233>
 - Advisory Course Introduction to student life in Tübingen
 - Various Workshops e.g. Academic Writing
 - Advisory Course for international students
 - Social Counselling (Legal advice, Psychotherapeutic counseling, etc.)
- **Housing** <https://uni-tuebingen.de/en/224925>
- **Buddy Programm** <https://uni-tuebingen.de/en/182224>

Any additional questions about the AEG program?

First:

Check the Module Handbook and the info material !!!

Still more questions:

Come see me in my office (Room 3U16)

Mathematisch-Naturwissenschaftliche Fakultät

Fachbereich Geowissenschaften

FACHBEREICH

STUDIUM

FORSCHUNG

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International

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Studiengänge

Geographie

Geowissenschaften

Geoökologie

Umweltnaturwissenschaften

Applied & Environmental Geoscience

Study Contents

Application / Contact

Information for Students

Urgeschichte und

Naturwissenschaftliche Archäologie

International PhD Program GeoEnviron

Master Course Applied & Environmental Geoscience (AEG)

Study Content

Application/Contact

Information for Students



AEG is an international research-oriented study program focusing on the evaluation and solution of environmental problems. Special emphasis is given to environmental problems in the subsurface such as the pollution of drinking water supplies from groundwater resources, the non-sustainable use of natural resources, the impact of short and long term

Studiengänge

[Geographie](#)

[Geowissenschaften](#)

[Geoökologie](#)

[Umweltnaturwissenschaften](#)

[Applied & Environmental Geoscience](#)

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[MSc AEG \(old examination rules\)](#)

[Naturwissenschaftliche Archäologie und Paläoanthropologie](#)

Information for Students Applied & Environmental Geoscience

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**Information for Students having started
WS 2021/22 (and later)**

ⓘ [Information on the old examination rules](#)

📄 [Module Handbook](#) (as at: 30.08.22)

📄 [Certificate of
Accreditation](#)

Module ["Data Analysis and Modeling Methods in Geoscience and Environmental Science"](#)

Module ["Experimental and Analytical Methods in Geoscience and Environmental Science"](#)

📄 [Field Pass AEG](#)

Timeline Scientific Practice ♦ Scientific Presentation ♦ Master's Thesis

semesters 1-4: attendance of eight department seminars (certified on the *Seminar Pass for the Module "Scientific Presentation"*) ♦ four participations at the Master's Day (certified on the form *Participation Master's Day for the module "Scientific Presentation"*)
semesters 3-4: 1. contacting a supervisor for the Master's thesis topic ♦ compilation of a research proposal of the agreed topic
 2. submission of the forms *Application for Admission to the Final Module (Master's Thesis)* and *Registration for a Master's Thesis* ♦ preparation of the Master's thesis ♦ poster presentation of the thesis' results on the Master's Day ♦ presentation of the thesis' results in the research group

⚠ The Master's thesis cannot be submitted before the end of the fourth month after registration, and must be submitted after six months at the latest !!!

Forms for Scientific Practice ♦ Scientific Presentation ♦ Master's Thesis

📄 [Scientific Presentation Seminar Pass and Master Day Pass](#)

📄 [Scientific Practice Certification](#)

📄 [Explanatory Notes Scientific Practice](#)

📄 [Scientific Presentation Certification](#)

📄 [Explanatory Notes Scientific Presentation](#)

📄 [Application for Admission to the Final Module \(Master's Thesis\)](#)

📄 [Authorized Supervisors](#)

📄 [Registration Master's Thesis](#)

📄 [Grading Master's Thesis](#)

📄 [Duration of Master's Thesis](#)

Compulsory precautions for MNF students

- Online event on compulsory precautions for excursions/fieldwork placements in low vegetation, contact with infectious pathogens (TBE, Lyme disease) and natural UV radiation
- Participation in excursions is not permitted without attending the course!

The following dates are offered in WiSe 2025/26:

- Thursday, 09.10.2025 13.00 h (in German)
- Tuesday, 14.10.2025 14.00 h (in English)
- Friday, 17.10.2025 14.00 h (in German)
- Wednesday, 22.10.2025 10.00 h (in English)
- Thursday, 23.10.2025 13.00 h (in German)

The dial-in takes place via the following link:

Topic: Mandatory preventive care for students at the Faculty of Science
Tübingen

<https://med-uni-tuebingen-de.zoom->

[x.de/j/63940566654?pwd=SCcHiKI9Lf6juEXbAUw8Jptb6SDo9G.1](https://med-uni-tuebingen-de.zoom-x.de/j/63940566654?pwd=SCcHiKI9Lf6juEXbAUw8Jptb6SDo9G.1)

Meeting-ID: 639 4056 6654/ Kenncode: 307961