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: 2013
Responsible: Faculty of Arts, Historical, Philological, Cultural and Geographical Studies
Responsible: Institute of Geography and Geology

Course of Studies - Contents and Objectives

The major objective of geographic-geoscientific research and teaching is to gain a better understanding of the Earth System. Therefore, it is based on the analysis of the processes on and near the surface of the earth which characterize the landscape and are controlled by the geofactors substratum, relief, climate, soil, water, flora, and fauna. These factors determine the structure, function and dynamics of the physical region (the natural environment) and its anthropogenic reshaping (of the environment transformed by human land use, settlements, roads, etc.). The quantitative assessment of the current process structures not only provides the source for conclusions regarding the potential and resilience of geoecosystems, but the analysis of the development and modification of geographic spaces in the past also allow a prediction for future changes. These key criteria to decision making in planning and management as well as the utilization and development are particularly significant in the applied field. Closely linked to the orientation of research activities, the general objective of the "Applied Physical Geography" study program - in addition to providing deeper interdisciplinary comprehension of the Earth system, the structure, function and dynamics of the natural environment and its utilization by the humans - is the promotion of skills for the management of sustainable utilization and development of the habitat Earth.

The students are thereby enabled to understand complex system relationships and to assess them related to their spatiality, to comprehend interdisciplinary connections and to apply scientific topic-based methods and knowledge to solve spatial and geoscientific problems. The study program is particularly designed to enable the students to assess aspects of social acceptance, economic adequacy, administrative feasibility, and legal admissibility. Through the dual focus of application-oriented study and the introduction of autonomous scientific analysis, the Master's study program qualifies the student for professional activities in addition to extended doctoral studies. It prepares the students for the theoretically and methodologically evolving professional requirements thereby allowing them not only to master the methodology and understand the scientific findings of their field of study and to apply them in practice, but also to comprehend and moderate ways of thinking and working that go beyond their own subject area. Furthermore, learning objectives reach beyond the acquisition of subject expertise by developing the ability for interdisciplinary cooperation, the acquirement of communicative and social competency and the capability to apply the knowledge gained, or, in short, to use the theoretical know-how for the solution of concrete problems.

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:

ASPO2009

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

27-Feb-2013 (2013-29)

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)				
09-MSTAT3-102-m01	Statistics 3	5	NUM	32
09-MMT7-102-m01	Geoinformatics / GIS / Data bank management	5	NUM	28
09-MPP1-102-m01	Applied Project: Change and protection of geosystems	15	NUM	31
09-MBPR-102-m01	Work placement / Professional practical training for Students of Applied Physical Geography	10	B/NB	23
Compulsory Electives (55 ECTS credits)				
Core Courses Specialisation in the Scientific Discipline (40 ECTS credits)				
09-MPG4-102-m01	Special Issues of Advanced Physical Geography I	5	NUM	29
09-MPG5-102-m01	Special Issues of Advanced Physical Geography II	5	NUM	30
09-MAT1-102-m01	Climatology: climate change, implications and protection	5	NUM	19
09-MAT2-102-m01	Meteorology: synoptic meteorology and weather forecasting	5	NUM	20
09-MBG1-102-m01	Soil and Landscape change	5	NUM	21
09-MBG2-131-m01	Soil geography: Lab-analytical and microscopical training course	5	NUM	22
09-RELA1-102-m01	Remote Sensing of land surface parameters	5	NUM	33
09-RELA2-102-m01	Dynamics of the land surfaces	5	NUM	34
09-MLG1-102-m01	Geology of mineral deposits	5	NUM	26
09-MLG2-131-m01	Mineral exploration methods	5	NUM	27
Minor-specific Specialisation (15 ECTS credits)				
09-HGExp-MSc-PlR1-102-m01	Planning Law	5	NUM	12
09-HGExp-MSc-RU-Pl1-102-m01	Regional and Enviromental Planning	5	NUM	13
09-HG-MSc-ThemK1-102-m01	Visualization, monitoring and communication (Thematic Mapping)	5	NUM	16
09-HGExp-Spez-HG1-102-m01	Special Issues of Human Geography 1	5	NUM	14
09-HGExp-Spez-HG2-102-m01	Special Issues of Human Geography 2	5	NUM	15
09-FwVPG-M1-131-m01	Subject disciplinary development for Students of Applied Physical Geography 1	5	NUM	9
09-FwVPG-M2-131-m01	Subject disciplinary development for Students of Applied Physical Geography 2	5	NUM	10
09-MethV-M1-131-m01	Methods in Physical Geography - Practice- and consolidating 1	5	NUM	24
09-MethV-M2-131-m01	Methods in Physical Geography: Practice- and consolidating 2	5	NUM	25
09-GP-M-131-m01	Field Course for Students of Applied Physical Geography	5	NUM	11
09-BGV-M1-131-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 1	5	NUM	6
09-BGV-M2-131-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 2	5	NUM	7
09-BGV-M3-131-m01	Subsidiary subject-specific development for Students of Applied Physical Geography 3	5	NUM	8

Thesis (30 ECTS credits)				
09-MAAK-131-m01	Master Thesis and Final Colloquium by Students of Geography	30	NUM	17

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 1			09-BGV-M1-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

Courses, which are aimed to provide an additional profiling for the subject "Applied Physical Geography", e.g. courses from Biology (especially concerning ecology, geobotany, biodiversity research), from Chemistry (especially inorganic Chemistry), from Physics (especially solid-state physics).

Intended learning outcomes

Students acquire additional skills from the related sciences of Physical 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)

V (no information on SWS (weekly contact hours) and course language available)

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)

Students will be informed about the method, length and scope of the assessment prior to the course. Usually, one of the following options will be chosen: a) written examination (30 to 60 minutes) or b) log (approx. 10 to 30 pages) or c) oral examination of one candidate each (approx. 30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or e) presentation (20 to 45 minutes) and/or written elaboration (approx. 10 to 30 pages)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 2			09-BGV-M2-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

Courses, which are aimed to provide an additional profiling for the subject "Applied Physical Geography", e.g. courses from Biology (especially concerning ecology, geobotany, biodiversity research), from Chemistry (especially inorganic Chemistry), from Physics (especially solid-state physics).

Intended learning outcomes

Students acquire additional skills from the related sciences of Physical 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)

V (no information on SWS (weekly contact hours) and course language available)

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)

Students will be informed about the method, length and scope of the assessment prior to the course. Usually, one of the following options will be chosen: a) written examination (30 to 60 minutes) or b) log (approx. 10 to 30 pages) or c) oral examination of one candidate each (approx. 30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or e) presentation (20 to 45 minutes) and/or written elaboration (approx. 10 to 30 pages)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Subsidiary subject-specific development for Students of Applied Physical Geography 3			09-BGV-M3-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

Courses, which are aimed to provide an additional profiling for the subject "Applied Physical Geography", e.g. courses from Biology (especially concerning ecology, geobotany, biodiversity research), from Chemistry (especially inorganic Chemistry), from Physics (especially solid-state physics).

Intended learning outcomes

Students acquire additional skills from the related sciences of Physical 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)

V (no information on SWS (weekly contact hours) and course language available)

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)

Students will be informed about the method, length and scope of the assessment prior to the course. Usually, one of the following options will be chosen: a) written examination (30 to 60 minutes) or b) log (approx. 10 to 30 pages) or c) oral examination of one candidate each (approx. 30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or e) presentation (20 to 45 minutes) and/or written elaboration (approx. 10 to 30 pages)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Subject disciplinary development for Students of Applied Physical Geography 1			09-FwVPG-M1-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

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

Intended learning outcomes

Students are acquainted with the synthesis and interconnectedness of skills that have already been acquired concerning the processes on Earth's surface, which are dominating the landscape on Earth's surface and are driven by the geological factors rock, relief, climate, soil, water, flora and fauna. They acquire additional advanced skills of specific sub-disciplines of Physical Geography (e.g. geomorphology, soil geography, climate research, phytogeography, landscape ecology) in order to understand the structure, function and dynamics of the natural environment and its anthropogenic transformation (the environment that has been shaped from humans by land utilisation, settlements, transport routes etc.). Through the quantitative acquisition of current process structures, Physical Geography is not only able to derive predications for the capability and capacity of geological systems, but also to predict changes in future by analysing the development and change of geographical territories in the past.These important planning decision-making bases concerning the management as well as the sustainable use and development, are given weight to the task of Physical Geography in the practical area.

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

S (no information on SWS (weekly contact hours) and course language available)

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) or presentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 or project report (approx. 15 pages) and poster presentation (approx. 15 minutes), weighted 1:1

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Subject disciplinary development for Students of Applied Physical Geography 2			09-FwVPG-M2-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

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

Intended learning outcomes

Students are acquainted with the synthesis and interconnectedness of skills that have already been acquired concerning the processes on Earth's surface, which are dominating the landscape on Earth's surface and are driven by the geological factors rock, relief, climate, soil, water, flora and fauna. They acquire additional advanced skills of specific sub-disciplines of Physical Geography (e.g. geomorphology, soil geography, climate research, phytogeography, landscape ecology) in order to understand the structure, function and dynamics of the natural environment and its anthropogenic transformation (the environment that has been shaped from humans by land utilisation, settlements, transport routes etc.). Through the quantitative acquisition of current process structures, Physical Geography is not only able to derive predications for the capability and capacity of geological systems, but also to predict changes in future by analysing the development and change of geographical territories in the past.These important planning decision-making bases concerning the management as well as the sustainable use and development, are given weight to the task of Physical Geography in the practical area.

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

S (no information on SWS (weekly contact hours) and course language available)

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) or presentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 or project report (approx. 15 pages) and poster presentation (approx. 15 minutes), weighted 1:1

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Field Course for Students of Applied Physical Geography			09-GP-M-131-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

Courses that consolidate the use of geographical methods and that are connected with project works, in which geographical field methods have to be applied with the help of a specific issue.

Intended learning outcomes

Students dispose over consolidated, practical skills of geographical field methods and the related preparation, conception, application and evaluation. They are able to work with these methods in a problem-solving and result-orientated way and to reflect the results critically.

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

P (no information on SWS (weekly contact hours) and course language available)

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)

project report (approx. 15 pages) and poster presentation (approx. 15 minutes), weighted 1:1

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Planning Law			09-HGExp-MSc-PIR1-102-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

Basics of planning regulations; Competencies of the regional planning specialised nomenklatura and their handling concerning the schedule and interpretation of plans that have different scale levels

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

V (no information on SWS (weekly contact hours) and course language available)

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)

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Regional and Enviromental Planning			09-HGExp-MSc-RUPl1-102-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

Discussion of theory and history of the German regional planning; Presentation of political framework and the main features of the system of German regional planning; Presentation of ideas, methods and contents of the continuous regional observation in Bavaria, Germany and the EU; Planning tasks, concepts as well as use and mode of action of official and unofficial tools (including regional planning procedure and environmental impact assessment); Notes to the role of regional planning and other chosen environmental specialist planning in Germany.

Intended learning outcomes

Knowledge of former and modern planning models and plans, spatial structural categories, conceptions as well as formal and informal tools of regional development planning and regional development; Skills of qualified application and use of spatial analytical and spatial planning tools.

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

V (no information on SWS (weekly contact hours) and course language available)

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)

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Special Issues of Human Geography 1			09-HGExp-SpezHG1-102-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Social 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

This module deals with and consolidates chosen issues of "Theoretical and Applied Human Geography" from a sub-area of "Human Geography".

Intended learning outcomes

Students possess technical theories and solid knowledge in a sub-area of "Human Geography" and its application-oriented implementation. They possess the ability to produce seminar papers on the basis of individual literature research as well as the presentation of seminar papers in a freely-held presentation.

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

S (no information on SWS (weekly contact hours) and course language available)

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) with written elaboration (approx. 20 pages), weighted 1:1

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Special Issues of Human Geography 2			09-HGExp-SpezHG2-102-m01
Module coordinator		**Module offered by**	
holder of the Professorship of Social 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

This module deals with and consolidates chosen issues of "Theoretical and Applied Human Geography" from a sub-area of "Human Geography".

Intended learning outcomes

Students possess technical theories and solid knowledge in a sub-area of "Human Geography" and its application-orientated implementation. They possess the ability to produce seminar papers on the basis of individual literature research as well as the presentation of seminar papers in a freely-held presentation.

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

S (no information on SWS (weekly contact hours) and course language available)

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) with written elaboration (approx. 20 pages), weighted 1:1

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title	Abbreviation
Visualization, monitoring and communication (Thematic Mapping)	09-HG-MSc-ThemK1-102-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

Organisation and analysis of geographical and regional-related information from the area "Applied Geography". Application of Cartography schemes or GIS. Draft and preparation of thematic maps or maps-related presentation as planning communication tools

Intended learning outcomes

Students acquire consolidated content-related and technical skills in the area of data organisation and analysis as well as cartographic presentation of analysis findings.

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

S (no information on SWS (weekly contact hours) and course language available)

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)

5 exercises (approx. 20 pages)

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Master Thesis and Final Colloquium by Students of Geography			09-MAAK-131-m01
Module coordinator		**Module offered by**	
chairperson of examination committee Angewandte Physische Geographie (Applied Physical Geography)		Institute of Geography and Geology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
30	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Applying adequate techniques and adhering to the principles of good scientific practice, students address a current scientific question. The dissertation is documented in a master's thesis and defended in a colloquium.

Intended learning outcomes

Students are qualified to scientifically work on a topic on their own. They are competent to discuss the current research in the field. They are competent to work according to good practice and to document, interpret and to discuss their results. They are competent to discuss and to defend their data in the scientific community. Students are able to defend and discuss their work in front of an specialist audience and thus, possess the respective competence to use their technical knowledge in a topic-related and relevant area.

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

This module has 2 components; information on courses listed separately for each component.
- 09-MAAK-2-131: K (no information on language and number of weekly contact hours available)
- 09-MAAK-1-131: A (no information on language and number of weekly contact hours available)

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)

This module has the following 2 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole..

Assessment component to module component 09-MAAK-2-131: Abschlusskolloquium für Studierende der Geographie
- 2 ECTS credits, method of grading: numerical grade
- talk (approx. 30 minutes) with subsequent discussion (approx. 15 minutes)
- Language of assessment: German, English

Assessment component to module component 09-MAAK-1-131: Masterarbeit für Studierende der Geographie
- 28 ECTS credits, method of grading: numerical grade
- Master thesis (approx. 100 pages)
- Language of assessment: German, English

Allocation of places

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Additional information

Additional information listed separately for each module component.
- 09-MAAK-1-131: Additional information on module duration: 6 months.
- 09-MAAK-2-131: --

Workload

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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 (2013)

Module title			Abbreviation
Climatology: climate change, implications and protection			09-MAT1-102-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 module "Climatology" provides students with the resource "climate" that is an important constraint concerning structures and processes on the Earth's surface. Particularly the variability of the atmospheric conditions on the atmospheric time-scale makes up the main focus of the module. The module component pursues the problem complex "climate change", whereas the anthropogenic influencing on the terrestrial climate system will be assessed in the light of natural climate factors and fluctuations. Observed climate signs and climate model findings will be presented and the ecological as well as socio-economic consequences of the climate change will be evaluated. Further, requirements, possibilities and problems of the climate policy will be highlighted

Intended learning outcomes

Students get profound insights into mechanisms of climate variability on the basis of physical and mathematical explicit descriptions of atmospheric processes. Especially, the causal relations of natural and anthropogenic climate factors will be discussed. Hence, students get a profound understanding of the problems of anthropogenic climate change and learn to evaluate other issues to "earth sciences" against the background of the changeable geo resource

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

V (no information on SWS (weekly contact hours) and course language available)

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, English

Allocation of places

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Additional information

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Workload

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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 (2010)
Master's degree (1 major) Applied Physical Geography (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Meteorology: synoptic meteorology and weather forecasting			09-MAT2-102-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 module "Synoptic Meteorology/Weather Forecast" deals with the resource "weather" as important constraint for structures and processes on Earth's surface.The focus is on the variability of atmospheric conditions on the meteorological time-scale of hours up to days. The module component deals with "synoptic meteorology", i.e. the description of weather patterns as well as weather forecast. Next to numeric methods, meteorological measurement methods will be tested outdoors and measurement data that students gain themselves will be evaluated.

Intended learning outcomes

Students get profound insights into mechanisms of the weather variability on the basis of physical and mathematical explicit descriptions of atmospheric processes. In addition to the process understanding of complex systems, important skills in the area of quantitative and numeric processes will be acquired. Additionally, students have experiences of meteorological measurement technology and data analysis on the computer. Finally, the students should have the following competences: to detect and understand weather processes and, based on this, make planning decisions.

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

V (no information on SWS (weekly contact hours) and course language available)

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, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Soil and Landscape change			09-MBG1-102-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 lecture imparts students with knowledge of characteristic landscapes with focus on Central Europe. Thematically, soils, geology, geomorphology and landscape ecology in their interactions play an important role. Within the frame of the course, quaternary research questions are an important element. Besides the areal view, particularly time aspects of the landscape development will considered. The focus of the lecture will be on the importance of development processes of soils and landscapes and their impact on modern geoecological systems and on humans. Moreover, the importance of development processes, particularly with regard to natural hazards, will be covered for applied issues. Questions about the effects of human intervention and their importance for the landscape change will be discussed.

Intended learning outcomes

Students acquire consolidated knowledge by typical examples and contents of current research project in selected natural environment. Subareas of "Physical Geography" like soil, relief, geology and relevant processes in the natural environment should be presented in their interconnectedness. Hence, the focus of the course lies on the learning and recognising of interactions. Scientific findings will be shown by examples of current research and students will be introduced to the respective research state. Next the usage of basic course books, the work with international scientific articles will be very important.

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

V (no information on SWS (weekly contact hours) and course language available)

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, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Soil geography: Lab-analytical and microscopical training course			09-MBG2-131-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 tutorial provides students with knowledge of fundamental and further studies in the lab and on the microscope. The focus of the studies is soils and quaternary sediments. The tutorials start with country courses or field trips. The samples that students take themselves will be processed through the use of sedimentological and pedochemical analyses in the lab. Furthermore, methods of heavy mineral analysis and/or micromorphology can be learned during the tutorial. The results of country and laboratory data will be united at the end of the tutorial and evaluated by students independently.

Intended learning outcomes

Students will learn the different methods of field, laboratory and microscopy analyses. The focus of the tutorial will be the independent processing of applied issues of Physical Geography as well as their implementation and evaluation as a presentation and a project report at the end of the tutorial. Students should be able to apply practical methods and process applied issues independently and thus, will be prepared for the thesis as well as the dealing with vocational-related topics

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

Ü (no information on SWS (weekly contact hours) and course language available)

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 project report (approx. 10 pages), weighted 1:1
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Work placement / Professional practical training for Students of Applied Physical Geography			09-MBPR-102-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)**	
10	(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 working 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. Qualified vocational knowledge can be acquired by learning or consolidating of methods

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

P (no information on SWS (weekly contact hours) and course language available)

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)

placement report / fieldwork report / report on practical training / report on practical course / project report / report on technical course (approx. 20 pages)
Language of assessment: German, English

Allocation of places

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Additional information

Additional information on module duration: approx. 8 weeks.

Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Methods in Physical Geography - Practice- and consolidating 1			09-MethV-M1-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

Courses that consolidate skills of geographical methods and their application, e.g. thematised 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 have consolidated knowledge 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)

S (no information on SWS (weekly contact hours) and course language available)

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) project report (approx. 15 pages) and poster presentation (approx. 10 minutes), weighted 1:1 or b) presentation (approx. 15 minutes) with written elaboration (approx. 15 pages), weighted 1:1 or c) approx. 30 hours of practice work (approx. 5 pieces of practice work to be completed)

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Methods in Physical Geography: Practice- and consolidating 2			09-MethV-M2-131-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	Please consult with course advisory service in advance. Recognition by examination committee.	

Contents

Courses that consolidate skills of geographical methods and their application, e.g. thematised 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 have consolidated knowledge 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)

S (no information on SWS (weekly contact hours) and course language available)

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) project report (approx. 15 pages) and poster presentation (approx. 10 minutes), weighted 1:1 or b) presentation (approx. 15 minutes) with written elaboration (approx. 15 pages), weighted 1:1 or c) approx. 30 hours of practice work (approx. 5 pieces of practice work to be completed)

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Geology of mineral deposits			09-MLG1-102-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 deposits 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 fundamental and respective basics, according to the state of research, by the means of current examples during "deposit geology". 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 (no information on SWS (weekly contact hours) and course language available)

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 (30 minutes) or oral examination of one candidate each (approx. 30 minutes)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Mineral exploration methods			09-MLG2-131-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 geophyisical 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

According to the state of research, students acquire respective basics of common, modern methods for the exploration and assessment of 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)

Ü (no information on SWS (weekly contact hours) and course language available)

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. 10 to 15 pages) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate each)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)

Module title			Abbreviation
Geoinformatics / GIS / Data bank management			09-MMT7-102-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

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 (no information on SWS (weekly contact hours) and course language available)

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)

practice work (approx. 15 pages) and oral examination of one candidate each (approx. 15 minutes), weighted 1:1
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2010)
Master's degree (1 major) Applied Physical Geography (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Special Issues of Advanced Physical Geography I			09-MPG4-102-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

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 knowledge of 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 (no information on SWS (weekly contact hours) and course language available)

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) with written elaboration (approx. 30 pages), weighted 1:1
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Special Issues of Advanced Physical Geography II			09-MPG5-102-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

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 write 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 topics 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 knowledge of 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 (no information on SWS (weekly contact hours) and course language available)

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) with written elaboration (approx. 30 pages), weighted 1:1
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Applied Project: Change and protection of geosystems			09-MPP1-102-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)**	
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 scientific 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 write a comprehensive master's thesis.

Intended learning outcomes

Students acquire in-depth knowledge of the advanced application of 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)

P (no information on SWS (weekly contact hours) and course language available)

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)

project report (approx. 30 pages)
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Statistics 3			09-MSTAT3-102-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

Geoscientific issues will often be studied with the help of larger data sets. Already at the level of the master's thesis, the use of univariate and multivariate processes of statistic, which can only be implemented on the computer due to the amount of data, will be necessary in certain cases - particularly to "Climatology and Remote Sensing" - the amount of data is as large or in some cases too specific that common statistical programmes like SPSS, R, S or even Excel cannot be used. 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 uni and multivariate statistics, which has been acquired during the B.A., the module "Statistics III" will provide students with qualifications in the area of applying statistical processes. Next to the statistical-methodological aspects, programming skills will be implemented, as it is more and more a key qualification for geographers in the vocational and research fields. Processes, which are listed in the module component description, will be applied to current examples from the geographical research and practice in order to serve students as a target-oriented preparation for the master's thesis.

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

Ü (no information on SWS (weekly contact hours) and course language available)

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)

practice work (approx. 15 pages) and oral examination of one candidate each or oral examination in groups (approx. 15 minutes per candidate each), weighted 1:1
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2010)
Master's degree (1 major) Applied Physical Geography (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Remote Sensing of land surface parameters			09-RELA1-102-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

The module deals with the remote sensing acquisition of the land surface and characterisation or quantification of relevant state variables. The main focus and perspective will be on their function as resource. The course provides students with methods for the acquisition of surface types like vegetation, water, soil, and urban areas as well as parametrisations for quantification and characterisation of conditions of different surface types (including vegetation and soil parameters, sealing level). Furthermore, students will be provided with methodological competences of landscape analysis (e.g. analysis of location relation, fragmentation of landscape elements, urban structure) as well as (inter) national evaluation approach, monitoring process and programmes and practical application example that will be covered.

Intended learning outcomes

Students acquire skills of methodological aspects and substantive assessment of parameters of the land surface against the background of different geographical cases of application. Thus, the basics for the understanding of remote sensing datasets and methods as well as the observed processes on land surfaces will be created. Through the kind and complexity of the issues, the interdisciplinary work will be encouraged.

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

Ü (no information on SWS (weekly contact hours) and course language available)

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)

project report (approx. 20 pages) or poster
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)

Module title			Abbreviation
Dynamics of the land surfaces			09-RELA2-102-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

The module focuses on the remote sensing acquisition of land coverage and the temporal change (inter and intraannual vegetation dynamics) from a subcontinental up to a global scale. The gained knowledge about dynamics of the land surface will be consolidated on the basis of issues about the climate change (interaction of land surface with the atmosphere), the sustainable land and water management, the land degradation and desertification as well as the biodiversity research. Methodologically, the focus will be on the multitemporal derivation and evaluation of geo and biophysical parameters, remote sensing quantification of flow of substances on Earth's surface (CO_2, energy balance) and on scale transitions.

Intended learning outcomes

Students acquire methodological and advanced content-related competencies in order to be able to acquire and evaluate dynamics of the land surface from different perspectives. Thanks to the type and complexity of the precisely selected current issues of global change, interdisciplinary approaches and strategies will be encouraged

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

Ü (no information on SWS (weekly contact hours) and course language available)

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)

project report (approx. 20 pages) or poster
Language of assessment: German, English

Allocation of places

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Additional information

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Workload

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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 (2013)
Master's degree (1 major) Applied Physical Geography (2010)