

Vorlesungsverzeichnis

Master of Science - Geosciences
Prüfungsversion Wintersemester 2025/26

Sommersemester 2026

Inhaltsverzeichnis

Abkürzungsverzeichnis	5
Pflichtmodule.....	6
GEW-MM01 - Topics in Earth System Science	6
118636 S - Topics in Earth System Science (Seminar)	6
118637 KL - Topics in Earth System Science (Colloquium)	6
GEW-MM02 - Project Practical or Research Internship	6
118628 S1 - Project Practical or Research Internship	6
Kernmodule.....	7
GEW-MC01 - Earth System Record	7
GEW-MC02 - Tectonics and Geodynamics	7
GEW-MC03 - Data Analysis and Statistics	7
GEW-MC04 - Field Practical	7
118591 S - Advanced Field Practical (Seminar)	7
118592 U - Advanced Field Practical (Field Exercise)	8
GEW-MC05 - Theoretical Geophysics	9
GEW-MC06 - Geophysical Inversion and Data Analysis	9
118600 VU - Data Analytics and Interpretation	9
GEW-MC07 - Geophysical Laboratory	9
GEW-MC10 - Advanced Mineralogy and Petrology	9
GEW-MC11 - Applications of Mineralogy and Petrology	9
118594 VU - Applications of Crystal Chemistry in Mineralogy and Petrology	9
118596 VU - Applied Thermodynamics and Kinetics of geochemical processes	10
GEW-MC12 - Methods in Mineralogy and Petrology	10
GEW-MC13 - Advanced Methods in Mineralogy and Petrology	10
118589 VU - Advanced analytical and experimental methods	10
118599 VU - Crystalline Field Petrology	11
Vertiefungsmodule.....	11
GEW-MF010 - Earth Surface Processes	11
120991 SU - Earth Surface Processes	11
GEW-MF011 - Earth Systems through Time	11
GEW-MF012 - Modern Carbonates	11
GEW-MF013 - Rates and Dates of Geological Processes	11
GEW-MF014 - Geo-Information Systems	11
GEW-MF015 - Sedimentary Systems Modelling	11
GEW-MF017 - Active Tectonics	11
118584 SU - Active Tectonics (Seminar/Exercise)	11
118585 U - Active Tectonics (Field Exercise)	12
GEW-MF018 - Basin Analysis and Natural Resources	12
118615 SU - Methods and Applications in Basin Analysis	12
GEW-MF019 - Earth Observation and Modelling	12

GEW-MF020 - Field Exercise	12
118635 PU - Thematic Field School	12
GEW-MF110 - Fundamentals of Digital Seismology	12
GEW-MF111 - Array Seismology	12
118597 VU - Array Seismology	12
GEW-MF112 - Seismic Hazard Analysis	13
GEW-MF113 - Seismological Data Science with Application to Volcano Systems	13
118899 VU - Volcano Seismology	13
GEW-MF114 - Seismic Methods	14
GEW-MF115 - Electrical and Electromagnetic Methods	14
GEW-MF116 - Potential Field Methods	14
118625 VU - Potential Field Methods (block course)	14
118626 VU - Potential Field Methods	14
GEW-MF117 - Field Course Applied Geophysics	15
118595 VU - Applied Geophysics Field Course	15
GEW-MF210 - Specialized Petrology	15
GEW-MF211 - Age Determination	15
118590 VU - Advanced Age Determination	15
GEW-MF212 - Physicochemical Mineralogy-Petrology	15
118616 VS - Mineral Physics and Spectroscopy	15
GEW-MF213 - Hands-On in Mineralogy and Petrology	16
118605 SU - Experimental Mineralogy-Petrology	16
GEW-MF214 - Current Topics in Mineralogy and Petrology	16
GEW-MF215 - Special Topics in Mineralogy and Petrology	17
118621 VS - Ore Forming Processes and Dating of Volcanic Processes	17
GEW-RCM01 - Remote Sensing of the Environment	17
Wahlpflichtmodule.....	17
GEW-ME01 - Modelling and Exploring the Earth System	17
118587 VU - Advanced Subsurface Modelling	17
118588 VU - Advanced Methods in Observational Seismology	17
118597 VU - Array Seismology	17
118616 VS - Mineral Physics and Spectroscopy	18
118618 VU - Modelling Tectonic and Surface Processes	18
118630 U - Sedimentary Processes (Field Exercise)	19
118633 VU - Special Topics in Applied Geophysics	19
118634 VU - Terrestrial and Airborne Lidar and Photogrammetry Systems	19
GEW-ME02 - Geosciences Across Scales	20
118630 U - Sedimentary Processes (Field Exercise)	20
GEW-ME03 - Past and Present of the Earth System	20
118621 VS - Ore Forming Processes and Dating of Volcanic Processes	20
118622 VU - Paleoclimate Dynamics	20
118630 U - Sedimentary Processes (Field Exercise)	20
GEW-ME04 - Modern Trends in Geosciences	21
118612 UP - Introduction to Geomicrobiology (Practicals)	21
118613 VU - Introduction to Geomicrobiology	21

118621 VS - Ore Forming Processes and Dating of Volcanic Processes	21
118622 VU - Paleoclimate Dynamics	21
118635 PU - Thematic Field School	22
120323 VU - Applied Causal Inference	22
GEW-ME05 - Geoscientific Data Science	22
118622 VU - Paleoclimate Dynamics	22
GEW-ME06 - Special Remote Methods in Geosciences	22
118593 VU - Analysis of Digital Elevation Models	22
118597 VU - Array Seismology	23
118601 VU - Deep Electromagnetics and Magnetotellurics	23
118624 VE - Planetary Physics	24
118634 VU - Terrestrial and Airborne Lidar and Photogrammetry Systems	24
GEW-ME07 - Special Topics in Geosciences	25
GEW-ME08 - Monitoring Techniques and Data Analysis in Geosciences	25
Glossar	26

Abkürzungsverzeichnis

Veranstaltungsarten






AG	Arbeitsgruppe
B	Blockveranstaltung
BL	Blockseminar
DF	diverse Formen
EX	Exkursion
FP	Forschungspraktikum
FS	Forschungsseminar
FU	Fortgeschrittenenübung
GK	Grundkurs
HS	Hauptseminar
KL	Kolloquium
KU	Kurs
LK	Lektürekurs
OS	Oberseminar
P	Projektseminar
PJ	Projekt
PR	Praktikum
PS	Proseminar
PU	Praktische Übung
RE	Repetitorium
RV	Ringvorlesung
S	Seminar
S1	Seminar/Praktikum
S2	Seminar/Projekt
S3	Schulpraktische Studien
S4	Schulpraktische Übungen
SK	Seminar/Kolloquium
SU	Seminar/Übung
TU	Tutorium
U	Übung
UN	Unterricht
UP	Praktikum/Übung
UT	Übung / Tutorium
V	Vorlesung
V5	Vorlesung/Projekt
VE	Vorlesung/Exkursion
VP	Vorlesung/Praktikum
VS	Vorlesung/Seminar
VU	Vorlesung/Übung
W	Werkstatt
WS	Workshop

Veranstaltungsrhythmen

wöch.	wöchentlich
14t.	14-tätig
Einzel	Einzeltermin
Block	Block
BlockSa	Block (inkl. Sa)

BlockSaSo Block (inkl. Sa,So)

Andere

N.N.	Noch keine Angaben
n.V.	Nach Vereinbarung
LP	Leistungspunkte
SWS	Semesterwochenstunden
	Belegung über PULS
	Prüfungsleistung
	Prüfungsnebenleistung
	Studienleistung
	sonstige Leistungserfassung

Vorlesungsverzeichnis

Pflichtmodule

GEW-MM01 - Topics in Earth System Science

118636 S - Topics in Earth System Science (Seminar)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	S	Fr	12:30 - 14:00	wöch.	2.27.2.07	17.04.2026	Prof. Dr. Patrick O'Brien, Prof. Dr. Max Wilke, Dr. Dirk Spengler
2	S	Di	12:15 - 13:45	wöch.	2.27.2.24	14.04.2026	Dr. Manfred Mudelsee, Prof. Dr. Martin Trauth, Dr. Markus Lothar Fischer
3	S	Do	14:15 - 15:45	wöch.	2.27.2.36	16.04.2026	Prof. Dr. Pieter van der Beek
4	S	Do	12:30 - 14:00	wöch.	2.27.2.36	16.04.2026	Dr. Julien Guillemoteau, Prof. Dr. Jens Tronicke, Sophie Stephan, Dr. Philipp Koyan
5	S	Di	14:15 - 15:45	wöch.	2.27.2.36	14.04.2026	Tom Viry
6	S	Mo	10:15 - 11:45	wöch.	2.27.2.36	13.04.2026	Prof. Dr. Maria Mutti
7	S	Di	09:00 - 12:00	wöch.	N.N.	14.04.2026	Prof. Dr. Bodo Bookhagen

Leistungen in Bezug auf das Modul

PNL 576222 - Arbeitsgruppenseminar (unbenotet)

118637 KL - Topics in Earth System Science (Colloquium)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	KL	Mo	16:15 - 17:45	wöch.	2.27.0.01	13.04.2026	Professor Edward Sobel, Prof. Dr. Maria Mutti, Prof. Dr. Max Wilke, Prof. Dr. Bodo Bookhagen, Prof. Dr. Martin Trauth, Prof. Dr. Patrick O'Brien, Prof. Dr. Pieter van der Beek, Prof. Dr. Jens Tronicke, Prof. Dr. Eva Eibl

Leistungen in Bezug auf das Modul

PNL 576221 - Kolloquium und Diskussion (unbenotet)

GEW-MM02 - Project Practical or Research Internship

118628 S1 - Project Practical or Research Internship

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	S	Do	16:15 - 17:45	14t.	2.27.2.36	16.04.2026	Prof. Dr. Max Wilke, Prof. Dr. Jens Tronicke, Prof. Dr. Martin Trauth
1	PR	N.N.	N.N.	Block	N.N.	N.N.	N.N.

Kommentar

In dem Seminar zu diesem Modul muss der Vortrag über das geleistete Praktikum gehalten werden. Dieser ist neben dem erfolgreichen Bericht nötig, um das Modul abzuschliessen. Er kann nicht durch einen Vortrag in der Praktikumsinstitution ersetzt werden.

Das Seminar startet am 23.4.26 und findet 14tägig statt.

Bitte melden Sie sich per e-mail bei Frau Heidemann, um einen Vortragstermin zu reservieren (sekretariat@geo.uni-potsdam.de).

Der Vortrag ist nach dem Praktikum zu halten. Der Bericht sollte am Tag des Vortrags abgegeben und durch den Betreuer akzeptiert sein (Bestätigung des Betreuers durch e-mail). Der Vortrag sollte eine Länge von ca. 10 min haben, danach können Fragen gestellt werden.

Bitte melden Sie sich nur zum Modul an, wenn Sie den Vortrag in diesem Semester halten wollen.

Weitere Infos zum Projektpraktikum auf der Webseite des Prüfungsausschuss.

In this Seminar of the module a talk has to be given about the internship. This talk and a successful report is needed to finalize the module. The talk cannot be replaced by one given at the institution of internship.

Seminar will start on 23.4.26 and takes place every other week.

Please, register by e-mail with Mrs. Heidemann to reserve a slot for your talk (sekretariat@geo.uni-potsdam.de).

The talk needs to be given after the internship. The report should be submitted by the date of the talk and it should be accepted by the internship's supervisor (confirmation e-mail by supervisor). The talk should be 10 min long, afterwards questions can be posed. Please, only register for the module and seminar if you are determined to give the talk in the current term. Further info on the "project practical research internship" can be found on the webpage of the examination board.

Leistungen in Bezug auf das Modul

SL 576232 - Seminar (unbenotet)

Kernmodule

GEW-MC01 - Earth System Record

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC02 - Tectonics and Geodynamics

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC03 - Data Analysis and Statistics

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC04 - Field Practical

118591 S - Advanced Field Practical (Seminar)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	S	N.N.	N.N.	Einzel	N.N.	N.N.	Dr. Gerold Zeilinger
tbd - announcement beginning of semester							

Bemerkung

Students learn to correctly interpret and evaluate geological and stratigraphic/sedimentological phenomena in regions with a geologically complex evolutionary history through detailed field reconnaissance and recording of relevant data. This process can be supported, for example, by using field PCs and integrating remote sensing data. In addition, methods of structural geology, sedimentology, petrology, and remote sensing are applied during mapping; sampling techniques and data analysis are introduced. Furthermore, students will learn how to write an accurate mapping report with emphasis on deformation-related structures, stratigraphic/sedimentological archives, geodynamic interpretations, and petrological problems by evaluating possible interactions between tectonics, climate, biosphere, environmental conditions, and surface processes.

Qualification goals Students

- gain experience with detailed mapping in geologically complex regions
- are able to present their interpretation in an accurate mapping report
- learn to recognize and characterize tectonically-shaped landscapes and sedimentary environments as well as stratigraphic succession and paleoclimate archives
- learn to summarize complex geological relationships in a written report and/or oral presentation
- gain experience in teamwork under external conditions that are not always controllable

Lerninhalte

Students learn to correctly interpret and evaluate geological and stratigraphic/sedimentological phenomena in regions with a geologically complex evolutionary history through detailed field reconnaissance and recording of relevant data. This process can be supported, for example, by using field PCs and integrating remote sensing data. In addition, methods of structural geology, sedimentology, petrology, and remote sensing are applied during mapping; sampling techniques and data analysis are introduced. Furthermore, students will learn how to write an accurate mapping report with emphasis on deformation-related structures, stratigraphic/sedimentological archives, geodynamic interpretations, and petrological problems by evaluating possible interactions between tectonics, climate, biosphere, environmental conditions, and surface processes.

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Leistungen in Bezug auf das Modul

PNL 575972 - Seminar (unbenotet)

 **118592 U - Advanced Field Practical (Field Exercise)**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	U	N.N.	N.N.	Block	N.N.	N.N.	Dr. Gerold Zeilinger
tbd - announcement beginning of semester							

Lerninhalte

Students learn to correctly interpret and evaluate geological and stratigraphic/sedimentological phenomena in regions with a geologically complex evolutionary history through detailed field reconnaissance and recording of relevant data. This process can be supported, for example, by using field PCs and integrating remote sensing data. In addition, methods of structural geology, sedimentology, petrology, and remote sensing are applied during mapping; sampling techniques and data analysis are introduced. Furthermore, students will learn how to write an accurate mapping report with emphasis on deformation-related structures, stratigraphic/sedimentological archives, geodynamic interpretations, and petrological problems by evaluating possible interactions between tectonics, climate, biosphere, environmental conditions, and surface processes.

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- are able to present their interpretation in an accurate mapping report
- learn to recognize and characterize tectonically-shaped landscapes and sedimentary environments as well as stratigraphic succession and paleoclimate archives
- learn to summarize complex geological relationships in a written report and/or oral presentation
- gain experience in teamwork under external conditions that are not always controllable

Leistungen in Bezug auf das Modul

PNL 575971 - Geländeübung (unbenotet)

GEW-MC05 - Theoretical Geophysics

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC06 - Geophysical Inversion and Data Analysis

 118600 VU - Data Analytics and Interpretation

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Mi	12:30 - 14:00	wöch.	2.27.0.29/30	15.04.2026	PD Dr. Hendrik Paasche
1	VU	Mi	14:15 - 15:45	wöch.	2.27.0.29/30	15.04.2026	PD Dr. Hendrik Paasche

Leistungen in Bezug auf das Modul

SL 575992 - Vorlesung und Übung (unbenotet)

GEW-MC07 - Geophysical Laboratory

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC10 - Advanced Mineralogy and Petrology

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC11 - Applications of Mineralogy and Petrology

 118594 VU - Applications of Crystal Chemistry in Mineralogy and Petrology

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Mo	14:15 - 15:45	wöch.	2.27.2.07	13.04.2026	Dr. rer. nat. Wolfgang Morgenroth

Kommentar

learn how to

- understand and describe structures,
- find and use information in structural databases,
- make use of crystallographic software, and
- get more familiar with space groups and symmetry.

understand concepts like

- different radii,
- polyhedra,
- close packing of spheres, and
- Pauling's rules.

This course is on an advanced level in crystallography and not suitable for beginners.

A background in crystallography at MSc level is mandatory!

Leistungen in Bezug auf das Modul

SL 576262 - Vorlesung und Übung II (unbenotet)

118596 VU - Applied Thermodynamics and Kinetics of geochemical processes

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Mi	08:30 - 10:00	wöch.	2.27.2.07	15.04.2026	Prof. Dr. Patrick O'Brien

Leistungen in Bezug auf das Modul

SL 576261 - Vorlesung und Übung I (unbenotet)

GEW-MC12 - Methods in Mineralogy and Petrology

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MC13 - Advanced Methods in Mineralogy and Petrology

118589 VU - Advanced analytical and experimental methods

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Di	14:15 - 15:45	wöch.	2.27.1.10	14.04.2026	Dr. rer. nat. Wolfgang Morgenroth, Dr. rer. nat. Christina Günter, Dr. Dirk Spengler
1	VU	Di	16:15 - 17:45	wöch.	2.27.1.10	14.04.2026	Dr. rer. nat. Wolfgang Morgenroth, Dr. rer. nat. Christina Günter, Dr. Dirk Spengler

Kommentar

In this course, we will cover

- single-crystal diffraction: from data collection and analysis methods via structure determination to crystal structure refinement,
- diamond anvil cell work and high-pressure work,
- analytical mineral chemistry, and
- your suggestions.

This course is on an advanced level in crystallography and not suitable for beginners.

A background in crystallography at MSc level is mandatory!

Alternatives to this course will be discussed at the beginning.

Leistungen in Bezug auf das Modul

SL 576281 - Vorlesung und (Gelände-) Übung (unbenotet)

118599 VU - Crystalline Field Petrology							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Di	08:30 - 10:00	wöch.	2.27.2.49	14.04.2026	Dr. Martin Jan Timmerman, Prof. Dr. Patrick O'Brien
1	VU	Di	10:15 - 11:45	wöch.	2.27.2.49	14.04.2026	Prof. Dr. Patrick O'Brien, Dr. Martin Jan Timmerman
Leistungen in Bezug auf das Modul							
SL	576281 - Vorlesung und (Gelände-) Übung (unbenotet)						

Vertiefungsmodulare

GEW-MF010 - Earth Surface Processes

120991 SU - Earth Surface Processes							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	SU	N.N.	N.N.	Einzel	N.N.	N.N.	Prof. Dr. Pieter van der Beek, Prof. Dr. Taylor Schildgen
Kommentar							
NB This course is taught in the Winter Semester - it is only listed here for validation purposes for students who already took the course. If you have not yet taken this course, please do not register now. You will be able to register for and follow this course in the next Winter Semester.							
Leistungen in Bezug auf das Modul							
PNL	576291 - Seminar und Übung (unbenotet)						

GEW-MF011 - Earth Systems through Time

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF012 - Modern Carbonates

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF013 - Rates and Dates of Geological Processes

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF014 - Geo-Information Systems

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF015 - Sedimentary Systems Modelling

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF017 - Active Tectonics

118584 SU - Active Tectonics (Seminar/Exercise)							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	Di	08:30 - 10:00	wöch.	2.27.2.36	14.04.2026	Prof. Dr. Pieter van der Beek
1	VS	Di	10:15 - 11:45	wöch.	2.27.2.36	14.04.2026	Prof. Dr. Pieter van der Beek

Leistungen in Bezug auf das Modul

PNL 576351 - Seminar und Übung (unbenotet)

118585 U - Active Tectonics (Field Exercise)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	U	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Pieter van der Beek

dates for field trip tbd

Leistungen in Bezug auf das Modul

PNL 576352 - Geländeübung (5 Tage) (unbenotet)

GEW-MF018 - Basin Analysis and Natural Resources

118615 SU - Methods and Applications in Basin Analysis

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Fr	08:30 - 10:00	wöch.	2.27.2.07	17.04.2026	Prof. Dr. Maria Mutti, Dr. Laura Henrika Bührig, Dr. Thomas Teillet, Hugues Bitault
1	U	Fr	10:15 - 11:45	wöch.	2.27.2.07	17.04.2026	Prof. Dr. Maria Mutti, Dr. Laura Henrika Bührig, Dr. Thomas Teillet, Hugues Bitault

Leistungen in Bezug auf das Modul

PNL 576361 - Vorlesung und Übung (unbenotet)

GEW-MF019 - Earth Observation and Modelling

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF020 - Field Exercise

118635 PU - Thematic Field School

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	PU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Pieter van der Beek

Leistungen in Bezug auf das Modul

PNL 576381 - Geländeübung (7 Tage) (unbenotet)

GEW-MF110 - Fundamentals of Digital Seismology

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF111 - Array Seismology

118597 VU - Array Seismology

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mi	08:30 - 10:00	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	Mi	10:15 - 11:45	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	N.N.	N.N.	Block	N.N.	N.N.	Dr. Matthias Ohrnberger

Kommentar

What is better than recording the seismic wave field with one seismometer? Correct! It is generally much better to observe the seismic wave field with several separately placed seismometers, a so-called seismic array. The parallel recording of the continuously present ground motion in space and time by a set of spatially distributed seismic sensors allows enhanced insight in wave propagation phenomena. It provides a direct measurement of the apparent propagation speed and direction of individual wave arrivals along the recording geometry leading to a better idea on the wave types in the observed wave field.

The goal of array seismology is manifold. The purpose of observation reaches from building structural subsurface models of the shallow part of the ground below the array recording site to enhancing and verifying tiny details in the deeper earth structure. In addition, arrays help to understand for example dynamic physical processes inside the earth creating seismic waves like earthquake faulting or volcanic eruption phenomena.

Besides learning about the theoretical background of array signal processing techniques in a normal classroom environment, students will study the practical side of array seismology during a 4-to-5-day field course as integral part of the module. Within the field course students will get in touch with modern seismological equipment and conduct their own array experiment starting from experiment design to deployment of seismological equipment and final data recovery. The data acquired during the field course will be analyzed by the students and summarized in an obligatory report.

Bemerkung

The course will start in the 2nd week of the semester (17.04.2024). The field course for this year is planned for the dates 21.05 to 24.05.

We will most probably go to the Vogtland region - Details will be discussed in class.

Leistungen in Bezug auf das Modul

SL 576401 - Vorlesung und Übung (unbenotet)

SL 576402 - Geländeübung (4 Tage) (unbenotet)

GEW-MF112 - Seismic Hazard Analysis

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF113 - Seismological Data Science with Application to Volcano Systems

118899 VU - Volcano Seismology							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Do	12:30 - 14:00	wöch.	2.27.0.29/30	16.04.2026	Prof. Dr. Eva Eibl
1	U	Do	14:15 - 15:45	wöch.	2.27.0.29/30	16.04.2026	Prof. Dr. Eva Eibl

Kommentar

We will start at 12:00 on Thursdays.

Please prepare the lecture notebooks 1 to 5 before the first class as we will do the first exercises together in week 1. You can find them here: <https://github.com/EvaEibl/Volcanoseismology>

In Geosciences you often face datasets that are easier to understand and illustrate, if you are good in a programming language. You will encounter this once you do an internship or your Master thesis:

Programming is easy and you can learn it by doing it yourself and solving your own geoscientific problems with it.

Within the volcano seismology class, you will be given

- a detailed introduction into how python programming works
- a lot of hands-on examples that you can use to improve your programming skills
- examples of seismological software that can make the data processing a lot easier for you
- dataset examples to show you how filters work and how you can get signal out of noisy data
- a workflow of how to process typical seismological data so that you are ready to start with your Master thesis
- exiting data from the Sundhnukurgigar 2024 eruption in Iceland

You should join if

- you want to learn how to program
- you are interested in seismology and want to learn about Obspy or Pyrocko
- you are interested in earthquakes and are wondering how to process seismological data
- you are interested in volcanoes

Leistungen in Bezug auf das Modul

SL 576421 - Vorlesung und Übung (unbenotet)

GEW-MF114 - Seismic Methods

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF115 - Electrical and Electromagnetic Methods

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF116 - Potential Field Methods

 **118625 VU - Potential Field Methods (block course)**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	B	N.N.	N.N.	Block	N.N.	N.N.	Dr. Julien Guillemoteau

Leistungen in Bezug auf das Modul

SL 576452 - Blocklehrveranstaltung (3 Tage Gelände-/Computerübung) (unbenotet)

 **118626 VU - Potential Field Methods**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mo	12:30 - 14:00	wöch.	2.27.0.29/30	13.04.2026	Dr. Julien Guillemoteau
1	U	Mo	14:15 - 15:45	wöch.	2.27.0.29/30	13.04.2026	Dr. Julien Guillemoteau

Leistungen in Bezug auf das Modul

SL 576451 - Vorlesung und Übung (unbenotet)

GEW-MF117 - Field Course Applied Geophysics **118595 VU - Applied Geophysics Field Course**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	U	N.N.	09:00 - 17:00	Block	2.27.0.29/30	07.09.2026	Prof. Dr. Jens Tronicke
lab work 07.09.-11.09.2026							
1	U	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Jens Tronicke, Dr. Philipp Koyan
field work 31.08.-04.09.2026							

Kommentar

This course is specialization module in Geophysics, MSc Geosciences. Within this field course a typical problem from hydrology, geology, or archaeology will be addressed. For a given target, different geophysical techniques (e.g., direct-current electrics, electromagnetics, ground-penetrating radar, geomagnetics) will be employed in the field. In the second part of this course, the focus is on computer-based processing and interpretation of all gathered data using standard inversion, modeling, and processing approaches.

Students are expected to have a profound background in applied geophysical methods and, especially, in electrical and electromagnetic methods as, for example, taught in the module "Electrical and electromagnetic methods".

Leistungen in Bezug auf das Modul

SL	576461 - Blockkurs Feldarbeit (unbenotet)
SL	576462 - Blockkurs Datenanalyse (unbenotet)

GEW-MF210 - Specialized Petrology

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF211 - Age Determination **118590 VU - Advanced Age Determination**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Mo	08:30 - 10:00	wöch.	2.27.2.49	13.04.2026	Dr. Masafumi Sudo, Dr. Martin Jan Timmerman
1	VU	Mi	08:30 - 10:00	wöch.	2.27.2.49	15.04.2026	Dr. Masafumi Sudo, Dr. Martin Jan Timmerman

Kommentar

The course is held every Monday, 8:30-10:00, and Wednesday, 8:30-10:00, in the room 2.49 in Haus 27.

The course comprises the following two parts and periods:

- the first half (April 13th to June 3rd): Advanced topics in U-Pb Geochronology, by Dr. Martin Timmerman

- the latter half (June 8th to July 22nd): Advanced topics in Ar/Ar Geochronology, by Dr. Masafumi Sudo

The course includes lectures, exercises and discussions of selected papers, mainly on magmatic and metamorphic petrology/geology.

The first lecture of this course will take place on Monday, April 13th.

The details of the latest information will be updated in Moodle at necessary times.

Leistungen in Bezug auf das Modul

SL	576481 - Vorlesung und Übung (unbenotet)
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GEW-MF212 - Physicochemical Mineralogy-Petrology **118616 VS - Mineral Physics and Spectroscopy**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Do	08:30 - 10:00	wöch.	2.27.2.07	16.04.2026	Prof. Dr. Max Wilke, Dr. Sergey Lobanov

1	S	Do	10:15 - 11:45	wöch.	2.27.2.07	16.04.2026	Prof. Dr. Max Wilke, Dr. Sergey Lobanov
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Kommentar

First Lecture on April, 16 at 9:15 where also organisational Details will be handled.

This course 'Mineral Physics and Spectroscopy' is part of the module: GEW-MF22 and GEW-MF212 – 'Physicochemical Mineralogy-Petrology' and GEW-ME01 - Modelling and Exploring the Earth System

in this course 'Mineral Physics and Spectroscopy' you will be:

- learning about physical properties especially of crystalline materials
- learn about how to determine them and how they influence geological processes
- learn about various spectroscopic methods and how they are used to characterize and analyse minerals, glasses and liquids

Leistungen in Bezug auf das Modul

SL 576491 - Vorlesung und Übung (unbenotet)

GEW-MF213 - Hands-On in Mineralogy and Petrology

 **118605 SU - Experimental Mineralogy-Petrology**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	S	N.N.	N.N.	wöch.	N.N.	N.N.	Prof. Dr. Max Wilke, Dr. Sergey Lobanov, Dr. rer. nat. Wolfgang Morgenroth, Dr. Dirk Spengler
1	U	N.N.	N.N.	wöch.	N.N.	N.N.	Prof. Dr. Max Wilke, Dr. Sergey Lobanov, Dr. rer. nat. Wolfgang Morgenroth, Dr. Dirk Spengler

Kommentar

This course 'Experimental Mineralogy-Petrology' is part of the module: GEW-MF213 – 'Hands-On in Mineralogy and Petrology'

learning goals of the module are:

- conducting high-pressure/high-temperature laboratory experiments on minerals, glasses and rocks to better understand magmatic and metamorphic processes in nature

in this course 'Experimental Mineralogy-Petrology' you will be:

- conducting experiments
- examine the resulting material with various analytical methods
- prepare a short presentation and report

A pre-meeting with an introduction into available topics for experiments and organization will be held on **Thursday , April 16th** at **9:00 a.m .** in **room 2.07 .**

WoMo, 23.03.2026

Leistungen in Bezug auf das Modul

SL 576501 - Seminar und Übung (unbenotet)

GEW-MF214 - Current Topics in Mineralogy and Petrology

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-MF215 - Special Topics in Mineralogy and Petrology

118621 VS - Ore Forming Processes and Dating of Volcanic Processes

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	15.04.2026	Prof. Dr. Philipp Weis
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	22.04.2026	Dr. Masafumi Sudo

Kommentar

The course consists of two separate lectures and one joint seminar:
 - Ore-forming processes (by PD Dr. Philipp Weis): Understanding natural enrichment mechanics forming metal deposits in the context of plate tectonics.
 - Dating of volcanic processes (by Dr. Masafumi Sudo): From the views on the volcanoes and geochronology, volcanological/ magmatic scientific questions along the time scales are lectured and discussed.
 The introduction for the course (Vorbesprechung) will be held on April 15th at 14:15 in the room 1.10 of Haus 27.

Leistungen in Bezug auf das Modul

SL 576521 - Vorlesung und Seminar (unbenotet)

GEW-RCM01 - Remote Sensing of the Environment

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

Wahlpflichtmodule

GEW-ME01 - Modelling and Exploring the Earth System

118587 VU - Advanced Subsurface Modelling

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Maria Mutti, Hugues Bitault, Dr. Thomas Teillet

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

118588 VU - Advanced Methods in Observational Seismology

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Fr	12:30 - 14:00	wöch.	2.27.0.29/30	17.04.2026	Prof. Dr. Eva Eibl
1	U	Fr	14:15 - 15:45	wöch.	2.27.0.29/30	17.04.2026	Prof. Dr. Eva Eibl

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

118597 VU - Array Seismology

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mi	08:30 - 10:00	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	Mi	10:15 - 11:45	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	N.N.	N.N.	Block	N.N.	N.N.	Dr. Matthias Ohrnberger

Kommentar

What is better than recording the seismic wave field with one seismometer? Correct! It is generally much better to observe the seismic wave field with several separately placed seismometers, a so-called seismic array. The parallel recording of the continuously present ground motion in space and time by a set of spatially distributed seismic sensors allows enhanced insight in wave propagation phenomena. It provides a direct measurement of the apparent propagation speed and direction of individual wave arrivals along the recording geometry leading to a better idea on the wave types in the observed wave field.

The goal of array seismology is manifold. The purpose of observation reaches from building structural subsurface models of the shallow part of the ground below the array recording site to enhancing and verifying tiny details in the deeper earth structure. In addition, arrays help to understand for example dynamic physical processes inside the earth creating seismic waves like earthquake faulting or volcanic eruption phenomena.

Besides learning about the theoretical background of array signal processing techniques in a normal classroom environment, students will study the practical side of array seismology during a 4-to-5-day field course as integral part of the module. Within the field course students will get in touch with modern seismological equipment and conduct their own array experiment starting from experiment design to deployment of seismological equipment and final data recovery. The data acquired during the field course will be analyzed by the students and summarized in an obligatory report.

Bemerkung

The course will start in the 2nd week of the semester (17.04.2024). The field course for this year is planned for the dates 21.05 to 24.05.
We will most probably go to the Vogtland region - Details will be discussed in class.

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

118616 VS - Mineral Physics and Spectroscopy

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Do	08:30 - 10:00	wöch.	2.27.2.07	16.04.2026	Prof. Dr. Max Wilke, Dr. Sergey Lobanov
1	S	Do	10:15 - 11:45	wöch.	2.27.2.07	16.04.2026	Prof. Dr. Max Wilke, Dr. Sergey Lobanov

Kommentar

First Lecture on April, 16 at 9:15 where also organisational Details will be handled.

This course 'Mineral Physics and Spectroscopy' is part of the module: GEW-MF22 and GEW-MF212 – 'Physicochemical Mineralogy-Petrology' and GEW-ME01 - Modelling and Exploring the Earth System

in this course 'Mineral Physics and Spectroscopy' you will be:

- learning about physical properties especially of crystalline materials
- learn about how to determine them and how they influence geological processes
- learn about various spectroscopic methods and how they are used to characterize and analyse minerals, glasses and liquids

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

118618 VU - Modelling Tectonic and Surface Processes

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Sascha Brune, Prof. Dr. Jean Braun

block course - date tbd (September 2026)

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

118630 U - Sedimentary Processes (Field Exercise)							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	PU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Maria Mutti
Leistungen in Bezug auf das Modul							
SL	576031 - Vorlesung und Übung (unbenotet)						

118633 VU - Special Topics in Applied Geophysics							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VU	Di	12:30 - 15:45	wöch.	2.27.2.37/38	14.04.2026	Sophie Stephan
Voraussetzung							
<p>Requirement: A basic knowledge, understanding of the fundamental principles in Geophysics. Recommended: Successful participation in any module introducing basic principles of Applied Geophysics (e.g., Geophysical Laboratory). Parallel participation in Applied Geophysical Methods I/II (Advanced Modules – Geophysics).</p>							
Leistungsnachweis							
<p>Oral or written exam at the end of the semester depending on the number of participants.</p>							
Bemerkung							
<p>In this course we will discuss geophysical methods based on the different fields of application, including archaeogeophysics, hydrogeophysics, environmental and agricultural geophysics, airborne geophysics and borehole geophysics. As an introduction, we will shortly be reviewing common methods used in exploration geophysics, including gravimetry, magnetism, electrical and electromagnetic methods, and seismics. Furthermore, more advanced and specialized methods will be introduced and discussed. However, a basic knowledge, understanding of the fundamental principles in Geophysics is a requirement to successfully finish this course. During the exercise/seminar we will apply the knowledge from the lectures to study, analyse and discuss selected literature examples of geophysical field studies related to the different fields of applied geophysics. Finally, the course will finish with an oral or written exam at the end of the semester depending on the number of students.</p>							
Leistungen in Bezug auf das Modul							
SL	576031 - Vorlesung und Übung (unbenotet)						

118634 VU - Terrestrial and Airborne Lidar and Photogrammetry Systems							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	N.N.	09:00 - 17:00	Block	N.N.	09.04.2026	Prof. Dr. Bodo Bookhagen
Kommentar							
<p>We will start on Apr-07 (Tuesday) at 9 am in the new building (32). The building is still closed, but I will come outside frequently to open the doors. The PC Pool is on the ground floor, and we will keep the door open.</p> <p>The dates and times are:</p> <p>Apr-07 (Tuesday) 9 am - 5 pm</p> <p>Apr-08 (Wednesday) 9 am - 5 pm</p> <p>Apr-09 (Thursday) 9 am - 5 pm</p> <p>Apr-10 (Friday) 12 am - 5 pm</p> <p>Apr-15 (Wednesday) 1 - 5 pm</p> <p>Apr-16 (Thursday) 9 am - 5 pm</p> <p>We had to shift and reorganize timing because of scheduling conflicts and pc pool maintenance. You will need to participate in those lectures and labs if you intend to take this class for credit points.</p> <p>-Bodo Bookhagen</p>							

Leistungen in Bezug auf das Modul

SL 576031 - Vorlesung und Übung (unbenotet)

GEW-ME02 - Geosciences Across Scales

118630 U - Sedimentary Processes (Field Exercise)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	PU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Maria Mutti

Leistungen in Bezug auf das Modul

SL 576041 - Vorlesung und Übung (unbenotet)

GEW-ME03 - Past and Present of the Earth System

118621 VS - Ore Forming Processes and Dating of Volcanic Processes

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	15.04.2026	Prof. Dr. Philipp Weis
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	22.04.2026	Dr. Masafumi Sudo

Kommentar

The course consists of two separate lectures and one joint seminar:
 - Ore-forming processes (by PD Dr. Philipp Weis): Understanding natural enrichment mechanics forming metal deposits in the context of plate tectonics.
 - Dating of volcanic processes (by Dr. Masafumi Sudo): From the views on the volcanoes and geochronology, volcanological/magmatic scientific questions along the time scales are lectured and discussed.
 The introduction for the course (Vorbesprechung) will be held on April 15th at 14:15 in the room 1.10 of Haus 27.

Leistungen in Bezug auf das Modul

SL 576051 - Vorlesung und Übung (unbenotet)

118622 VU - Paleoclimate Dynamics

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mo	12:15 - 13:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth
1	U	Mo	14:15 - 15:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth

Kommentar

This course runs as part of elective module GEW-ME04 - Modern Trends in Geosciences (2022) and as GEW-MGEW13 Paleoclimate Dynamics in the Master in Geowissenschaften (2010). We have booked the small meeting room 2.27.2.24, where we sit together at one table instead of in a classroom arrangement of tables and a lectern. However, we will also be streaming the course with Zoom, as the room offers modern audio-visual technology with a large screen.

The course was offered in a new form for the first time in WiSe 2022/23. Each topic from the field of paleoclimate dynamics will first be introduced by me with an overview lecture, before I cover current topics in special lectures together with colleagues worldwide. In an accompanying seminar, special topics will be explored in more depth, with participants seeking to present and discuss recent developments, hypotheses, controversies in the form of press releases, short presentations and tweets.

Faculative exercises/homework will include short (partly computational) assignments on paleoclimate dynamics. The Moodle site provides extensive teaching material, for example (pre)recorded lectures, guest contributions, reading material, exercises and recommendations for further information. The final exam includes individual work on a controversial topic of paleoclimate dynamics, i.e. not the retelling of papers, but the task is actually to recognize and present the current controversy (and its proponents), either as a (recorded) lecture or as an essay.

Leistungen in Bezug auf das Modul

SL 576051 - Vorlesung und Übung (unbenotet)

118630 U - Sedimentary Processes (Field Exercise)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	PU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Maria Mutti

Leistungen in Bezug auf das Modul

SL 576051 - Vorlesung und Übung (unbenotet)

GEW-ME04 - Modern Trends in Geosciences

118612 UP - Introduction to Geomicrobiology (Practicals)

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	UP	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Dirk Wagner

21.09.-25.09.2026 in Labs of GFZ

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

118613 VU - Introduction to Geomicrobiology

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Fr	09:15 - 10:45	wöch.	2.27.1.10	17.04.2026	Prof. Dr. Dirk Wagner
1	U	Fr	11:00 - 11:45	wöch.	2.27.1.10	17.04.2026	Prof. Dr. Dirk Wagner

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

118621 VS - Ore Forming Processes and Dating of Volcanic Processes

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	15.04.2026	Prof. Dr. Philipp Weis
1	VS	Mi	14:15 - 17:45	14t.	2.27.1.10	22.04.2026	Dr. Masafumi Sudo

Kommentar

The course consists of two separate lectures and one joint seminar:
 - Ore-forming processes (by PD Dr. Philipp Weis): Understanding natural enrichment mechanics forming metal deposits in the context of plate tectonics.
 - Dating of volcanic processes (by Dr. Masafumi Sudo): From the views on the volcanoes and geochronology, volcanological/magmatic scientific questions along the time scales are lectured and discussed.
 The introduction for the course (Vorbesprechung) will be held on April 15th at 14:15 in the room 1.10 of Haus 27.

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

118622 VU - Paleoclimate Dynamics

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mo	12:15 - 13:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth
1	U	Mo	14:15 - 15:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth

Kommentar

This course runs as part of elective module GEW-ME04 - Modern Trends in Geosciences (2022) and as GEW-MGEW13 Paleoclimate Dynamics in the Master in Geowissenschaften (2010). We have booked the small meeting room 2.27.2.24, where we sit together at one table instead of in a classroom arrangement of tables and a lectern. However, we will also be streaming the course with Zoom, as the room offers modern audio-visual technology with a large screen.

The course was offered in a new form for the first time in WiSe 2022/23. Each topic from the field of paleoclimate dynamics will first be introduced by me with an overview lecture, before I cover current topics in special lectures together with colleagues worldwide. In an accompanying seminar, special topics will be explored in more depth, with participants seeking to present and discuss recent developments, hypotheses, controversies in the form of press releases, short presentations and tweets.

Faculative exercises/homework will include short (partly computational) assignments on paleoclimate dynamics. The Moodle site provides extensive teaching material, for example (pre)recorded lectures, guest contributions, reading material, exercises and recommendations for further information. The final exam includes individual work on a controversial topic of paleoclimate dynamics, i.e. not the retelling of papers, but the task is actually to recognize and present the current controversy (and its proponents), either as a (recorded) lecture or as an essay.

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

118635 PU - Thematic Field School

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	PU	N.N.	N.N.	Block	N.N.	N.N.	Prof. Dr. Pieter van der Beek

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

120323 VU - Applied Causal Inference

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
Alle	V	Do	10:00 - 12:00	wöch.	2.70.0.08	16.04.2026	Prof. Dr. Jakob Runge
1	U	Do	12:00 - 14:00	wöch.	2.70.0.08	16.04.2026	Prof. Dr. Jakob Runge
2	U	Do	12:00 - 14:00	wöch.	2.70.0.09	16.04.2026	Sofia Faltenbacher
3	U	Do	12:00 - 14:00	wöch.	2.70.0.09	16.04.2026	Alexandrine Lanson

Leistungsnachweis

Presentation.

Lerninhalte

Leistungen in Bezug auf das Modul

SL 576061 - Vorlesung und Übung (unbenotet)

GEW-ME05 - Geoscientific Data Science

118622 VU - Paleoclimate Dynamics

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mo	12:15 - 13:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth
1	U	Mo	14:15 - 15:45	wöch.	2.27.2.24	13.04.2026	Prof. Dr. Martin Trauth

Kommentar

This course runs as part of elective module GEW-ME04 - Modern Trends in Geosciences (2022) and as GEW-MGEW13 Paleoclimate Dynamics in the Master in Geowissenschaften (2010). We have booked the small meeting room 2.27.2.24, where we sit together at one table instead of in a classroom arrangement of tables and a lectern. However, we will also be streaming the course with Zoom, as the room offers modern audio-visual technology with a large screen.

The course was offered in a new form for the first time in WiSe 2022/23. Each topic from the field of paleoclimate dynamics will first be introduced by me with an overview lecture, before I cover current topics in special lectures together with colleagues worldwide. In an accompanying seminar, special topics will be explored in more depth, with participants seeking to present and discuss recent developments, hypotheses, controversies in the form of press releases, short presentations and tweets.

Faculative exercises/homework will include short (partly computational) assignments on paleoclimate dynamics. The Moodle site provides extensive teaching material, for example (pre)recorded lectures, guest contributions, reading material, exercises and recommendations for further information. The final exam includes individual work on a controversial topic of paleoclimate dynamics, i.e. not the retelling of papers, but the task is actually to recognize and present the current controversy (and its proponents), either as a (recorded) lecture or as an essay.

Leistungen in Bezug auf das Modul

SL 576071 - Vorlesung und Übung (unbenotet)

GEW-ME06 - Special Remote Methods in Geosciences

118593 VU - Analysis of Digital Elevation Models

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mi	08:30 - 09:15	wöch.	N.N.	15.04.2026	Prof. Dr. Bodo Bookhagen, Florian Leder

1	S	Mi	09:15 - 10:00	wöch.	N.N.	15.04.2026	Prof. Dr. Bodo Bookhagen, Florian Leder
1	U	Mi	10:15 - 11:45	wöch.	N.N.	15.04.2026	Prof. Dr. Bodo Bookhagen, Florian Leder

Kommentar

The lecture and seminar will start on Wednesday, Apr-17 at 8:30 am in the pc pool (room 0.29) in building 27 on campus Golm. You will need to participate if you want to take this module for credit points.

-Bodo Bookhagen

Leistungen in Bezug auf das Modul

SL 576081 - Vorlesung und Übung (unbenotet)

 **118597 VU - Array Seismology**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mi	08:30 - 10:00	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	Mi	10:15 - 11:45	wöch.	2.27.0.29/30	15.04.2026	Dr. Matthias Ohrnberger
1	U	N.N.	N.N.	Block	N.N.	N.N.	Dr. Matthias Ohrnberger

Kommentar

What is better than recording the seismic wave field with one seismometer? Correct! It is generally much better to observe the seismic wave field with several separately placed seismometers, a so-called seismic array. The parallel recording of the continuously present ground motion in space and time by a set of spatially distributed seismic sensors allows enhanced insight in wave propagation phenomena. It provides a direct measurement of the apparent propagation speed and direction of individual wave arrivals along the recording geometry leading to a better idea on the wave types in the observed wave field.

The goal of array seismology is manifold. The purpose of observation reaches from building structural subsurface models of the shallow part of the ground below the array recording site to enhancing and verifying tiny details in the deeper earth structure. In addition, arrays help to understand for example dynamic physical processes inside the earth creating seismic waves like earthquake faulting or volcanic eruption phenomena.

Besides learning about the theoretical background of array signal processing techniques in a normal classroom environment, students will study the practical side of array seismology during a 4-to-5-day field course as integral part of the module. Within the field course students will get in touch with modern seismological equipment and conduct their own array experiment starting from experiment design to deployment of seismological equipment and final data recovery. The data acquired during the field course will be analyzed by the students and summarized in an obligatory report.

Bemerkung

The course will start in the 2nd week of the semester (17.04.2024). The field course for this year is planned for the dates 21.05 to 24.05. We will most probably go to the Vogtland region - Details will be discussed in class.

Leistungen in Bezug auf das Modul

SL 576081 - Vorlesung und Übung (unbenotet)

 **118601 VU - Deep Electromagnetics and Magnetotellurics**

Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Fr	08:30 - 10:00	wöch.	2.27.0.29/30	17.04.2026	PD Dr. Ute Weckmann
1	U	Fr	10:15 - 11:45	wöch.	2.27.0.29/30	17.04.2026	PD Dr. Ute Weckmann
1	PU	N.N.	N.N.	Einzel	N.N.	N.N.	N.N.

Date and place t.b.a.

Kommentar

This course introduces the diffusive electromagnetic techniques (magnetotellurics in all its varieties) that can be used to study the physical parameters of the Earth at great depths - in this case electrical conductivity. The method is unique in that it has virtually no environmental impact and can therefore be used, for example, in the Antarctic or in nature reserves. The physical parameter imaged by this method is sensitive to water content and properties, melts, etc., much better than e.g. densities or seismic properties. We illustrate the method and its results with recent research examples. This lecture's aim is to

- understand the electromagnetic processes in the subsurface,
- know the challenges of data acquisition in the field and subsequent data processing,
- assess the possibilities and limitations of the method,
- be able to interpret the data and inversion models obtained and
- apply them to the wide range of applications from industry to research, off- and on-shore measurements, sustainability research, resources, groundwater and tectonics ...

Ultimately, we also want to answer questions such as:

- when and why is a fault electrically conductive?
- which deposits show up as good or poor conductive anomalies?
- how does EM help in groundwater monitoring?
- ... [Your questions]

And very important: Hands on codes and instruments (practical).

Voraussetzung

Grundlagen in Mathe, Physik und allgemeine Neugierde.

Literatur

Die Literatur wird in der Vorlesung besprochen.

Lerninhalte

This course introduces the diffusive electromagnetic techniques (magnetotellurics in all its varieties) that can be used to study the physical parameters of the Earth at great depths - in this case electrical conductivity. The method is unique in that it has virtually no environmental impact and can therefore be used, for example, in the Antarctic or in nature reserves. The physical parameter imaged by this method is sensitive to water content and properties, melts, etc., much better than e.g. densities or seismic properties. We illustrate the method and its results with recent research examples. This lecture's aim is to

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Ultimately, we also want to answer questions such as:

- when and why is a fault electrically conductive?
- which deposits show up as good or poor conductive anomalies?
- how does EM help in groundwater monitoring?
- ... [Your questions]

And very important: Hands on codes and instruments (practical).

Leistungen in Bezug auf das Modul

SL 576081 - Vorlesung und Übung (unbenotet)

118624 VE - Planetary Physics							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	V	Mi	12:15 - 13:45	wöch.	2.27.1.10	15.04.2026	Prof. Dr. Gabriele Arnold
1	VE	N.N.	N.N.	Einzel	N.N.	N.N.	Prof. Dr. Gabriele Arnold

Leistungen in Bezug auf das Modul

SL 576081 - Vorlesung und Übung (unbenotet)

118634 VU - Terrestrial and Airborne Lidar and Photogrammetry Systems							
Gruppe	Art	Tag	Zeit	Rhythmus	Veranstaltungsort	1.Termin	Lehrkraft
1	VS	N.N.	09:00 - 17:00	Block	N.N.	09.04.2026	Prof. Dr. Bodo Bookhagen

Kommentar

We will start on Apr-07 (Tuesday) at 9 am in the new building (32). The building is still closed, but I will come outside frequently to open the doors. The PC Pool is on the ground floor, and we will keep the door open.

The dates and times are:

Apr-07 (Tuesday) 9 am - 5 pm

Apr-08 (Wednesday) 9 am - 5 pm

Apr-09 (Thursday) 9 am - 5 pm

Apr-10 (Friday) 12 am - 5 pm

Apr-15 (Wednesday) 1 - 5 pm

Apr-16 (Thursday) 9 am - 5 pm

We had to shift and reorganize timing because of scheduling conflicts and pc pool maintenance. You will need to participate in those lectures and labs if you intend to take this class for credit points.

-Bodo Bookhagen

Leistungen in Bezug auf das Modul

SL 576081 - Vorlesung und Übung (unbenotet)

GEW-ME07 - Special Topics in Geosciences

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

GEW-ME08 - Monitoring Techniques and Data Analysis in Geosciences

Für dieses Modul werden aktuell keine Lehrveranstaltungen angeboten

Glossar

Die folgenden Begriffserklärungen zu Prüfungsleistung, Prüfungsnebenleistung und Studienleistung gelten im Bezug auf Lehrveranstaltungen für alle Ordnungen, die seit dem WiSe 2013/14 in Kraft getreten sind.

- Prüfungsleistung** Prüfungsleistungen sind benotete Leistungen innerhalb eines Moduls. Aus der Benotung der Prüfungsleistung(en) bildet sich die Modulnote, die in die Gesamtnote des Studiengangs eingeht. Handelt es sich um eine unbenotete Prüfungsleistung, so muss dieses ausdrücklich („unbenotet“) in der Modulbeschreibung der fachspezifischen Ordnung geregelt sein. Weitere Informationen, auch zu den Anmeldemöglichkeiten von Prüfungsleistungen, finden Sie unter anderem in der [Kommentierung der BaMa-O](#)
- Prüfungsnebenleistung** Prüfungsnebenleistungen sind für den Abschluss eines Moduls relevante Leistungen, die – soweit sie vorgesehen sind – in der Modulbeschreibung der fachspezifischen Ordnung beschrieben sind. Prüfungsnebenleistungen sind immer unbenotet und werden lediglich mit "bestanden" bzw. "nicht bestanden" bewertet. Die Modulbeschreibung regelt, ob die Prüfungsnebenleistung eine Teilnahmevoraussetzung für eine Modulprüfung oder eine Abschlussvoraussetzung für ein ganzes Modul ist. Als Teilnahmevoraussetzung für eine Modulprüfung muss die Prüfungsnebenleistung erfolgreich vor der Anmeldung bzw. Teilnahme an der Modulprüfung erbracht worden sein. Auch für Erbringung einer Prüfungsnebenleistung wird eine Anmeldung vorausgesetzt. Diese fällt immer mit der Belegung der Lehrveranstaltung zusammen, da Prüfungsnebenleistung im Rahmen einer Lehrveranstaltungen absolviert werden. Sieht also Ihre fachspezifische Ordnung Prüfungsnebenleistungen bei Lehrveranstaltungen vor, sind diese Lehrveranstaltungen zwingend zu belegen, um die Prüfungsnebenleistung absolvieren zu können.
- Studienleistung** Als Studienleistung werden Leistungen bezeichnet, die weder Prüfungsleistungen noch Prüfungsnebenleistungen sind.



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