Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Subdivided Module Catalogue

for the Subject

Applied Physical Geography

as a Master's with 1 major

with the degree "Master of Science"

(120 ECTS credits)

Examination regulations version: 2016
Responsible: Faculty of Arts, Historical, Philological, Cultural and Geographical Studies
Responsible: Institute of Geography and Geology

Learning Outcomes

German contents and learning outcome available but not translated yet.

Wissenschaftliche Befähigung

- Das Master#Studium der Angewandten Physischen Geographie vertieft die Lehr# und Forschungsinhalte der Physischen Geographie. Der Studiengang ist in einen Pflicht#, Wahlpflichtbereich untergliedert und bereitet auf eine qualifizierte Erwerbstätigkeit vor. Das Ziel der Ausbildung ist es, den Studierenden fundierte und detaillierte Kenntnisse aus den wichtigsten Teilgebieten der Physischen Geographie zu vermitteln und sie mit modernen Methoden des geographischen und naturwissenschaftlichen Denkens und Arbeitens vertraut zu machen. Deshalb wird auf das Verständnis der fundamentalen geographischen Begriffe und Theorien sowie auf einige grundlegende Methodenkenntnisse und die Entwicklung typischer Denkstrukturen besonderer Wert gelegt. Zentrales Lernziel ist somit der Erwerb der Fähigkeit, räumliche Strukturen und Entwicklungsprozesse zielgerichtet zu analysieren, zu dokumentieren und zu bewerten. Auch die Fähigkeit zum selbständigen wissenschaftlichen Arbeiten soll massiv gefördert werden.
- Der anwendungsbezogene Masterstudiengang bietet Möglichkeiten der Vertiefung und Spezialisierung und bereitet auf eine hoch qualifizierte Berufstätigkeit im akademischen oder im angewandten Bereich vor.
- Vertiefung des im Rahmen des ersten berufsbefähigenden Studiums erworbenen geo# und raumwissenschaftliches Fachwissens und Erweiterung des methodischen und analytischen Ansatzes;
- Vertiefung der Kenntnisse über die Zusammenhänge innerhalb der eigenen Disziplin und mit benachbarten Disziplinen, Befähigung komplexe, insbesondere interdisziplinäre, Probleme und Aufgabenstellungen im Umweltbereich zu erkennen und zu analysieren, zu formulieren und – unter Zuhilfenahme von selbst recherchierter Fachliteratur – zu lösen; Vertiefung und Erweiterung der Befähigung, über geographische, geo# und raumwissenschaftliche Inhalte und Probleme sowohl mit Fachkollegen und # kolleginnen als auch mit einer breiteren Öffentlichkeit zu kommunizieren; Vertiefung und Erweiterung der Befähigung, sowohl einzeln als auch als Mitglied internationaler Gruppen zu arbeiten und Projekte effektiv zu organisieren und durchzuführen sowie in eine entsprechende Führungsverantwortung hineinzuwachsen; Befähigung, zukünftige Probleme, Technologien und wissenschaftliche Entwicklungen in den Geo# und Raumwissenschaften zu erkennen und entsprechend in die Arbeit einzubeziehen; durch die Vertiefung wissenschaftlicher, technischer und sozialer Kompetenz (u.a. Abstraktionsvermögen, Team# und Kommunikationsfähigkeit) auf die Übernahme von Führungsverantwortung vorbereitet zu sein.

Befähigung zur Aufnahme einer Erwerbstätigkeit

- Definition, Reflexion und Bewertung von Zielen für Lern# und Arbeitsprozesse sowie eigenständige und nachhaltige Gestaltung von Lern# und Arbeitsprozessen: Praxisbezug: Studierende sind in der Lage, theoretisches Wissen in der Praxis anzuwenden
- Problemlösungskompetenz: Absolventen/innen können mit wissenschaftlichen Methoden auch unbekannte Herausforderungen zu analysieren und zielgerichtet zu bearbeiten.
- Teamfähigkeit / Konfliktkompetenz: Absolventen /innen sind in der Lage, konstruktiv und zielorientiert in einem heterogenen, teilweise internationalem, Team zusammenzuarbeiten, unterschiedliche Ansichten produktiv zur Zielerreichung zu nutzen und mögliche Konflikte zu bearbeiten.
- Zeitmanagement: Absolventen/innen können unterschiedliche Aufgaben parallel und unter Zeit# und Erfolgsdruck auch bei widrigen Rahmenbedingungen erfolgreich bearbeiten.

Persönlichkeitsentwicklung

- Diskussionskultur und Teamfähigkeit: Entwicklung der Diskussionsbereitschaft und Befähigung zur Teamarbeit.
- Interkulturelle Kompetenz: Die Absolventen /innen können ihre erworbenen Kompetenzen in unterschiedlichen interkulturellen Kontexten anwenden.
- Die Absolventen /innen können sich sicher in einem heterogenen Umfeld bewegen und andere Meinungen konstruktiv auf ein gemeinsames Ziel einbinden. Sie sind kritikfähig.

Befähigung zum gesellschaftlichen Engagement

- Ethisches Handeln: Die Absolventen /innen können gesellschaftliche, naturwissenschaftliche, kulturelle wie auch wirtschaftliche Entwicklungen vergleichen, kritisch reflektieren und begründet eigene Positionen beziehen. Sie haben die Fähigkeit entwickelt, ihre Kompetenzen in partizipative Prozesse einzubringen.

Abbreviations used

Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

ASPO2015

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

04-Apr-2016 (2016-57)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

The subject is divided into

Abbreviation	Module title	ECTS credits	Method of grading	page
Compulsory Courses (35 ECTS credits)				
Methology (10 ECTS credits)				
04-Geo-MSTAT-152-m01	Computer-based statistical data analysis	5	NUM	29
04-Geo-MMT-152-m01	Geoinformatics / GIS / Data bank management	5	NUM	25
Project Practical Course and Field Trip (20 ECTS credits)				
04-Geo-MPP-152-m01	Applied Project: Change and protection of geosystems	15	NUM	28
04-Geo-APG-EX-162-m01	Field trip	5	NUM	7
Work Placement (5 ECTS credits)				
04-Geo-MBPR-162-m01	Work placement / Professional practical training for Students of Applied Physical Geography	5	B/NB	20
Compulsory Electives (55 ECTS credits)				
Courses Specialisation in the Scientific Discipline (40 ECTS credits)				
04-Geo-MPG4-152-m01	Special Issues of Advanced Physical Geography 1	5	NUM	26
04-Geo-MPG5-152-m01	Special Issues of Advanced Physical Geography 2	5	NUM	27
04-Geo-MAT1-152-m01	Climate change, implications and protection	5	NUM	16
04-Geo-MAT2-152-m01	Synoptic meteorology and weather forecasting	5	NUM	17
04-Geo-MBG1-152-m01	Soil and Landscape change	5	NUM	18
04-Geo-MBG2-152-m01	Soil geography: Lab-analytical and microscopical training course	5	NUM	19
04-Geo-RELA1-152-m01	Remote sensing of land surface parameters	5	NUM	31
04-Geo-RELA2-152-m01	Dynamics of the land surfaces	5	NUM	33
04-Geo-MLG1-152-m01	Geology of mineral deposits	5	NUM	23
04-Geo-MLG2-152-m01	Mineral exploration methods	5	NUM	24
Courses Specialisation in the Scientific Discipline, Methods, Companion Subject (5 ECTS credits)				
04-Geo-PlanR-152-m01	Planning Law	5	NUM	30
04-Geo-RUm-wP-152-m01	Regional and environmental planning	5	NUM	34
04-Geo-FwV-PGM1-152-m01	Subject disciplinary development for Students of Applied Physical Geography 1	5	NUM	11
04-Geo-FwV-PGM2-152-m01	Subject disciplinary development for Students of Applied Physical Geography 2	5	NUM	12
04-Geo-MethV-PGM1-152-m01	Methods in Physical Geography - Practice and consolidating 1	5	NUM	21
04-Geo-MethV-PGM2-152-m01	Methods in Physical Geography - Practice and consolidating 2	5	NUM	22
04-Geo-GPPGM-152-m01	Field Course for Students of Applied Physical Geography	5	NUM	13
04-Geo-BGV-PGM1-152-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 1	5	NUM	8
04-Geo-BGV-PGM2-152-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 2	5	NUM	9

04-Geo-BGV-PGM3-152-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 3	5	NUM	10
Thesis (30 ECTS credits)				
04-Geo-MAAK1-152-m01	Master Thesis by Students of Geography	28	NUM	14
04-Geo-MAAK2-152-m01	Final Colloquium of Master Thesis by Students of Geography	2	NUM	15

Module title			Abbreviation
Field trip			04-Geo-APG-EX-162-m01
Module coordinator		**Module offered by**	
holder of the Chair of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

German contents available but not translated yet.

Exkursion der allgemeinen und insbesondere der physischen Geographie im konkreten Bezug zu Teilräumen Europas oder außerhalb Europas. Dies können einzelne Staaten sein, wie auch durch ihre Lage in Europa bzw. durch ihre Lage charakterisierte Teilräume (z.B. Nordeuropa, Alpenländer bzw. Nordamerika) oder durch Gemeinsamkeiten charakterisierte Regionen (z.B. Europäische Union bzw. Arabische Halbinsel).

Intended learning outcomes

German intended learning outcomes available but not translated yet.

Studierende verfügen über folgende Kenntnisse: Anwendung allgemein und insbesondere physisch-geographischer Kenntnisse auf regional-bezogene Problemstellungen, insbesondere Teilschritte: 1. Abgrenzung und Charakterisierung eines Raumes, 2. Herausarbeitung spezifischer physisch-geographischer Probleme und räumlicher Interaktionen sowie 3. Synthese und Aufzeigen von Perspektiven/Problemlösungen in themenbezogener Gewichtung. Die Studierenden beurteilen relevante Themenfelder direkt vor Ort und entwickeln dadurch ein vertieftes praxisbezogenes Problembewusstsein. Sie arbeiten im Team unter ungewohnten/herausfordernden Bedingungen und entwickeln dadurch eine höhere Sozialkompetenz und sie können auf hohem Niveau interkulturell kommunizieren

Courses (type, number of weekly contact hours, language — if other than German)

E (0)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) field trip log (approx. 15 pages) or
b) presentation (approx. 30 minutes) with handout (approx. 3 pages)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 1			04-Geo-BGVPGM1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that lead to additional skills in the field of study "Applied Human Geography", e.g. courses from other natural and environmental sciences

Intended learning outcomes

Students acquire additional skills of the neighbouring sciences of the Applied Human Geography. They acquire knowledge of contents and problem areas, which are necessary for interdisciplinary work. They are also able to communicate within the related sciences technically.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 2			04-Geo-BGVPGM2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that lead to additional skills in the field of study "Applied Human Geography", e.g. courses from other natural and environmental sciences

Intended learning outcomes

Students acquire additional skills of the neighbouring sciences of the Applied Human Geography. They acquire knowledge of contents and problem areas, which are necessary for interdisciplinary work. They are also able to communicate within the related sciences technically.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 3			04-Geo-BGVPGM3-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that lead to additional skills in the field of study "Applied Human Geography", e.g. courses from other natural and environmental sciences

Intended learning outcomes

Students acquire additional skills of the neighbouring sciences of the Applied Human Geography. They acquire knowledge of contents and problem areas, which are necessary for interdisciplinary work. They are also able to communicate within the related sciences technically.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Subject disciplinary development for Students of Applied Physical Geography 1			04-Geo-FwVPGM1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that consolidate technical skills, e.g. seminars like "Special or Applied Physical Geography".

Intended learning outcomes

Students deepen their knowledge of processes that are dominating the landscape on the Earth's surface and which are driven by the geological factors rocks, relief, climate, soil, water, flora and fauna even further.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (approx. 45 minutes) or
b) presentation (approx. 30 minutes) and term paper (approx. 20 pages)
Language of assessment: German and/or English

Allocation of places

20 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Subject disciplinary development for Students of Applied Physical Geography 2			04-Geo-FwVPGM2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Courses that consolidate technical skills, e.g. seminars like "Special or Applied Physical Geography".

Intended learning outcomes

Students deepen their knowledge of processes that are dominating the landscape on the Earth's surface and which are driven by the geological factors rocks, relief, climate, soil, water, flora and fauna even further.

Courses (type, number of weekly contact hours, language — if other than German)

S (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (approx. 45 minutes) or
b) presentation (approx. 30 minutes) and term paper (approx. 20 pages)
Language of assessment: German and/or English

Allocation of places

20 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Field Course for Students of Applied Physical Geography			04-Geo-GPPGM-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Project seminars, during which the application of geographical field methods based on a specific issue will be practised.

Intended learning outcomes

Students achieve deepened skills of additional geographical methods and their application. With these methods, they are able to process little problems in a solution- orientated and target-orientated way.

Courses (type, number of weekly contact hours, language — if other than German)

P (4)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 15 pages) and talk (approx. 15 minutes)
Language of assessment: German and/or English

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Master Thesis by Students of Geography			04-Geo-MAAK1-152-m01
Module coordinator		**Module offered by**	
chairperson of examination committee Master Geographie (Geography)		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
28	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Adhering to the principles of good scholarly practice, students will independently draw up a master's thesis

Intended learning outcomes

Students achieve the following skills:
- Ability to produce a scientific work independently (description and analysis of a problem, literary research, theory reference, interpretation of data, logical conclusions and solution approaches of a scientific issue)
- Linguistic competence
- Ability to accomplish tasks in a given time period

Courses (type, number of weekly contact hours, language — if other than German)

No courses assigned to module

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Master's thesis (approx. 100 pages)
Language of assessment: German and/or English

Allocation of places

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Additional information

Time to complete: 6 months.

Workload

840 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Final Colloquium of Master Thesis by Students of Geography			04-Geo-MAAK2-152-m01
Module coordinator		**Module offered by**	
chairperson of examination committee Master Geographie (Geography)		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

During the colloquium, the results of the master's thesis will be presented and defended in an adjacent scientific discussion. The colloquium lasts 45 minutes: Students will defend their thesis for 30 minutes (presentation) and will answer questions concerning the student's thesis and adjacent topics for 15 minutes).

Intended learning outcomes

Presentation of the final Msc thesis

Courses (type, number of weekly contact hours, language — if other than German)

K (0)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 30 minutes) with subsequent discussion (approx. 15 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

60 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Climate change, implications and protection			04-Geo-MAT1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Climatology		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The focus is on the variability of atmospheric features at climatological time scales. In particular, anthropogenic climate change is assessed against the background of natural climate variations. Observed indications of climate change and climate model projections will be illustrated, ecological and socioeconomic implications be derived and needs of climate protection be discussed.

Intended learning outcomes

The students gain substantial insights into the mechanisms of climate variability on the basis of physically and mathematically explicit assessments of atmospheric processes. Especially, the interplay between natural and anthropogenic climate factors will be elucidated.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 60 minutes)
Language of assessment: German and/or English
Assessment offered: Once a year, winter semester

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)
Master's degree (1 major) Social Science Sustainability Studies (2021)
Master's degree (1 major) Applied Human Geography (2025)

Module title			Abbreviation
Synoptic meteorology and weather forecasting			04-Geo-MAT2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Climatology		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

This module deals with the variability of atmospheric dynamics at the synoptic time scale, i.e. hours to days. The main focus is on synoptic meteorology which describes weather phenomena in the extratropics and aims at weather forecasting. The module presents numerical methods in atmospheric physics, meteorological field measurements, interpretation of forecasted atmospheric fields and computer-based data analyses.

Intended learning outcomes

The students gain substantial insights into the mechanisms of weather variability on the basis of physically and mathematically explicit assessments of atmospheric processes. The module aims at enhancing skills in maths and physics, in meteorological measurement techniques, in programming and in writing of measurement reports.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

oral examination of one candidate each or oral examination in groups (approx. 15 minutes per candidate each)
Language of assessment: German and/or English
Assessment offered: Once a year, summer semester

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Soil and Landscape change			04-Geo-MBG1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Soil Science		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The module aims to communicate knowledge on characteristic landscape with a main aspect on Central Europe. Topics on the interrelations between soils, geology, geomorphology, and landscape ecology play a major role. Quaternary research requests form an important section in the framework of the course. Beside spatial approaches, landscape formation on chronological scales is further considered. The relevance and the impact of soil and landscape genesis for geoecosystems and human societies are in the centre of interest. Moreover, the relevance of formation processes for applied problems, first of all for natural hazards, is considered. Further requests in the frame of human impact and its consequences to landscape change are discussed.

Intended learning outcomes

The students gain profound knowledge in form of case studies related to present research projects in selected landscapes. Learning and recognition of interrelations are in the center of competences. On the base of scientific results students have state-of-the-art understanding for research examples. Beside knowledge on text books, study of international scientific literature is obligatory.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 45 minutes)
Language of assessment: German and/or English
Assessment offered: Once a year, winter semester

Allocation of places

40 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Soil geography: Lab-analytical and microscopical training course			04-Geo-MBG2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Soil Science		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The practice transfers knowledge on basic and advanced analyses in the laboratory and at the microscope. Soils and Quaternary sediments are in the centre of own investigations. Selected samples are investigated by sedimentological and pedochemical analyses in the laboratory. Furthermore, microscopic methods related to heavy mineral analyses and micromorphology can be learned. Data from field and lab analyses are merged together independantly by the students at the end of the practice.

Intended learning outcomes

Students learn different methods of laboratory and microscopic works. Applied requests in Physical Geography as well as their transfer and assessment in form of a project report are in the centre of interest. Students develop competences in the application of methods related to job practice and are able to deal with current problems self-dependent.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

talk (approx. 30 minutes) and term paper (approx. 10 pages)
Language of assessment: German and/or English
Assessment offered: Once a year, summer semester

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Work placement / Professional practical training for Students of Applied Physical Geography			04-Geo-MBPR-162-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	(not) successfully completed	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The work placement has to be completed in a module-relevant office or company, which fits the professional career the student is looking for or must be completed by field work for eight weeks outside of Europe. The work placement should comprise tasks that provides the intern with a comprehensive and adequate insight into the vocational world.

Intended learning outcomes

The work placement should provide insights into practical work processes. The graduates will learn how to implement independent project-related works, i.e. they will acquire skills during the project preparation and planning and/or during the project schedule or evaluation of tasks and how to turn this into reports. Vocational skills can be acquired by learning or deepening of methods.

Courses (type, number of weekly contact hours, language — if other than German)

P (0)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

report on work placement (approx. 20 pages)
Language of assessment: German and/or English

Allocation of places

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Additional information

Additional information on module duration: approx. 8 weeks.
Students must submit a letter issued by the institution at which they completed their placement. This letter must confirm the start and end dates as well as the contents of the placement.

Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Methods in Physical Geography - Practice and consolidating 1			04-Geo-MethVPGM1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that consolidate skills of geographical methods and their application, e.g. thematic Cartography, GIS courses for advanced students or project seminars, in which the application of geographical field methods will be practised with the help of a specific issue.

Intended learning outcomes

Students achieve deepened skills of additional geographical methods and their application. With these methods, they are able to process little problems in a solution- orientated and target-orientated way.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) presentation (approx. 15 minutes) and term paper (approx. 15 pages) or
b) exercises (approx. 30 hours)
Language of assessment: German and/or English

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Methods in Physical Geography - Practice and consolidating 2			04-Geo-MethVPGM2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Courses that consolidate skills of geographical methods and their application, e.g. thematic Cartography, GIS courses for advanced students or project seminars, in which the application of geographical field methods will be practised with the help of a specific issue.

Intended learning outcomes

Students achieve deepened skills of additional geographical methods and their application. With these methods, they are able to process little problems in a solution- orientated and target-orientated way.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) presentation (approx. 30 minutes) and term paper (approx. 15 pages) or
b) exercises (approx. 30 hours)
Language of assessment: German and/or English

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Geology of mineral deposits			04-Geo-MLG1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Geodynamics and Geomaterials Research		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The variety of mineral resources will be presented in their entirety. In particular processes that lead to an economical accumulation of such raw materials will be processed exemplarily. This comprises igneous, hydrothermic and sedimentary processes, from which usable ore deposits, solid energy sources, industrial minerals as well as rocks and earths emerged.

Intended learning outcomes

Students acquire on the base of state-of-the-art basics, deposit geology by means of current examples. Further, they acquire the ability to genetically classify existing and new mineral deposits and thus, also the basis of the assessment of prospective exploitation and exploration strategies

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) written examination (30 minutes) or
b) oral examination of one candidate each (approx. 30 minutes)
Language of assessment: German and/or English
Assessment offered: Once a year, winter semester

Allocation of places

25 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Mineral exploration methods			04-Geo-MLG2-152-m01
Module coordinator			**Module offered by**
holder of the Professorship of Geodynamics and Geomaterials Research			Institute of Geography and Geology
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Students will be provided with essential geological, geochemical and geophysical methods for the discovery of new mineral deposits, integrated in a global context. Thus, the main focus will be on the practical application and usability in diverse stages of exploration.

Intended learning outcomes

Students acquire state-of-the-art basics of common, modern methods for exploration and evaluation of new mineral deposits. The basics range from consolidated understanding of structural geological contexts and geochemical hints up to basically geophysical methods for an improved characterisation and limitation of economically relevant mineral deposits

Courses (type, number of weekly contact hours, language — if other than German)

V (1) + Ü (1)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) term paper (10 to 15 pages) or
b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate each)
Language of assessment: German and/or English
Assessment offered: Once a year, summer semester

Allocation of places

25 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Geoinformatics / GIS / Data bank management			04-Geo-MMT-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

No information on contents available.

Intended learning outcomes

No information on intended learning outcomes available.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) exercises (approx. 15 pages) or
b) oral examination of one candidate each (approx. 15 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)
Master's degree (1 major) Applied Human Geography (2025)

Module title			Abbreviation
Special Issues of Advanced Physical Geography 1			04-Geo-MPG4-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

In the tutorial and using current academic knowledge, complex issues of physical-geographical topics will be developed. Students will be provided with theoretical and methodological approaches as well as their regional application or relevance in particular. Under tutelage, students will be able to present and evaluate new issues to "Geography" on the basis of an established understanding of common scientific methods in presentations and discussions.

Intended learning outcomes

Students acquire consolidated skills in selected topic areas of Physical Geography. They will be introduced to the state of research and learn to process and evaluate scientific results as well as to use them context-related. Students acquire the ability to prepare scientific specialised literature themed, to conceptualise and present scientific texts as well as to analyse, structure and process issues of Physical Geography by theoretical and methodological research approaches.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

presentation (approx. 30 minutes) and term paper (approx. 30 pages)
Language of assessment: German and/or English
Assessment offered: Once a year, winter semester

Allocation of places

25 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Special Issues of Advanced Physical Geography 2			04-Geo-MPG5-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Students will be made familiar with the latest state-of-the-art by the analysis of scientific literature. By the independent preparation and presentation of presentations, students learn to draw up academic papers and the analysis and discussion about papers from fellow students and technical skills, the ability to take criticism and the current status of academic discussion as well as methodological knowledge during the processing of scientific issues. The themes of the papers give all an overview of the latest state-of-the-art in this topic area. The analysis of the latest state-of-the-art, which can particularly be found in scientific journals, is a precondition in order to process successfully. During the tutorial, feedback will take place through the direct discussion and the preliminary discussion and debriefing with the conference manager.

Intended learning outcomes

Students acquire consolidated skills in selected topic areas of Physical Geography. They will be introduced to the state of research and learn to process and evaluate scientific results as well as to use them context-related. Students acquire the ability to prepare scientific specialised literature themed, to conceptualise and present scientific texts as well as to analyse, structure and process issues of Physical Geography by theoretical and methodological research approaches.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

presentation (approx. 30 minutes) and term paper (approx. 30 pages)
Language of assessment: German and/or English
Assessment offered: Once a year, summer semester

Allocation of places

25 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Applied Project: Change and protection of geosystems			04-Geo-MPP-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Physical Geography		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
15	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The applied project combines aspects of the problem analysis, work organisation, methodological approaches and evaluation processes and analysis methods. In particular, this project prepares for the independent work, implementation and the completion of academic issues with different specific focuses. As a result from this combination, e.g. geomorphology, remote sensing, GIS, students will be able to form an individual specific focus. The data collection from their work placement project can be used as a basis in order to produce a comprehensive master's thesis.

Intended learning outcomes

Students acquire advanced skills and use them in selected topic areas of Physical Geography. The work placement is designed as a project work placement. Skills of defining, organising and planning work flows, which have been acquired during the bachelor's project seminars, as well as collecting data and to process, analyse and present them, should be consolidated. A project should be processed independently by using different technical methods. Thus, the students acquire advanced skills of project coordination, problem analysis and presentation of results.

Courses (type, number of weekly contact hours, language — if other than German)

R (8)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

term paper (approx. 30 pages)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

450 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Computer-based statistical data analysis			04-Geo-MSTAT-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Climatology		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Thus, in the module "Statistics III" common and specific processes of univariate and multivariate statistic will be implemented on the computer with the help of basic programming language FORTRAN and by plausible examples from different areas of "Geography".

Intended learning outcomes

Based on the theoretical knowledge of univariate and multivariate statistics from the Bachelor level, the students will be enabled to apply statistical issues by means of programming.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) exercises (approx. 15 pages) or
b) oral examination of one candidate each or oral examination in groups (each approx. 15 minutes per candidate)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)
Master's degree (1 major) Applied Human Geography (2025)

Module title			Abbreviation
Planning Law			04-Geo-PlanR-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Geography and Regional Science		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Introduction to the regional development, regional planning and public construction law; Overview of legal bases and fields of application; Discussion of regional planning and urban land-use plans. Theoretical, terminological and methodological foundations of the regional planning as well as its legal basis and most common fields of application.

Intended learning outcomes

Students get a consolidated insight into the basics of the planning regulations and develop skills in regional planning scientific nomenclature and its handling, which affects the array and interpretation of plans and different benchmark levels.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 45 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Political and Social Sciences (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)
Master's degree (1 major) Political and Social Sciences (2020)
Master's degree (1 major) Social Science Sustainability Studies (2021)
Master's degree (1 major) Applied Human Geography (2025)

Module title			Abbreviation
Remote sensing of land surface parameters			04-Geo-RELA1-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Remote Sensing		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

This module deals with the characterisation of the earth's surface by assessing relevant remotely sensed parameters. These parameters are seen as resources of different land surfaces. Presented are methods for the assessment of vegetation, water, soils and urban areas as well as techniques for deriving bio- and geophysical parameters (e.g. vegetation and soil indices and parameters, imperviousness). Methodological skills are imparted for landscape analysis (e.g. analysis of topology, fragmentation of landscape elements, urban structures) as well as (inter)national assessment approaches, monitoring methods and programmes and practical application examples.

Intended learning outcomes

The students acquire skills concerning the methodological acquisition and textual assessment of land surface parameters in the context of different geographical applications. Thereby, fundamentals of the understanding of remote sensing data and methods as well of observed land surface processes are provided. The scientific problem's type and complexity encourage interdisciplinary work.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) term paper (approx. 20 pages) or
b) preparing a poster (approx. 10 hours)
Language of assessment: German and/or English
Assessment offered: Once a year, winter semester

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)

Master's degree (1 major) Applied Human Geography (2025)

Module title			Abbreviation
Dynamics of the land surfaces			04-Geo-RELA2-152-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Remote Sensing		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

This module focusses on the observation of land cover and land cover change (intra- and inter-annual vegetation dynamics) by the means of remote sensing for subcontinental to global scales. The gained knowledge about the dynamics of the earth's surface is strengthened by self-contained answering of questions on climate change (interactions between the land surface and the atmosphere), sustainable land and water management, land degradation and desertification as well as biodiversity research. The methodological focus lies on the derivation and analysis of multi-temporal geo- and biophysical parameters, quantification of remotely sensed fluxes at the earth surface (CO_2, energy balance) and scale issues.

Intended learning outcomes

The students acquire methodological knowledge and deepening textual knowings about the assessment and evaluation of the land surface dynamics from different perspectives. The carefully selected scientific problems on global change encourage interdisciplinary and holistic thinking and approaches.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) term paper (approx. 20 pages) or
b) preparing a poster (approx. 10 hours)
Language of assessment: German and/or English
Assessment offered: Once a year, summer semester

Allocation of places

15 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.

Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Applied Physical Geography (2016)

Module title			Abbreviation
Regional and environmental planning			04-Geo-RUmwP-152-m01
Module coordinator			**Module offered by**
holder of the Professorship of Geography and Regional Science			Institute of Geography and Geology
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The course will provide students with in-depth knowledge of former and modern planning models and planning works, spatial structural categories, conceptions as well as formal and informal tools of regional development planning and regional planning and further, students will be able to the qualified application and use of spatial analytical and spatial planning tools.

Intended learning outcomes

Students achieve in-depth knowledge of former and modern planning models, categories of spatial structure, conceptions as well as formal and informal tools of spatial planning and regional development and develop skills of qualified applications and the use of spatial analytical and regional planning tools.

Courses (type, number of weekly contact hours, language — if other than German)

V (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written examination (approx. 45 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Applied Human Geography (2015)
Master's degree (1 major) Applied Physical Geography (2015)
Master's degree (1 major) Political and Social Sciences (2015)
Master's degree (1 major) Applied Physical Geography (2016)
Master's degree (1 major) Applied Human Geography (2017)
Master's degree (1 major) Political and Social Sciences (2020)
Master's degree (1 major) Social Science Sustainability Studies (2021)
Master's degree (1 major) Applied Human Geography (2025)