

Module Catalogue

for the Module studies (Bachelor)

Geography

Examination regulations version: 2020 Responsible: Faculty of Arts, Historical, Philological, Cultural and Geographical Studies Responsible: Institute of Geography and Geology

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record MB|050|-|-|H|2020

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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Abbreviations used

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Course types: \mathbf{E} = field trip, \mathbf{K} = colloquium, \mathbf{O} = conversatorium, \mathbf{P} = placement/lab course, \mathbf{R} = project, \mathbf{S} = seminar, \mathbf{T} = tutorial, $\ddot{\mathbf{U}}$ = exercise, \mathbf{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:

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

15-May-2019 (2019-36) 27-Jun-2019 (2019-41) 14-Nov-2019 (2019-52) 22-Jan-2020 (2020-13) 06-May-2020 (2020-39) 22-Jul-2020 (2020-57) 17-Dec-2020 (2020-110) 10-Mar-2021 (2021-17)

Geography (2020)

o9-Jun-2021 (2021-58) 22-Dec-2021 (2021-85) o5-Jul-2022 (2022-52) 31-Jan-2023 (2022-86) 15-Jun-2023 (2023-58) 13-Dec-2023 (2023-107) o7-Aug-2024 (2024-82) 22-Jan-2025 (2025-1)

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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.



Winter Term 2020

Module title					Abbreviation		
Applic	Applications of Remote Sensing in Geography				04-Geo-FERNA-152-mo1		
Module coordinator				Module offered by	/		
holder	ofthe	Professorship of Remote	Sensing	Institute of Geogra	aphy and Geology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
5	nume	rical grade					
Durati	on	Module level	Other prerequisites				
1 seme	ester	undergraduate					
Conter	nts						
topics atmos	are ana pheric d	alogue, visual image inte correction. A focus lies or	rpretation, digital ima the digital remote se	age processing (cali ensing based mapp	tion systems) is given. Following ibration, transformation, filter) and bing, i.e. spectral analysis, classifi- ing parameters is conveyed.		
Intend	ed lear	ning outcomes					
reflect	their es	ssential characteristics.	They summarise funda	amental aspects of	ney explain geographical data and (digital) image processing and as- g data for geographical questions.		
Course	es (type, 1	number of weekly contact hours,	language — if other than Ger	rman)			
V (2) + Modul		t in: German and/or Eng	lish				
		S essment (type, scope, langua ole for bonus)	age — if other than German,	examination offered — if i	not every semester, information on whether		
Langua		nation (approx. 45 minut issessment: German and bonus					
Alloca	tion of	places					
Additi	onal inf	ormation					
Workload							
150 h							
Teaching cycle							
Referr	ed to in	LPO I (examination regulation	is for teaching-degree progra	ammes)			

Modul	e title			Abbreviation		
Introd	uction t	o Geographical Remote S	Sensing		04-Geo-FERNE-152-m01	
Modul	e coord	inator		Module offered by	<u> </u>	
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra		
ECTS	1	od of grading	Only after succ. con	-		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing dat	ote sensing: radiation laws, radi- a, platforms and sensors (passive ar interferometry / basics for re-	
	-	ning outcomes				
					e radiation path through the atmo se essential characteristics of re-	
		data, sensors and platfo		nsor, mey emphasis	של בששרווומו נוומומנופווצנונצ 10 ופ-	
		number of weekly contact hours, I		rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
		nation (approx. 45 minut	es)			
Langua	age of a	ssessment: German and				
	ble for					
Alloca	tion of p	blaces				
Additio	onal inf	ormation				
	ad					
Workload						
150 h						
Teaching cycle						
Poforr	ad to in	LPO I (examination regulation	for toaching dograa not	ummos)		
§ 66		LIVI (examination regulation	s for teaching-degree progra	mmes <i>j</i>		
3 00 1	NI. 2					

Module title					Abbreviation
Remote Sensing in Resource Management				04-Geo-FIR-152-m01	
Module coordinator				Module offered by	
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
sing for surface face pa sing for tasks o health i drainag sive gro vant pa Intende The stu first tim	the mo are exa ramete enviro f nature manage ge areas owth mo ramete ed learr dents o e and o	onitoring of environment amined, including: Urbar ers such as imperviousne nmental monitoring, suc e conservation like habit ement / hydrological app s or flood mapping and w onitoring and drought for ers are presented in detai hing outcomes describe, illustrate, expla evaluate the value of ear	ally relevant processe applications such a ss and thermal extine h as assessment and at designation by mo clications of remote s vater masks / agricult recasts to precision fa l and the spectrum o in, and question thir th observation for an	es in the oceans, the s urban growth and ction of surfaces are l long-term observat delling of species di ensing such as para cural applications fro arming. For the respect f methods is deduced d party's research re swering geographica	sults in remote sensing for the
	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
S (2) Module	taught	t in: German and/or Engl	ish		
Method	l of ass	-		examination offered — if no	ot every semester, information on whether
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of p	olaces			
max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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.					
Additio	nal info	ormation			
Workload					
150 h					
Teaching cycle					
 Referre 	d to in	LPOI (examination regulation:	s for teaching-degree progra	mmes)	

Module title Abbreviati					Abbreviation	
Metho	ds for A	Analysing Remote Sensin	g Data		04-Geo-MFD-152-m01	
Module	Module coordinator			Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	undergraduate				
Conten	Its					
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information	
Intend	ed lear	ning outcomes				
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
S (2) + Module		t in: German and/or Engl	ish			
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)		
Allocat	ion of _l	places				
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.	
Additio	onal inf	ormation				
Worklo	Workload					
150 h						
Teachi	Teaching cycle					
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)		

Module title Abbreviation						
Scientific Writing and Presentation Skills in Earth Sciences 04-Geo-WAG-152-mo1						
Modul	e coord	inator		Module offered by		
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
		be provided with basics or riting of scientific texts a			udes dealing with literature, con- versity style.	
Intend	ed lear	ning outcomes				
	s and o				ne fundamental design of scienti- ell as the necessary information	
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Ge	rman)		
T (2) Module	e taugh	t in: German and/or Engl	ish			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		vith or without slides (ap ssessment: German and bonus				
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Workload						
150 h						
Teaching cycle						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)		



Summer Term 2021

Module title					Abbreviation	
Applic	ations o	of Remote Sensing in Geo	ography		04-Geo-FERNA-152-m01	
Modul	e coord	inator		Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil prosing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.	
Intend	ed lear	ning outcomes				
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		nation (approx. 45 minut ssessment: German and bonus				
Alloca	tion of _l	olaces				
Additi	onal inf	ormation				
Workload						
150 h						
Teaching cycle						
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		

Modul	Module title				Abbreviation	
Introdu	uction t	o Geographical Remote S	Sensing		04-Geo-FERNE-152-mo1	
Modul	e coord	inator		Module offered by	y	
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	aphy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
ant ten and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing da	ote sensing: radiation laws, radi- ta, platforms and sensors (passive lar interferometry / basics for re-	
Intend	ed lear	ning outcomes				
sphere	to the		n and back to the ser		e radiation path through the atmo ise essential characteristics of re-	
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
V (2) + Module		t in: German and/or Engl	ish			
		essment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if	not every semester, information on whether	
Langua		nation (approx. 45 minute ssessment: German and, bonus				
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Workload						
150 h						
Teaching cycle						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
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Module title					Abbreviation
Remote Sensing in Resource Management				04-Geo-FIR-152-m01	
Module coordinator				Module offered by	
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
sing for surface face pa sing for tasks o health i drainag sive gro vant pa Intende The stu first tim	the mo are exa ramete enviro f nature manage ge areas owth mo ramete ed learr dents o e and o	onitoring of environment amined, including: Urbar ers such as imperviousne nmental monitoring, suc e conservation like habit ement / hydrological app s or flood mapping and w onitoring and drought for ers are presented in detai hing outcomes describe, illustrate, expla evaluate the value of ear	ally relevant processe applications such a ss and thermal extine h as assessment and at designation by mo clications of remote s vater masks / agricult recasts to precision fa l and the spectrum o in, and question thire th observation for an	es in the oceans, the s urban growth and ction of surfaces are l long-term observat delling of species di ensing such as para cural applications fro arming. For the respect f methods is deduced d party's research re swering geographica	sults in remote sensing for the
	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
S (2) Module	taught	t in: German and/or Engl	ish		
Method	l of ass	-		examination offered — if no	ot every semester, information on whether
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of p	olaces			
max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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.					
Additio	nal info	ormation			
Workload					
150 h					
Teaching cycle					
 Referre 	d to in	LPOI (examination regulation:	s for teaching-degree progra	mmes)	

Module title Abbrevia					Abbreviation	
Metho	ds for A	Analysing Remote Sensin	g Data		04-Geo-MFD-152-m01	
Modul	e coord	linator		Module offered by	1	
holder	ofthe	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ester	undergraduate				
Conter	nts					
mation assess change	n extrac sment / e detec	tion (rationing, indices, t pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information	
Intend	ed lear	ning outcomes				
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.	
Course	es (type, 1	number of weekly contact hours, l	anguage — if other than Ge	rman)		
S (2) + Modul		t in: German and/or Engl	ish			
		s essment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
Langua	age of a	(approx. 45 minutes) with assessment: German and, offered: Once a year, wint	/or English	(approx. 15 pages)		
Allocat	tion of	places				
ted acc progra	cording mme b	to the number of subject eing taken into account.	semesters with the i Among applicants wi	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.	
Additio	onal inf	ormation				
Worklo	oad					
150 h						
Teachi	Teaching cycle					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)		

Module title Abbreviation					
Scientific Writing and Presentation Skills in Earth Sciences04-Geo-WAG-152-mo1					
Module coordinator				Module offered by	,
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ester	undergraduate			
Conter	nts				
		be provided with basics o riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Ge	rman)	
T (2) Module	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether
Langua		vith or without slides (ap ssessment: German and bonus			
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
	_				
Worklo	bad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	



Winter Term 2021

Module title					Abbreviation	
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01	
Modul	e coord	inator		Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil prosing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.	
Intend	ed lear	ning outcomes				
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		nation (approx. 45 minut ssessment: German and bonus				
Alloca	tion of _l	olaces				
Additi	onal inf	ormation				
Worklo	oad					
150 h	150 h					
Teachi	ng cycl	e				
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		

Module title					Abbreviation
Introdu	uction t	o Geographical Remote S	Sensing		04-Geo-FERNE-152-mo1
Modul	e coord	inator		Module offered by	y
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	aphy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
ant ten and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing da	ote sensing: radiation laws, radi- ta, platforms and sensors (passive lar interferometry / basics for re-
Intend	ed lear	ning outcomes			
sphere	to the		n and back to the ser		e radiation path through the atmo ise essential characteristics of re-
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
V (2) + Module		t in: German and/or Engl	ish		
		essment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if	not every semester, information on whether
Langua		nation (approx. 45 minute ssessment: German and, bonus			
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
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Module	Module title Abbreviation						
Remote Sensing in Resource Management					04-Geo-FIR-152-m01		
Module	coord	inator		Module offered by			
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology		
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)			
5	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 semes	ster	undergraduate					
Conten	ts						
gies is of sing for surface face pa sing for tasks of health in drainag sive gro vant pa Intende The stu first tim	Against the background of geographical questions, the spectrum of opportunities for remote sensing technolo- gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions. Courses (type, number of weekly contact hours, language — if other than German)						
S (2) Module	taugh	t in: German and/or Engli	ish				
Method	l of ass			examination offered — if no	t every semester, information on whether		
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)			
Allocati	ion of p	olaces					
ted accor program be alloc	max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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.						
Additio	nal inf	ormation					
 Worklo	ad						
150 h	<u></u>						
Teachin	ng cycl	e					
Referre	d to in	LPO I (examination regulations	for teaching-degree progra	mmes)			
		_					

Module title Ab					Abbreviation
Metho	ds for A	Analysing Remote Sensin		04-Geo-MFD-152-m01	
Module coordinator Module				Module offered by	
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Module title Abbreviation					
Scient	ific Wri	ting and Presentation Sk	5	04-Geo-WAG-152-m01	
Module coordinator				Module offered by	,
holder of the Professorship of Geography and Regional Science			hy and Regional	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts				
		be provided with basics o riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
T (2) Modul	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether
Langua		with or without slides (ap ssessment: German and bonus			
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	



Summer Term 2022

Module title					Abbreviation	
Applications of Remote Sensing in Geography					04-Geo-FERNA-152-mo1	
Modul	e coord	inator		Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
graphic topics atmosp cation	cal data are ana pheric c and ch	a, metadata, spatial over Ilogue, visual image inte correction. A focus lies of ange detection. Furthern	laying of geodata, geo rpretation, digital ima n the digital remote se	ographical informating processing (calil ensing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.	
Intend	ed lear	ning outcomes				
reflect	their es	ssential characteristics.	They summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.	
Course	es (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
V (2) + Module		t in: German and/or Eng	lish			
		sessment (type, scope, languale for bonus)	age — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		nation (approx. 45 minut ssessment: German and bonus				
Allocat	tion of _l	places				
Additio	onal inf	ormation				
Worklo	Workload					
150 h	150 h					
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ummes)		

Module title					Abbreviation
Introdu	uction t	o Geographical Remote S	Sensing		04-Geo-FERNE-152-mo1
Modul	e coord	inator		Module offered by	y
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	aphy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
ant ten and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing da	ote sensing: radiation laws, radi- ta, platforms and sensors (passive lar interferometry / basics for re-
Intend	ed lear	ning outcomes			
sphere	to the		n and back to the ser		e radiation path through the atmo ise essential characteristics of re-
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
V (2) + Module		t in: German and/or Engl	ish		
		essment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if	not every semester, information on whether
Langua		nation (approx. 45 minute ssessment: German and bonus			
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
§ 66 1	Vr 2				

Module title Abbreviation						
Remote Ser	nsing in Resource Managem	nent		04-Geo-FIR-152-m01		
Module coo	ordinator		Module offered by			
holder of th	e Professorship of Remote	Sensing	Institute of Geograp	bhy and Geology		
ECTS Met	thod of grading	Only after succ. com	npl. of module(s)			
5 nun	nerical grade					
Duration	Module level	Other prerequisites				
1 semester	undergraduate					
Contents						
gies is deve sing for the surface are face paramo sing for env tasks of nat health man drainage are sive growth vant paramo Intended le The student first time are	Against the background of geographical questions, the spectrum of opportunities for remote sensing technolo- gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions.					
S (2)	e, number of weekly contact hours, l		inun)			
	ght in: German and/or Engli					
	assessment (type, scope, langua itable for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
Language o	n (approx. 45 minutes) with f assessment: German and/ t offered: Once a year, winte	or English	approx. 15 pages)			
Allocation of	of places					
ted accordin programme	max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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 i	information					
Workload						
	150 h					
Teaching cy						
 Doformed to		for the set of the set				
Referred to	in LPO I (examination regulations	s for teaching-degree progra	mmes)			

Module title Ab					Abbreviation
Metho	ds for A	Analysing Remote Sensin		04-Geo-MFD-152-m01	
Module coordinator Module				Module offered by	
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Module title Abbreviation					
Scient	ific Wri	ting and Presentation Sk	5	04-Geo-WAG-152-m01	
Module coordinator				Module offered by	,
holder of the Professorship of Geography and Regional Science			hy and Regional	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts				
		be provided with basics o riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
T (2) Modul	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether
Langua		with or without slides (ap ssessment: German and bonus			
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	



Winter Term 2022

Module title					Abbreviation	
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01	
Modul	e coord	inator		Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil processing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.	
Intend	ed lear	ning outcomes				
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		nation (approx. 45 minut ssessment: German and bonus				
Alloca	tion of _l	olaces				
Additi	onal inf	ormation				
Worklo	oad					
150 h	150 h					
Teachi	ng cycl	e				
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		

Module title					Abbreviation	
Introd	Introduction to Geographical Remote Sensing 04-Geo-FERNE-152-mo1					
Module coordinator				Module offered by	y	
holder	of the F	Professorship of Remote	Sensing	Institute of Geography and Geology		
ECTS				ucc. compl. of module(s)		
5	nume	rical grade				
Duration Module level Other prerequisites						
1 semester undergraduate						
Conter	nts					
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	s: characterisation of and LiDAR) / radar re	remote sensing da	ote sensing: radiation laws, radi- ta, platforms and sensors (passive dar interferometry / basics for re-	
		ning outcomes				
sphere	to the	object under investigatio	on and back to the se		e radiation path through the atmo ise essential characteristics of re-	
		data, sensors and platfo				
		number of weekly contact hours,	language — If other than Gei	rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if	not every semester, information on whether	
		nation (approx. 45 minut	es)			
Langua		ssessment: German and				
Alloca	tion of p	olaces				
Additi	onal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	е				
Referr	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)		
§ 66 I I	Nr. 2					

Module title Abbreviation						
Remote Sensing in Resource Management					04-Geo-FIR-152-m01	
Module coordinator				Module offered by		
holder of the Professorship of Remote Sensing			Sensing	Institute of Geography and Geology		
ECTS Method of grading Or			Only after succ. compl. of module(s)			
5 numerical grade						
Duration Mo		Module level	Other prerequisites			
1 semester undergraduate						
Conten	ts					
Against the background of geographical questions, the spectrum of opportunities for remote sensing technolo- gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions. Courses (type, number of weekly contact hours, language – if other than German) S (2)						
		t in: German and/or Engli				
		ESSMENT (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
presentation (approx. 45 minutes) with related term paper (approx. 15 pages) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
Allocation of places						
max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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						
Workload						
150 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						

Module title Abbreviation					Abbreviation	
Methods for Analysing Remote Sensing Data 04-Geo-MFD-152-m01					04-Geo-MFD-152-m01	
Module coordinator				Module offered by		
holder	holder of the Professorship of Remote Sensing			Institute of Geography and Geology		
ECTS	Methe	od of grading	Only after succ. compl. of module(s)			
5	nume	rical grade				
Duration Module level Other prerequisi			Other prerequisites	es		
1 semester undergraduate						
Conten	Contents					
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information	
Intend	ed lear	ning outcomes				
The students apply fundamental methods for the processing and analysis of mainly optical earth observation da- ta. They create maps from remotes sensing data self-reliantly and interpret the results.						
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
S (2) + Module		t in: German and/or Engl	ish			
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
presentation (approx. 45 minutes) with related term paper (approx. 15 pages) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
Allocat	ion of _l	places				
max. 20 places. Should the number of applications exceed the number of available places, places will be alloca- ted according to the number of subject semesters with the individual student's progression through their degree programme being taken into account. 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						
Workload						
150 h						
Teaching cycle						
-						
Referred to in LPO I (examination regulations for teaching-degree programmes)						

Module title Abbreviation						
Scientific Writing and Presentation Skills in Earth Sciences 04-Geo-WAG-152-mo1						
Module coordinator				Module offered by		
holder of the Professorship of Geography and Regional Science				Institute of Geography and Geology		
ECTS	Meth	od of grading	Only after succ. compl. of module(s)			
5	(not)	successfully completed				
Durati	ration Module level Other prerequisites					
1 seme	ester	undergraduate				
Conter	nts					
		be provided with basics o riting of scientific texts a			udes dealing with literature, con- versity style.	
Intend	ed lear	ning outcomes				
Students achieve basics concerning methods of scientific work. This refers to the fundamental design of scienti- fic texts and oral presentations, application adequate working techniques as well as the necessary information competence. Courses (type, number of weekly contact hours, language – if other than German)						
T (2)		t in: German and/or Engl				
		Sessment (type, scope, langua Ile for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether	
Langua		with or without slides (ap ssessment: German and bonus				
Allocat	tion of _l	olaces				
Additio	onal inf	ormation				
Workload						
150 h						
Teachi	ng cycl	e				
Referred to in LPO I (examination regulations for teaching-degree programmes)						



Summer Term 2023

Module title					Abbreviation
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01
Module coordinator Module of					
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil processing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.
Intend	ed lear	ning outcomes			
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		nation (approx. 45 minut ssessment: German and bonus			
Alloca	tion of _l	olaces			
Additi	onal inf	ormation			
Worklo	oad				
150 h					
Teachi	ng cycl	e			
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)	

Module title					Abbreviation	
Introduction to Geographical Remote Sensing 04-Geo-FERNE-152-mo1					04-Geo-FERNE-152-mo1	
Module coordinator				Module offered by	<u> </u>	
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra		
ECTS	1	od of grading	Only after succ. con	-		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing dat	ote sensing: radiation laws, radi- a, platforms and sensors (passive ar interferometry / basics for re-	
	-	ning outcomes				
					e radiation path through the atmo se essential characteristics of re-	
		data, sensors and platfo		nsor, mey emphasis	של בששרווומו נוומומנופווצנונצ 10 ופ-	
		number of weekly contact hours, I		rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
		nation (approx. 45 minut	es)			
Langua	age of a	ssessment: German and				
	ble for					
Alloca	tion of p	blaces				
Additio	onal inf	ormation				
	ad					
Workle	Dad					
150 h	nacuel					
reach	ng cycl	e				
Poforr	ad to in	LPO I (examination regulation	for toaching dograa not	ummos)		
§ 66		LIVI (examination regulation	s for teaching-degree progra	mmes <i>j</i>		
3 00 1	NI. 2					

Module title Abbr					Abbreviation		
Remote Sensing in Resource Management				04-Geo-FIR-152-m01			
Module coordinator				Module offered by			
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
5	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 semes	ster	undergraduate					
Conten	ts						
gies is of sing for surface face pa sing for tasks of health in drainag sive gro vant pa Intende	Against the background of geographical questions, the spectrum of opportunities for remote sensing technolo- gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the						
		evaluate the value of ear			al research questions.		
S (2)	5 (type, fi	under of weekly contact hours, t					
	taugh	t in: German and/or Engl	ish				
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)			
Allocati	ion of p	olaces					
ted acc progran	ording nme be	to the number of subject eing taken into account. A	semesters with the i mong applicants wit	ndividual student's h the same number	ble places, places will be alloca- progression through their degree of subject semesters, places will ot as they become available.		
Additio	nal inf	ormation					
Worklo	ad						
150 h							
Teachir	ng cycl	e					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)			

Module	e title				Abbreviation
Metho	ds for A	Analysing Remote Sensin		04-Geo-MFD-152-m01	
Module	e coord	inator		Module offered by	
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Modul	e title				Abbreviation
Scient	ific Writ	ing and Presentation Sk	ills in Earth Sciences		04-Geo-WAG-152-m01
Modul	e coord	inator		Module offered by	,
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ester	undergraduate			
Conter	nts				
		be provided with basics o riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Ge	rman)	
T (2) Module	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether
Langua		vith or without slides (ap ssessment: German and bonus			
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	bad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	



Winter Term 2023

Module title					Abbreviation
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01
Module coordinator Module of					
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil prosing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.
Intend	ed lear	ning outcomes			
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		nation (approx. 45 minut ssessment: German and bonus			
Alloca	tion of _l	olaces			
Additi	onal inf	ormation			
Worklo	oad				
150 h					
Teachi	ng cycl	e			
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)	

Module title					Abbreviation	
Introduction to Geographical Remote Sensing 04-Geo-FERNE-152-mo1					04-Geo-FERNE-152-mo1	
Module coordinator				Module offered by	<u> </u>	
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra		
ECTS	1	od of grading	Only after succ. con	-		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing dat	ote sensing: radiation laws, radi- a, platforms and sensors (passive ar interferometry / basics for re-	
	-	ning outcomes				
					e radiation path through the atmo se essential characteristics of re-	
		data, sensors and platfo		nsor, mey emphasis	של בששרווומו נוומומנופווצנונצ 10 ופ-	
		number of weekly contact hours, I		rman)		
V (2) + Modul		t in: German and/or Engl	ish			
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
		nation (approx. 45 minut	es)			
Langua	age of a	ssessment: German and				
	ble for					
Alloca	tion of p	blaces				
Additio	onal inf	ormation				
	ad					
Workle	Dad					
150 h	nacuel					
reach	ng cycl	e				
Poforr	ad to in	LPO I (examination regulation	for toaching dograa not	ummos)		
§ 66		LIVI (examination regulation	s for teaching-degree progra	mmes <i>j</i>		
3 00 1	INI. 2					

Module title Abbreviation						
Remote	Sensi	ng in Resource Managen	ient		04-Geo-FIR-152-m01	
Module	coord	inator		Module offered by		
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
sing for surface face pa sing for tasks o health i drainag sive gro vant pa Intende The stu first tim	the mo are exa ramete enviro f nature manage ge areas owth mo ramete ed learr dents o e and o	onitoring of environment amined, including: Urbar ers such as imperviousne nmental monitoring, suc e conservation like habit ement / hydrological app s or flood mapping and w onitoring and drought for ers are presented in detai hing outcomes describe, illustrate, expla evaluate the value of ear	ally relevant processe applications such a ss and thermal extine h as assessment and at designation by mo clications of remote s vater masks / agricult recasts to precision fa l and the spectrum o in, and question thire th observation for an	es in the oceans, the s urban growth and ction of surfaces are l long-term observat delling of species di ensing such as para cural applications fro arming. For the respect f methods is deduce d party's research re swering geographica	sults in remote sensing for the	
	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
S (2) Module	taught	t in: German and/or Engl	ish			
Method	l of ass	-		examination offered — if no	ot every semester, information on whether	
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)		
Allocat	ion of p	olaces				
ted acc progran be alloc	ording nme be cated b	to the number of subject sing taken into account. A y lot. A waiting list will be	semesters with the i Among applicants wit	ndividual student's h the same number	able places, places will be alloca- progression through their degree of subject semesters, places will ot as they become available.	
Additio	nal info	ormation				
Worklo	ad					
150 h						
Teachir	ng cycl	9				
 Referre 	d to in	LPOI (examination regulation:	s for teaching-degree progra	mmes)		

Module	e title				Abbreviation
Metho	ds for A	Analysing Remote Sensin		04-Geo-MFD-152-m01	
Module	e coord	inator		Module offered by	
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Modul	e title				Abbreviation
Scient	ific Wri	ting and Presentation Sk	ills in Earth Sciences	5	04-Geo-WAG-232-mo1
Modul	e coord	inator		Module offered by	,
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts		·		
		be provided with basics or riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
T (2) Modul	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		rox. 15 hours total) ssessment: German and bonus	/or English		
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	



Summer Term 2024

Module title					Abbreviation
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01
Module coordinator Module of					
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil prosing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.
Intend	ed lear	ning outcomes			
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		nation (approx. 45 minut ssessment: German and bonus			
Alloca	tion of _l	olaces			
Additi	onal inf	ormation			
Worklo	oad				
150 h					
Teachi	ng cycl	e			
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)	

Module title					Abbreviation	
Introdu	uction t	o Geographical Remote S	Sensing		04-Geo-FERNE-152-mo1	
Modul	e coord	inator		Module offered by	y	
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	aphy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
ant ten and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing da	ote sensing: radiation laws, radi- ta, platforms and sensors (passive lar interferometry / basics for re-	
Intend	ed lear	ning outcomes				
sphere	to the		n and back to the ser		e radiation path through the atmo ise essential characteristics of re-	
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
V (2) + Module		t in: German and/or Engl	ish			
		essment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if	not every semester, information on whether	
Langua		nation (approx. 45 minute ssessment: German and, bonus				
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
§ 66 1	Vr 2					

Module	Module title Abbreviation					
Remote	Sensi	ng in Resource Managen	ient		04-Geo-FIR-152-m01	
Module	coord	inator		Module offered by		
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions.						
	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
S (2) Module	taught	t in: German and/or Engl	ish			
Method	l of ass	-		examination offered — if no	ot every semester, information on whether	
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)		
Allocat	ion of p	olaces				
ted acc progran be alloc	ording nme be cated b	to the number of subject sing taken into account. A y lot. A waiting list will be	semesters with the i Among applicants wit	ndividual student's h the same number	able places, places will be alloca- progression through their degree of subject semesters, places will ot as they become available.	
Additio	nal info	ormation				
Workload						
150 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						

Module title Abbreviation					Abbreviation
Methods for Analysing Remote Sensing Data04-Geo-MFD-152-m01					04-Geo-MFD-152-m01
Module coordinator Module offered					
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h	150 h				
Teachi	Teaching cycle				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Module title Abbreviation					
Scient	ific Wri	ting and Presentation Sk	ills in Earth Sciences	5	04-Geo-WAG-232-mo1
Modul	e coord	inator		Module offered by	,
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts		·		
		be provided with basics or riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
T (2) Modul	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		rox. 15 hours total) ssessment: German and bonus	/or English		
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teaching cycle					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	



Winter Term 2024

Module title					Abbreviation
Applications of Remote Sensing in Geography04-Geo-FERNA-152-mo1					04-Geo-FERNA-152-m01
Modul	e coord	inator		Module offered by	
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
graphi topics atmos	cal data are ana pheric c	a, metadata, spatial over llogue, visual image inter correction. A focus lies or	aying of geodata, geo pretation, digital ima the digital remote se	ographical informating processing (calil prosing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.
Intend	ed lear	ning outcomes			
reflect	their es	sential characteristics. T	hey summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		nation (approx. 45 minut ssessment: German and bonus			
Alloca	tion of _l	olaces			
Additi	onal inf	ormation			
Workload					
150 h					
Teaching cycle					
Referr	Referred to in LPO I (examination regulations for teaching-degree programmes)				

Module title Abbreviation					Abbreviation
Introduction to Geographical Remote Sensing 04-Geo-FERNE-152-mo1					04-Geo-FERNE-152-mo1
Modul	e coord	inator		Module offered by	<u> </u>
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	
ECTS	1	od of grading	Only after succ. con	-	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing dat	ote sensing: radiation laws, radi- a, platforms and sensors (passive ar interferometry / basics for re-
	-	ning outcomes			
					e radiation path through the atmo se essential characteristics of re-
		data, sensors and platfo		nsor, mey emphasis	של בששרווומו נוומומנופווצנונצ 10 ופ-
		number of weekly contact hours, I		rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
		nation (approx. 45 minut	es)		
Langua	age of a	ssessment: German and			
	ble for				
Alloca	tion of p	blaces			
Additio	onal inf	ormation			
	ad				
Workload					
150 h					
Teaching cycle					
Poforrod to in LDO L (maximum stars and the shine down and to be a local stars and to be a local stars and to be a local stars and the stars a					
Referred to in LPO I (examination regulations for teaching-degree programmes) § 66 Nr. 2					
3 00 1	NI. 2				

Module	Module title Abbreviation					
Remote	Sensi	ng in Resource Managen	ient		04-Geo-FIR-152-m01	
Module	coord	inator		Module offered by		
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	ohy and Geology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions.						
	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
S (2) Module	taught	t in: German and/or Engl	ish			
Method	l of ass	-		examination offered — if no	ot every semester, information on whether	
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)		
Allocat	ion of p	olaces				
ted acc progran be alloc	ording nme be cated b	to the number of subject sing taken into account. A y lot. A waiting list will be	semesters with the i Among applicants wit	ndividual student's h the same number	able places, places will be alloca- progression through their degree of subject semesters, places will ot as they become available.	
Additio	nal info	ormation				
Workload						
150 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						

Module title Abbreviation					Abbreviation
Methods for Analysing Remote Sensing Data04-Geo-MFD-152-m01					04-Geo-MFD-152-m01
Module coordinator Module offered					
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information
Intend	ed lear	ning outcomes			
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S (2) + Module		t in: German and/or Engl	ish		
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)	
Allocat	ion of _l	places			
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.
Additio	onal inf	ormation			
Worklo	ad				
150 h	150 h				
Teachi	Teaching cycle				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	

Module title Abbreviation					
Scient	ific Wri	ting and Presentation Sk	ills in Earth Sciences	5	04-Geo-WAG-232-mo1
Modul	e coord	inator		Module offered by	,
holder Scienc		Professorship of Geograp	hy and Regional	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts		·		
		be provided with basics or riting of scientific texts a			udes dealing with literature, con- versity style.
Intend	ed lear	ning outcomes			
	s and o				he fundamental design of scienti- vell as the necessary information
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
T (2) Modul	e taugh	t in: German and/or Engl	ish		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
Langua		rox. 15 hours total) ssessment: German and bonus	/or English		
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teaching cycle					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	



Summer Term 2025

Module title					Abbreviation	
Applications of Remote Sensing in Geography					04-Geo-FERNA-152-mo1	
Modul	e coord	inator		Module offered by		
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
graphic topics atmosp cation	cal data are ana pheric c and ch	a, metadata, spatial over Ilogue, visual image inte correction. A focus lies of ange detection. Furthern	laying of geodata, geo rpretation, digital ima n the digital remote se	ographical informating processing (calil ensing based mappi	er geoinformation in general (geo- ion systems) is given. Following oration, transformation, filter) and ing, i.e. spectral analysis, classifi- ng parameters is conveyed.	
Intend	ed lear	ning outcomes				
reflect	their es	ssential characteristics.	They summarise funda	amental aspects of	ey explain geographical data and (digital) image processing and as- data for geographical questions.	
Course	es (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
V (2) + Module		t in: German and/or Eng	lish			
		sessment (type, scope, languale for bonus)	age — if other than German,	examination offered — if n	ot every semester, information on whether	
Langua		nation (approx. 45 minut ssessment: German and bonus				
Allocat	tion of _l	places				
Additio	onal inf	ormation				
Worklo	Workload					
150 h						
Teachi	Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)						

Module title Abbreviation					Abbreviation
Introduction to Geographical Remote Sensing 04-Geo-FERNE-152-mo1					04-Geo-FERNE-152-mo1
Modul	e coord	inator		Module offered by	<u> </u>
holder	of the F	Professorship of Remote	Sensing	Institute of Geogra	
ECTS	1	od of grading	Only after succ. con	-	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
ant ter and ac mote s	nperatu tive sys ensing	re, emissivity / detectors tems, e.g. hyperspectral parameters (land, atmos	: characterisation of and LiDAR) / radar re	remote sensing dat	ote sensing: radiation laws, radi- a, platforms and sensors (passive ar interferometry / basics for re-
	-	ning outcomes			
					e radiation path through the atmo se essential characteristics of re-
		data, sensors and platfo		nsor, mey emphasis	של בששרווומו נוומומנופווצנונצ 10 ופ-
		number of weekly contact hours, I		rman)	
V (2) + Modul		t in: German and/or Engl	ish		
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether
		nation (approx. 45 minut	es)		
Langua	age of a	ssessment: German and			
	ble for				
Alloca	tion of p	blaces			
Additio	onal inf	ormation			
	ad				
Workload					
150 h					
Teaching cycle					
Poforrod to in LDO L (maximum stars and the shine down and to be a local stars and to be a local stars and to be a local stars and the stars a					
Referred to in LPO I (examination regulations for teaching-degree programmes) § 66 Nr. 2					
3 00 1	INI. 2				

Module title Abbreviation					Abbreviation	
Remote	e Sensi	ng in Resource Managen	ient		04-Geo-FIR-152-m01	
Module	coord	inator		Module offered by		
holder	of the F	Professorship of Remote	Sensing	Institute of Geograp	bhy and Geology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
gies is o sing for surface face pa sing for tasks of health r drainag sive gro vant pa Intende The stu first tim	Against the background of geographical questions, the spectrum of opportunities for remote sensing technolo- gies is developed within this module. According to the student's topic choices, different aspects of remote sen- sing for the monitoring of environmentally relevant processes in the oceans, the atmosphere and on the land surface are examined, including: Urban applications such as urban growth and urban climate, whereby land sur- face parameters such as imperviousness and thermal extinction of surfaces are further deepened / remote sen- sing for environmental monitoring, such as assessment and long-term observation of conventions, support of tasks of nature conservation like habitat designation by modelling of species distributions / remote sensing in health management / hydrological applications of remote sensing such as parameters for modelling run-off in drainage areas or flood mapping and water masks / agricultural applications from crop mapping through exten- sive growth monitoring and drought forecasts to precision farming. For the respective fields of application, rele- vant parameters are presented in detail and the spectrum of methods is deduced. Intended learning outcomes The students describe, illustrate, explain, and question third party's research results in remote sensing for the first time and evaluate the value of earth observation for answering geographical research questions. Courses (type, number of weekly contact hours, language – if other than German)					
		t in: German and/or Engli				
		ESSMENT (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
Langua	ge of a	approx. 45 minutes) with ssessment: German and, ffered: Once a year, winte	or English	approx. 15 pages)		
Allocati	ion of p	olaces				
ted acc progran be alloc	ording nme be cated b	to the number of subject eing taken into account. A y lot. A waiting list will be	semesters with the i Among applicants wit	ndividual student's h the same number	ble places, places will be alloca- progression through their degree of subject semesters, places will ot as they become available.	
Additio	nal inf	ormation				
 Workload						
150 h						
Teachir	ng cycl	e				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					

Module title Abbreviation					Abbreviation	
Methods for Analysing Remote Sensing Data04-Geo-MFD-152-m01					04-Geo-MFD-152-m01	
Module coordinator Module offered						
holder	of the l	Professorship of Remote	Sensing	Institute of Geogra	phy and Geology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	undergraduate				
Conten	Its					
mation assess change	extrac ment / detect	tion (rationing, indices, to pixel based vs. object-or	ransformations) / cla iented analysis / mu	ssification of remote lti-temporal data an	vsis of spectral profiles / infor- e sensing data and accuracy alysis (time series generation, on in geographical information	
Intend	ed lear	ning outcomes				
		apply fundamental metho e maps from remotes sen			ainly optical earth observation da- results.	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
S (2) + Module		t in: German and/or Engl	ish			
		s essment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
Langua	age of a	(approx. 45 minutes) with ussessment: German and, uffered: Once a year, winte	or English	approx. 15 pages)		
Allocat	ion of _l	places				
ted acc program	ording	to the number of subject eing taken into account. A	semesters with the i Among applicants with	individual student's th the same number	able places, places will be alloca- progression through their degree of subject semesters, places will lot as they become available.	
Additio	onal inf	ormation				
Worklo	ad					
150 h	150 h					
Teachi	Teaching cycle					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					

Module title					Abbreviation	
Scientific Writing and Presentation Skills in Earth Scienceso4-Geo-WAG-232-mo1						
Module coordinator				Module offered by		
holder of the Professorship of Geography and Regional Science				Institute of Geography and Geology		
ECTS	Meth	od of grading Only after succ. compl. of module(s)				
5	(not)	successfully completed				
Duration Module level		Module level	Other prerequisites			
1 semester		undergraduate				
Contents						
Students will be provided with basics of scientific work in Geography: This includes dealing with literature, con- ception and writing of scientific texts as well as being able to present in an university style.						
Intended learning outcomes						
Students achieve basics concerning methods of scientific work. This refers to the fundamental design of scienti- fic texts and oral presentations, application adequate working techniques as well as the necessary information competence.						
Courses (type, number of weekly contact hours, language — if other than German)						
T (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 is creditable for bonus)						
portfolio (approx. 15 hours total) Language of assessment: German and/or English creditable for bonus						
Allocation of places						
Additional information						
Workload						
150 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						