

FB09

19.7.2016

Course Directory

Faculty 09 - Agricultural Sciences, Nutritional Sciences and Environmental Management

English Master Degree Course Modules

Please consult the timetable or current university calendar for information regarding dates and room numbers of the modules taught in the course:

http://www.uni-giessen.de/cms/fbz/fb09/studium/msc/stpl

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	57 - Economic Deve	iopment and w	ond Agricultura	ii warkets	2. Sen	1.,	6 CP
	Module Title		ment and World Agricu				
	/ / chair / department	Marktforschung / /	en, Ökotrophologie und Agrar- und Entwicklung	spolitik	-	-	
	s to degree	0	ment, Master (2.)Wein	wirtschaft, Master (2.)Agrar- und Resso	urcenöko	onomie,
	s/semesters e coordinator	Master (2.) Prof. Dr. P. Michae	l Coloraita				
Instruc			Prof. Dr. Herrmann and	group members			
	uisites for participation	none		group members			
Course		Students will					
Modul	e content	 and to es be able t and food be able t strategie be able t formatio be able t formatio be able t world ag understa understa underder causes or micro- ar role of th agricultu sustainal growth, t globaliza features influence commod activities 	o analyze and systemat stablish connections to o provide explanatory a linsecurity o assess agricultural an s o understand the chara n on and interdepender o explain the influence ricultural trade nd the relationship bet velopment, poverty and f underdevelopment, por d macroeconomic dev ne agricultural sector an ral policies of industrial ole development transformation and dev tion from the perspecti of world agricultural e of national agricultura ity agreements on worl of internat. organizatic lemand and pricing in m	poverty, hunger and approaches to the e d developmental po- cteristics of world a ncies between such of national and inter- ween agricultural tr d hunger: a survey overty and hunger elopment strategies d agricultural policy ized countries and elopment ve of the developin arkets (price instabi l policies, agricultur d agricultural trade ons, their influence	d malnutrition xistence of underde olicy measures and p agricultural markets markets ernational agricultur ade and economic of development g world lity, terms of trade) al development pol on world agricultura	velopmen problem-s as well as al market developm world	nt, poverty solving s price : policy on eent
Forme	ofinitian	Vorlagung (80%)	aminor(20%)				
FULIIIS	of instruction	Vorlesung (80%), S 180 hours	ciiiiiai (20%)				
nrs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination		
Total workload in hours		a contact hours	b preparation/follow- up work			Tota	
ž	Lecture	48	30				
Ŵ	Seminar	12	15				
tal	Practical training						
10 1	exercises						
	Study trip					_	
	Homework	60	45	45	30	100	
	Form(s) of accossment	60	45 ition (2 h) or b) other ex	-			/ 6 CP
le tion	Form(s) of assessment Components of final grade	written examinatio				stall (See	- 3pezO 9 i
Module examination	Form of module component retake examination						
N SXaI	Form of module retake	written examinatio	on (2 h) or repeat/revisi	on of the examinati	on as described in b).	
N exai	examination						
	examination	SoSe		Duratio	on 1 Semester		
Freque Intake	examination ency capacity	SoSe not limited		Duratio	on 1 Semester		
Freque Intake	examination ency capacity age of instruction	not limited English	essen.de/cms/fbz/fb09,				

MK 6	58 - Empirical Resea	arch Methods			1. Sem	n.; 6	5 CP
English	n Module Title	Empirical Research	n Methods		•		
Faculty	/ / chair / department		en, Ökotrophologie und		nt / Institut für Agra	arpolitik und	
			Agrar- und Entwicklung	spolitik			
	s to degree	Transition Manage	ement, Master (1.)				
	s/semesters						
	e coordinator	Prof. Dr. P. Michae			<u> </u>		<u> </u>
Instruc	tors	Dr. Kühl, Prof. Dr.	u, Prof. Dr. Herrmann, F	Prof. Dr. Schmitz, Pro	t. Dr. Leonhauser, I	PD Dr. Heimi	e, Prof.
Drorog	uisitos for participation	none	winker				
Course	uisites for participation	The students					
Course	: 01115					al	
			uired knowledge of ger methods as well as eva		nous qualitative an	u quantitativ	/e
		are able	to understand the appl	ication of various me	thods with regard	to research o	objective
Modul	e content	Advance	d mathematical econor	nics			
		 Mathem 	atical production econo	omics (e.g. cost functi	ion)		
		Correlat	ion and causality				
			proach of econometrics				
			roduction to simple and		analysis		
			es and extensions of cos		unurysis		
			s of applied statistics a	-			
			ig and analysing panel d				
		 Designin 	g of surveys, interviews	s, questionnaires			
		 Qualitation 	ive data collection tech	nique			
		 Principle 	es of strategic managem	ient			
		 Game th 	eory				
		 Organisa 	ation theory				
		_					
Forms	of instruction	Vorlesung (50%), 5 180 hours	Seminar (50%)				
		Consisting of: A co	urses in total	B autonomous	C module		
		Consisting of A co		work in the	examination		
ILS				module			
hot		a contact hours	b			Total	
. <u> </u>			preparation/follow-				
bad			up work				
ž	Lecture	30	30				
NO	Seminar	30	30				
Total workload in hours	Practical training						
Tot	exercises						
	Study trip						
	Homework	60	60	20	20	400 / 5	~~
	Earm(c) of account	60	60	30	30	180/6	
	Form(s) of assessment Components of final	Written exams (10	(2 h) or b) other examin	ations conducted by	the teaching staff (see spezu §	ŏ).
u	grade		/0]				
ule ati	Form of module						
Module examination	component retake						
⊼ar	examination						
Ð	Form of module retake	Written exams or	repeat/revision of the e	examination as descri	bed in b).		
	examination						
Freque		WiSe		Duration	n 1 Semester		
	capacity	not limited					
	age of instruction	English					

MK 69 - World Food I				2. Sem	.; 6 CI
English Module Title	World Food Econo				
Faculty / chair / department		en, Ökotrophologie und Agrar- und Entwicklung		ent / Institut für Agra	rpolitik und
Applies to degree	Transition Manage	ement, Master (2.)			
courses/semesters		- L C - h it			
Module coordinator	Prof. Dr. P. Michae				
Instructors	Prof. Dr. P. Michae	el Schmitz			
Prerequisites for participation	None				
Course aims	 analysis explain the real advelopment assess the impact agricultural, environed take position on 	nodels and policy instrum and monetary foreign ed and foreign trade opera onmental and trade poli the integration of devel he location economic po	conomic relations ir itions and argue abo cies loped, developing a	the agriculture and out the controversies nd transition countrie	food sector and and trade-offs
Module content	 Demand side: fa Supply side: Agri Trade policies - i Specific factors a Resources and T External Econom Political Econom Money, Interest International mode Development of 	national trade with agri ctors affecting food con icultural production and mpact analysis and ecor and income distribution rade: Heckscher-Ohlin M nies of scale and the inte ry of Agricultural Trade F Rates, Exchange rates a pnetary systems and Op world food markets and	sumption patterns its determinants nomic evaluation of Model ernational Location Policy nd foreign exchang timum Currency Are	welfare of Production e markets eas	
	 Bilateral and mu Globalization an Resource utilization 	of Global food Economy Itilateral development p d its implications from t cion, agricultural and Em es for food security	oolicies he perspective of d		ion countries
Forms of instruction	 Bilateral and mu Globalization an Resource utilizat New technologie 	Itilateral development p d its implications from t ion, agricultural and Em es for food security	oolicies he perspective of d		ion countries
Forms of instruction	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), S	Itilateral development p d its implications from t ion, agricultural and Em es for food security	oolicies he perspective of d		ion countries
	 Bilateral and mu Globalization an Resource utilizat New technologie 	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%)	oolicies he perspective of d		ion countries
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 5 180 hours Consisting of: A co a contact hours	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	ion countries
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow-	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 5 180 hours Consisting of: A co a contact hours	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
Lecture Seminar Practical training exercises	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	
Lecture Seminar Practical training exercises Study trip	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30	Itilateral development p d its implications from t cion, agricultural and Em es for food security Seminar (50%) purses in total b preparation/follow- up work	oolicies he perspective of d vironmental trade-c B autonomous work in the	offs, Organic farming	Total
Lecture Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessmen	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30 30 60 t a) Written test, se 8).	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30 30 minar work or b) other of	policies he perspective of d vironmental trade-o B autonomous work in the module 	C module examination	Total
Lecture Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessmen	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30 30 60 t a) Written test, se 8).	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30	policies he perspective of d vironmental trade-o B autonomous work in the module 	C module examination	Total
Lecture Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessmen	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30 30 G A	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30 minar work or b) other of b, seminar work (50%)	bolicies he perspective of de vironmental trade-or B autonomous work in the module 60 examinations condu	C module examination 30 icted by the teaching	Total Total 180 / 6 CP staff (see Spezd
Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessmen grade Form of module component retake examination Form of module retake examination	 Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 30 60 at a) Written test, se 8). Written test (50%) 	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30 30 minar work or b) other of	bolicies he perspective of devironmental trade-or B autonomous work in the module 60 examinations condu	C module examination 30 acted by the teaching	Total Total 180 / 6 CP staff (see Spezd
Singer Seminar Practical training exercises Study trip Homework Form(s) of assessmen grade Form of module component retake examination Form of module retak	Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), 9 180 hours Consisting of: A co a contact hours 30 30 G A	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30 minar work or b) other of b, seminar work (50%)	bolicies he perspective of devironmental trade-or B autonomous work in the module 60 examinations condu	C module examination 30 icted by the teaching	Total Total 180 / 6 CP staff (see Spezd
Lecture Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessmen grade Components of final grade Form of module component retake examination Form of module retak examination	 Bilateral and mu Globalization an Resource utilizat New technologie Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 30 60 at a) Written test, se 8). Written test (50%) 	Itilateral development p d its implications from t cion, agricultural and Em- es for food security Seminar (50%) burses in total b preparation/follow- up work 30 30 30 minar work or b) other of b, seminar work (50%)	bolicies he perspective of devironmental trade-or B autonomous work in the module 60 examinations condu	C module examination 30 acted by the teaching	Total Total

rood	Industries	anization and i	Management in A	Agriculture ar	nd 2. Sem	1.,	6 CP
English	Module Title		ization and Managemen				
Faculty	/ chair / department		ten, Ökotrophologie und irtschaft / Landwirtschaf			riebslehre o	der Agraı
	to degree	Transition Manage	ement, Master (2.)				
	s/semesters						
	e coordinator	Prof. Dr. Joachim					
Instruct		Prof. Dr. Aurbache	er, Prof. Dr. Kühl				
Prerequ Course	uisites for participation	None Students will					
Module	e content	 be able to industry be able to human reand corp be able to be able to be able to be able to financial get insig coordinat The division of lab predefined goal lies organizational dest especially over the financial flows in (and strategically here analysis, design are introduced. Genere trends and emerging optimisation under the strategical optis at the strategical optimisatis at the strategical optimisa	to work conceptually on resource management, of porate control to execute extended ecc to execute advanced op to use spreadsheets and and incentives decision th into modelling of hur ation performed by agric our and the resulting ne es at the root of organiza- sign is one of the key tas e last decades, the corre often global) supply cha- nighly intertwined challe and management of organiza- ing management challer er constraint resources a	business strategic a compensation and m phomic methods and timisation modelling database application problems nan motivation, bus cultural and food ince eed for the coordinar ational and manager ks and challenges fo sponding design and ins within and across nge. Core problems, nizations and their ir tional and supply cha nges are assessed. A	nd organisational p notivation, investme d management tech g techniques ons to represent and iness behaviour, an lustry tion of distributed a ment theory. Firm's r management prace d coordination of pl s companies has er concepts and tech nter-organizational ain design are prov dvanced modelling studies and compa	aniques aniques d solve busi d solve busi d the mear actors towa cefficient ctice. Howe nysical good nerged as a niques for t supply chai ided and cu	uch as structure iness, ns of urds a ever, ds and a related the ins are urrent s for
			nomic systems and its re	s and to further stud structuring are part			
		business and econ	nomic systems and its re				
Forms o	of instruction	business and econ Vorlesung (60%), S	nomic systems and its re				
	of instruction	business and econ	nomic systems and its res Seminar (40%)				
		business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A contact hours	b preparation/follow- up work	structuring are part B autonomous work in the	of the course.		
	Lecture	business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A constant hours a contact hours 36	b preparation/follow- up work 60	structuring are part B autonomous work in the	of the course.	g. The evol	
	Lecture Seminar	business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A contact hours	b preparation/follow- up work	structuring are part B autonomous work in the	of the course.	g. The evol	
	Lecture Seminar Practical training	business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A constant hours a contact hours 36	b preparation/follow- up work 60	structuring are part B autonomous work in the	of the course.	g. The evol	
Total workload in hours	Lecture Seminar Practical training exercises	business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A constant hours a contact hours 36	b preparation/follow- up work 60	structuring are part B autonomous work in the	of the course.	g. The evol	
	Lecture Seminar Practical training exercises Study trip	business and econ Vorlesung (60%), S 180 hours Consisting of: A consisting of: A constant hours a contact hours 36	b preparation/follow- up work 60	structuring are part B autonomous work in the	of the course.	g. The evol	
	Lecture Seminar Practical training exercises	business and econ Vorlesung (60%), 9 180 hours Consisting of: A co a contact hours 36 24	b preparation/follow- up work 60 30	structuring are part B autonomous work in the	of the course. C module examination	g. The evol	ution of
	Lecture Seminar Practical training exercises Study trip Homework	business and econ Vorlesung (60%), 9 180 hours Consisting of: A co a contact hours 36 24 	b preparation/follow- up work 60 30 90	structuring are part B autonomous work in the module	of the course. C module examination	g. The evol	6 CP
	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment	business and econ Vorlesung (60%), S 180 hours Consisting of: A co a contact hours 36 24 60 a) Written examin	b preparation/follow- up work 60 30 90 ation or b) other examin	structuring are part B autonomous work in the module	of the course. C module examination	g. The evol	6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade	business and econ Vorlesung (60%), 9 180 hours Consisting of: A co a contact hours 36 24 	b preparation/follow- up work 60 30 90 ation or b) other examin	structuring are part B autonomous work in the module	of the course. C module examination	g. The evol	ution of
	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination	business and econ Vorlesung (60%), S 180 hours Consisting of: A co a contact hours 36 24 60 a) Written examinati	b purses in total b preparation/follow- up work 60 30 90 nation or b) other examinition (100%)	B autonomous work in the module	of the course.	g. The evol	ution of
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake	business and econ Vorlesung (60%), S 180 hours Consisting of: A co a contact hours 36 24 60 a) Written examinati	b preparation/follow- up work 60 30 90 ation or b) other examin	B autonomous work in the module	of the course.	g. The evol	6 CP
Module Total workload in hours examination	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination	business and econ Vorlesung (60%), S 180 hours Consisting of: A co a contact hours 36 24 60 a) Written examinati Written examinati	b purses in total b preparation/follow- up work 60 30 90 nation or b) other examinition (100%)	structuring are part B autonomous work in the module nations conducted b the examination as	of the course. C module examination 30 y the teaching staff described in b).	g. The evol	ution of
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ncy	business and econ Vorlesung (60%), S 180 hours Consisting of: A co a contact hours 36 24 60 a) Written examinati	b purses in total b preparation/follow- up work 60 30 90 nation or b) other examinition (100%)	structuring are part B autonomous work in the module nations conducted b the examination as	of the course.	g. The evol	6 CP

MP 0 Breed	20 - Plant Breeding	: Special Topics	s of Resistance a	and Quality	2. Sem	n.; 6 CP
	Module Title	Plant Breeding: Sp	ecial Topics of Resistan	ce and Quality Breed	ding	
	/ chair / department	Agrarwissenschaft	en, Ökotrophologie und I / Pflanzenzüchtung			nzenbau und
	to degree	Profil, Master (2.)	, 0			
	/semesters					
	coordinator	Prof. Dr. Rod Snow				
Instruct		Prof. Dr. Snowdon	and assistants			
Prerequ Course a	isites for participation	none The students				
Module	content	 quality a will obta and qual will obta dependin will obta dependin will obta molecula importar natural c Europea 	in profound knowledge spects of important Eur in profound knowledge ity attributes in knowledge about ho ng on the genetics and i in knowledge about the ar-biological tools with in the agricultural crops diversity and genetics of n crops n methods for resistance	about essential met about essential met w to realize breeding inheritance of the re application of biote respect to optimising fresistance against t	thods to record the g goals in the breed spective trait echnological, gene t g resistance and qua the most important	respective resistan ing process echnological and ality parameters of
Forms o	of instruction	methods methods vorlesung (50%), E	liversity and genetics of s to identify and increas s of cell and tissue cultu xkursion (50%)	e genetic variation f	or important traits	
		180 hours		1		
urs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination	
orkload in hours		a contact hours	b preparation/follow- up work			Total
orkle	Lecture	30	30			
Ň	Seminar Practical training					
Total w	Practical training exercises					
Ĕ	Study trip	30	30			
	Homework	50	50			
	Homework	60	60	30	30	180 / 6 CP
uo	Form(s) of assessment		n, seminar work, proto			
Module examination	Components of final grade Form of module component retake examination	oral examination (70 %), seminar (15 %) a	nd protocols (15 %)		
	Form of module retake examination		or repeat/revision of the			
Frequer		SoSe		Duratio	n 1 Semester	
Intake c		not limited				
	ge of instruction	English	1 1 10 10	<i>h h</i>	1. /. /	
Website	2	http://www.uni-gi	essen.de/cms/fbz/fb09	/institute/plantbree	aing/ipz/	

MP 0	29 - Plant-Microbe	Interactions			2./4. 9	iem.;	6 CP
English	Module Title	Plant-Microbe Inte	eractions				
Faculty	/ chair / department	Agrarwissenschaft Phytopathologie	en, Ökotrophologie und	d Umweltmanageme	ent / Institut für Phy	topatholo	ogie /
	s to degree s/semesters	Profil, Master (2./-	4.)				
	e coordinator	Prof. Dr. Karl-Hein	z Kogel				
Instruc	tors	Prof. Dr. Kogel, Pro	of. Dr. Schnell, Dr. Schik	ora, Dr. Cardinale			
Prereq	uisites for participation	basics in microbio	logy and phytopatholog	у			
Course	aims	 be able t chemica be famil 	iar with interactions of to discuss the applicatio I fertilizers iar with concepts of mo ganisms in disease conti	n of alternative mea	asures for reduction		ide and
Vodule	e content	 root pat pest con growth plant-pri resistant possibili interacti microbia 	and chemical condition hogens (fungi, bacteria) itrol strategies on roots promotion of rhizospher omoting factors, mycori ce mechanisms ties and limitations of ir ion with beneficial micro al interactions with lowe s for the study of uncult	ric microorganisms (rhiza) noculation with VAN porganisms (PGPR, F er plants (mosses, lic	(N2 fixation, regulat 1 or N2-fixing bacter 3CAs) chens, etc.)	ion of the	e nif gene,
Forms	of instruction	Vorlesung (75%), S	Seminar (25%)				
		180 hours					
nrs		Consisting of: A co	ourses in total	B autonomous work in the module	C module examination		
otal workload in hours		a contact hours	b preparation/follow- up work			Tota	l
rkc	Lecture	45	40				
Ŵ	Seminar	15	30				
tal	Practical training						
0	exercises						
	Study trip						
	Homework			20	20		/
u.	Form(s) of assessment		70 ation, seminar paper (ea teaching staff (see Spez		30 fficient) or b) other e		/ 6 CP ions
ninatic	Components of final grade		on (70 %), seminar pape				
Module examination	Form of module component retake examination		the failed examination				
	Form of module retake examination		amination or repeat/rev			i b).	
Freque		SoSe		Duratio	on 1 Semester		
	capacity	60					
	ge of instruction	English	1. 1:				
Websit	e	www.uni-giessen.	de/ipaz				

	4 - Economy of Ru				3./4. 9	em.;	6 CP
	1odule Title	Economy of Rural					
-aculty /	chair / department		en, Ökotrophologie und Agrar- und Umweltpolit		ent / Institut für Agr	arpolitik	und
	o degree semesters		1.)Profil Transition Man		./4.)		
Module c	coordinator	Prof. Dr. Ernst-Aug	gust Nuppenau				
nstructo		Prof. Dr. Nuppena	u				
	sites for participation	none					
Course ai	ims	Students will have base 	sic knowledge of the rel	ationship between a	agriculture and socie	ety from i	perspective
		of sociol	ogy and institutional ec	onomics	-		
		institutio	o recognize how human	mically and socially			
		-	e the interactions betw ating the structure of a		society and know m	iethodica	il approache
		• be famili	ar with basic social issu of work, land, credit, in	es in agrarian societ	ies and be able to a	pply vario	ous social
Module c	content	Foundat	ions of & demands on a	grarian institutions	by transaction mini	mal costs	
			institutions and rural for d land: theories of shar	-			
			es: potentials and limita				
			icy and land reform, ins		•	kets	
			ghts and technology				
			son of agricultural law i	n various countries			
			s associated with institu				
			onal problems of agricul	-	astern Furone		
			on between individuals				
			of social stratification,				
			of social change and ef				
			and usage rights, prop	-			
			of social justice and ap		2		
			constitutions and labor				
			ess and regulations, lan				
			haviour, rural welfare s	ystems in historical	context		
			nal social safety nets				
		Peasantr	y and peasant behaviou	ur, farming as a lifes	tyle		
orms of	instruction	Vorlesung (50%), S 180 hours	Geminar (50%)				
┢		Consisting of: A co	urses in total	B autonomous	C module		
urs		Ū Ū		work in the module	examination		
ho		a contact hours	b			Tota	
Total workload in hours			preparation/follow- up work				
z –	Lecture	30	30				
ž –	Seminar Practical training	30	30				
ota.	Practical training exercises				-		
r ⊢	Study trip		1				
	Homework		1				
		60	60	30	30		/ 6 CP
tion	Form(s) of assessment	(see SpezO § 8).	n (0,5 h) and presentat		ninations conducted	by the te	eaching staf
mir	Components of final grade	Oral examination (60%), presentation (40	%)			
ex	Form of module						
ule	component retake						
	examination Form of module retake	Oral examination (or repeat/revision of the	e examination as do	scribed in b)		
≥	examination			c chammation as de			
requenc		WiSe		Duratio	on 1 Semester		
ntake ca	pacity	not limited					
anguage	e of instruction	English	essen.de/cms/fbz/fb09				
Nebsite							

MP 0	75 - Host-Intestine	-Microbe Intera	actions for Nutri	tion and Hea	lth 2./4	. Sem.;	6 CP
English	Module Title		robe Interactions for N		• 		·
Faculty	/ chair / department		en, Ökotrophologie und gemeine und Bodenmil		ent / Institut für /	Angewandte	
	s to degree s/semesters	Profil, Master (2./4					
	e coordinator	Prof. Dr. Sylvia Sch	nell				
Instruct			kOR Dr. Benckiser, Prof	Dr. Kunz. Prof. Dr.	Wenzel		
	uisites for participation	Basic knowledge ir		- / -			
Course	· · · · ·	Students will:	01				
Module	e content	 have kno understa microbia understa gain insig mediated become receive k nutrition have pra characted Intestine Physiolo Knowled Cell med Role of f 	overview over morphol pwledge of commensali- and the survival and adh il primary and secondar and the complexity of high ght of the microbe inter d immunity familiar with features of chowledge about de-race al compounds by ctical experience with w rize bacteria.	stic, mutualistic and hering strategies of i y metabolism (vitan uman microbiota al ractions with epithe f probiotic bacteria dicalisation in the in various microbial an minants and insects acteria in the intest acteria in the intest ca based on latest put	pathogenic bact microbes in the in nin and toxin pro so in relation to a l and paneth cell and bacteria cau testine by flavon d molecular tech ine ublications	eria ntestine and duction) age, sex and s and about sing food co oides and ot	disease cell ntaminatior her
					0		
Forms	of instruction	Vorlesung (22%), F 180 hours	Praktikum (78%)				
rrs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination		
Total workload in hours		a contact hours	b preparation/follow- up work			Tota	
rk	Lecture	20	30				
Ň	Seminar						
al	Practical training	70	10				
Tot	exercises						
	Study trip						
	Homework						
		90	40	20	30		/ 6 CP
lule nation	Form(s) of assessment Components of final grade Form of module	a) written examina written examinatio	ntion or b) other examir on (100 %)	ations conducted b	y the teaching st	aff (see Spez	O § 8).
Module examination	component retake examination Form of module retake	written examinatio	on oder Wiederholung/	Überarbeitung der i	n b) festgesetzte	n Prüfungsle	istung.
	examination		8/	-			
	ncv	SoSe		Duratio	on 1 Semester		· · ·
Freque							
	capacity	30		2010010			

	76 - Laboratory Cou	urse: Tissue Cu	Ituring and Gene	etic	. Sen	-	6 CP	
Tran	sformation				3./4.	Sem.;		
English	Module Title		: Tissue Culturing and G					
Faculty	/ chair / department	Agrarwissenschaft Phytopathologie	en, Ökotrophologie und	l Umweltmanagem	ient / Institut für Pł	nytopathol	ogie /	
	s to degree s/semesters	Profil, Master (3./4	4.)					
	e coordinator	Prof. Dr. Karl-Heinz Kogel						
Instruc	tors	Prof. Dr. Kogel, Dr. Imani						
Prereq	uisites for participation		athology (MK 57), Plant	Protection and Bio	engineering (MK 1	5)		
Course	· · · ·	Students will						
		and micr be able t and iden have fun	ctical knowledge of the obe transformation o understand technical tify the risks involved ir damental knowledge in er protection, and food	problems related to this strategy risk assessment, e	to genetic transform	mation of c	rop plants,	
Module	e content		e for the risk manageme		eered plant and m	icroorgani	sms	
		-	training in plant transfo			ici ooi gaili:	5115	
			training in microbe trai		ques			
		-	training in tissue cultur					
		 practical 	training in detection of	transgenes by mo	lecular and cell bio	logy techni	ques	
		 practical 	training in confocal lase	er microscopy				
		 practical 	training in transgene fu	inction assessment	t			
			0 0					
Forms	of instruction	Vorlesung (8%), Se	eminar (8%), Praktikum	(83%)				
		180 hours						
ırs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination			
Total workload in hours		a contact hours	b preparation/follow- up work			Tota	I	
klo	Lecture	5	90					
vor	Seminar	5						
<u>s</u>	Practical training	50	1					
lot	exercises	1	1					
r -	Study trip							
	Homework							
		60	90		30		/ 6 CP	
ion	Form(s) of assessment		ation, seminar work and is conducted by the tead			t be suffici	ent) or b)	
minat	Components of final grade		on (50%), seminar work	·	success (50%)			
Module examination	Form of module component retake examination		the failed examination	-				
M	Form of module retake examination		or repeat/revision of the					
Freque	,	WiSe		Durati	on 2 weeks full tim	e laborato	ry course	
	capacity	30						
	ge of instruction	English						
Websit	e	www.uni-giessen.o	de/ipaz					

MP 0	77 - Laboratory Cou	urse: Methods	in Molecular Ph	ytopatho	ology	3./4. Se	m.;	6 CP
English	Module Title		: Methods in Molecular					
Faculty	/ chair / department	Agrarwissenschaft Phytopathologie	en, Ökotrophologie und	d Umweltmar	nagement / Ir	nstitut für Phyto	patholo	ogie /
Applies	to degree	Profil, Master (3./4	1.)					
courses	s/semesters							
Nodule	e coordinator	Prof. Dr. Karl-Hein	z Kogel					
nstruct	tors		Aline Koch, Dr. Jens Ste					
rerequ	uisites for participation	Molecular Phytopa	athology (MK 57), Plant	Protection a	nd Bioengine	ering (MK 15)		
Course		Students will become fundame know dif have bro gain kno	acquainted with plant p ental principles of molec ferent biotechnological ad knowledge of the in wledge about pathoger wledge about protein-p	bathogenic fu cular cloning strategies in teraction bet n effector mo	ngi using toc and related l plant protec ween plants lecules and t	ls of molecular aboratory techn tion and pathogens	iques	
1odule	e content	 practical practical practical practical 	training in plant and m training in detection m training in biotechnolo training in bioinformat training in inoculation training in detection of	ethods of DN gical plant pr ics related to methods	IA and RNA otection stra sequence sin	tegies milarities and dia	agnosti	c matter
orms	of instruction	Vorlesung (8%), Se	minar (8%), Praktikum	(83%)				
		180 hours		()				
ırs		Consisting of: A co	urses in total	B autonom work in the module		nodule amination		
Total workload in hours		a contact hours	b preparation/follow- up work				Total	
кю Ко	Lecture	5	90					
5 S	Seminar	5						
2	Practical training	50						
5	exercises							
	Study trip							
	Homework							
		60	90		30		180 /	/ 6 CP
5	Form(s) of assessment	other examination	ation, seminar work and s conducted by the tead	ching staff (se	ee SpezO § 8)		sufficio	ent) or b)
0	Components of final grade		on (50%), seminar work	-	ental success	5 (50%)		
	Form of module component retake examination		the failed examination					
	Form of module retake examination		mination or repeat/rev					
requer		WiSe			Duration 2 w	eeks full time lal	oorator	y course
	capacity	30						
	ge of instruction	English						
/ebsite	e	www.uni-giessen.o	de/ipaz					

		on and Agricult	ure		14. S	em.;	6 CP
English	Module Title	Global Nutrition a	nd Agriculture				
	/ chair / department		en, Ökotrophologie und Agrar- und Umweltpolit		ent / Institut für Agr	arpolitik ι	und
	s to degree s/semesters	Profil, Master (14	1.)				
	e coordinator	Prof. Dr. Ernst-Aug	tust Nunnongu				
Instruct			u, Prof. Dr. Krawinkel				
	uisites for participation	None	u, FIUI. DI. KIAWIIKEI				
Course	aims	The students					
		know theare ableare able	e determinants of food to make estimates of th to overlook the associa overview about structu	ne regional food rec tions between heal	uirements and the o th and nutrition,		apacity,
Module	e content	 global nu 	utrition a challenge for a	agricultural develor	ment		
		-	-	-			
			uirements, natural reso		ווע		
		-	potential of food produ				
		 technology 	ogy development, institu	utions and human c	apital		
		 sectoral 	developement strategie	es, agriculture and r	nutrition		
		 commer 	cialisation of agriculture	e, cash-crop- vs. foo	d-crop-debate		
			ional labour division and				
			security and health				
			-				
		-	n and malnutrition				
			economic and social de		tion		
		 breastfe 	eding and nutrition secu	urity			
		 nutrition 	n security and food aid				
		 develops 	ment aid approaches				
		-					
		Internation	ional organisations for r	nutrition security an	d agricultural develo	onment	
		• Internati	ional organisations for r	nutrition security an	d agricultural develo	opment	
			ional organisations for r e or Geneva (participati	-	d agricultural develo	opment	
Forms	of instruction		e or Geneva (participati	-	d agricultural develo	opment	
Forms	of instruction	Excursion to Rome Vorlesung (50%), S 180 hours	e or Geneva (participati Seminar (50%)	-	d agricultural develo	opment	
	of instruction	Excursion to Rome Vorlesung (50%), S	e or Geneva (participati Seminar (50%)	on optional) B autonomous work in the	d agricultural develo	opment	
	of instruction	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co	e or Geneva (participati Seminar (50%) urses in total	on optional) B autonomous	C module		
Jours	of instruction	Excursion to Rome Vorlesung (50%), S 180 hours	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow-	on optional) B autonomous work in the	C module	opment Tota	1
Jours		Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module		1
nours	Lecture	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow-	on optional) B autonomous work in the	C module		1
nours	Lecture Seminar	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module		
nours	Lecture Seminar Practical training	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module		1
	Lecture Seminar Practical training exercises	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module		
nours	Lecture Seminar Practical training exercises Study trip	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module		
nours	Lecture Seminar Practical training exercises	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30	e or Geneva (participati Geminar (50%) Furses in total b preparation/follow- up work	on optional) B autonomous work in the	C module	Tota	
Jours	Lecture Seminar Practical training exercises Study trip Homework	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60	e or Geneva (participati Geminar (50%) 	on optional) B autonomous work in the module 50	C module examination	Tota	/ 6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60	e or Geneva (participati Seminar (50%) burses in total b preparation/follow- up work 40 40 40 40 r b) other examinations	on optional) B autonomous work in the module 50	C module examination	Tota	/ 6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam o	e or Geneva (participati Seminar (50%) burses in total b preparation/follow- up work 40 40 40 40 r b) other examinations	on optional) B autonomous work in the module 50	C module examination	Tota	/ 6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam o	e or Geneva (participati Seminar (50%) burses in total b preparation/follow- up work 40 40 40 40 r b) other examinations	on optional) B autonomous work in the module 50	C module examination	Tota	/ 6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam o	e or Geneva (participati Seminar (50%) burses in total b preparation/follow- up work 40 40 40 40 r b) other examinations	on optional) B autonomous work in the module 50	C module examination	Tota	/ 6 CP
Total workload in hours	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam o Written exam (100	e or Geneva (participati Seminar (50%) Furses in total b preparation/follow- up work 40 40 40 r b) other examinations 0 %)	on optional) B autonomous work in the module 50 conducted by the t	C module examination 30 eaching staff (see Sp	Tota	/ 6 CP
Total workload in hours on	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam o Written exam (100	e or Geneva (participati Seminar (50%) burses in total b preparation/follow- up work 40 40 40 40 r b) other examinations	on optional) B autonomous work in the module 50 conducted by the t	C module examination 30 eaching staff (see Sp	Tota	/ 6 CP
Module Total workload in hours examination	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam of Written exam (100 Written exam or re	e or Geneva (participati Seminar (50%) Furses in total b preparation/follow- up work 40 40 40 r b) other examinations 0 %)	on optional) B autonomous work in the module 50 conducted by the t camination as descr	C module examination 30 eaching staff (see Sp	Tota	/ 6 CP
Module Total workload in hours be examination	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ncy	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 30 60 a) Written exam o Written exam (100 Written exam or re	e or Geneva (participati Seminar (50%) Furses in total b preparation/follow- up work 40 40 40 r b) other examinations 0 %)	on optional) B autonomous work in the module 50 conducted by the t camination as descr	C module examination 30 eaching staff (see Sp	Tota	/ 6 CP
Module Total workload in hours examination	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ncy capacity	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam of Written exam (100 Written exam or re	e or Geneva (participati Seminar (50%) Furses in total b preparation/follow- up work 40 40 40 r b) other examinations 0 %)	on optional) B autonomous work in the module 50 conducted by the t camination as descr	C module examination 30 eaching staff (see Sp	Tota	/ 6 CP
batul Module Total workload in hours examination examination	Lecture Seminar Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ncy capacity ge of instruction	Excursion to Rome Vorlesung (50%), S 180 hours Consisting of: A co a contact hours 30 30 60 a) Written exam or Written exam (100 Written exam or re WiSe non limited English	e or Geneva (participati Seminar (50%) Furses in total b preparation/follow- up work 40 40 40 r b) other examinations 0 %)	on optional) B autonomous work in the module 50 conducted by the t camination as descr	C module examination 30 eaching staff (see Sp ibed in b).	Tota Tota 180 / DezO § 8).	/ 6 CP

MP 0	90 - Insect Biotechi	nology			3./4. S	em.;	6 CP		
English	Module Title	Insect Biotechnolo	gv				1		
	/ chair / department	Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Insektenbiotechnologie / Angewandte Entomologie							
	to degree	Profil, Master (3./4							
	s/semesters		<i>/// /</i>						
	e coordinator	Prof. Dr. Andreas							
Instruct			, Dr. Rahnamaeian, Dr.						
	uisites for participation		n zoology, biotechnolog	ξγ					
Course	aims	Students will							
Module	e content	 learn ab agricultu learn ab relevanc learn to entomol 		plications of insect-or enetic and epigenet d anti-infectives the seminar work o	tic tools in model ins	ect speci	es with nolecular		
		 concepts of insect biotechnology and relevant basics in insect immunity, physiology and epigenetics application of insect-derived bioresources in medicine, agriculture and industry a molecular view on insect-pathogen interactions insects as model host for human pathogens 							
Forms	of instruction	Vorlesung (60%), Seminar (40%)							
		180 hours							
urs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination				
Total workload in hours		a contact hours	b preparation/follow- up work			Tota			
klo	Lecture	36	60						
vor	Seminar	24	30						
alv	Practical training								
Tot	exercises								
•	Study trip								
	Homework								
		60	90		30		/ 6 CP		
ion	Form(s) of assessment	a) seminar work, v 8).	vritten exam or b) other	r examinations cond	lucted by the teaching	ng staff (s	ee SpezO §		
minat	Components of final grade		%), written exam (50 %)						
Module examination	Form of module component retake examination								
Ň	Form of module retake examination	oral or written exa	mination or repeat/rev	ision of the examina	ation as described in	b).			
Freque	ncy	WiSe		Duratio	on 1 Semester				
	capacity	not limited		ı					
	ge of instruction	English							
Langaa	-	English http://www.uni-giessen.de/ipaz							

MP (97 - Microbial Diag	nostics			3./4. S	em.;	6 CP			
English	n Module Title	Microbial Diagno	stics			· · ·				
Faculty	// chair / department	Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Angewandte								
			Mikrobiologie / Mikrobiologie der Recycling-Prozesse							
Applies to degree		Profil, Master (3.,	/4.)							
	s/semesters		-							
	e coordinator	Prof. Dr. Dr. Pete								
nstruc		Prof. Dr. Dr. Käm	pter							
Prerequisites for participation Course aims		none								
		Students								
			e detailed knowledge of		-					
			w quality standards and		es in the fields of env	vironmen	tal			
		technol	ogies and food microbio	logy						
		 will lear 	rn methods of quantifica	tion and qualificatio	on of bacteria with cu	ultivation	-dependen			
		and cul	tivation-independent me	ethods						
Nodul	e content	microbi	ological diagnostics (con	ventional and mole	cularbiological meth	ods in th	e context o			
			management measures)							
			everyday life and in the working environment (legal foundations and standards)							
			 quantification and qualification of biotechnologically important microorganisms; identification of bacteria with conventional and molecularbiological methods; enzyme 							
		detection, bacteriological analyses in the context of microbiological quality control								
orms	of instruction	Vorlesung (50%), Seminar (50%)								
		180 hours		•	-					
		Consisting of: A c	ourses in total	B autonomous	C module					
Ś				work in the	examination					
our		a sector the sum		module		T . 4 . 1				
ے د		a contact hours	b preparation/follow-			Total				
i p			up work							
⁰	Lecture	30	60							
Ċ.	Seminar	30								
9										
ow le	Practical training									
otal wo										
Total wo	Practical training									
Total wo	Practical training exercises									
Total wo	Practical training exercises Study trip	60	60	30	30		/ 6 CP			
n Total workload in hours	Practical training exercises Study trip	60 a) seminar work,	60 written examination or b							
	Practical training exercises Study trip Homework Form(s) of assessment	60 a) seminar work, SpezO § 8).	written examination or b) other examination						
	Practical training exercises Study trip Homework Form(s) of assessment Components of final	60 a) seminar work, SpezO § 8).) other examination						
	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade	60 a) seminar work, SpezO § 8).	written examination or b) other examination						
	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module	60 a) seminar work, SpezO § 8).	written examination or b) other examination						
	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade	60 a) seminar work, SpezO § 8).	written examination or b) other examination						
	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake	60 a) seminar work, SpezO § 8). seminar work (20	written examination or b) other examination (80 %)	ns conducted by the					
	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination	60 a) seminar work, SpezO § 8). seminar work (20	written examination or k) other examination (80 %)	ns conducted by the					
Module examination	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ency	60 a) seminar work, SpezO § 8). seminar work (20	written examination or k) other examination (80 %) the examination as	ns conducted by the					
Module examination subset	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ency capacity	60 a) seminar work, SpezO § 8). seminar work (20 written examinat	written examination or k) other examination (80 %) the examination as	described in b).					
Module examination	Practical training exercises Study trip Homework Form(s) of assessment Components of final grade Form of module component retake examination Form of module retake examination ency capacity age of instruction	60 a) seminar work, SpezO § 8). seminar work (20 written examinat WiSe 30 English	written examination or k) other examination (80 %) the examination as Duratic	described in b).	teaching				

MP 0)98 - Molecular Plar	nt Breeding			14. S	iem.;	6 CP						
	Module Title	Molecular Plant Breeding											
Faculty	/ chair / department	Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Pflanzenbau und											
			/ Pflanzenzüchtung										
	s to degree s/semesters	Profil, Master (14)										
	e coordinator	Prof. Dr. Rod Snow	rdon										
Instruc			, Dr. Christian Obermeie	er									
	uisites for participation		ded), MK16 (compulso										
Course		The students		//									
		techniqu next-gen will learn breeding will obta	practical and/or theore es, PCR, genetic mappin eration sequencing practical applications of in the necessary practic ological and gene techr	ng and QTL analysis of biotechnological cal background to a	, DNA hybridisation, and molecular gene oply experimental m	, gene exp tic methc	oression and						
Module	e content	DNA extr	action and quantification	00									
			ase chain reaction (PCR										
			and polyacrylamide gel										
		-											
		_	eration DANN sequence	-									
			ar marker analysis, geno		TL analysis								
		DNA filter hybridisation, genome libraries											
		Quantitative real-time PCR											
		• New methods of gene technology in plant breeding: Genome editing, cis-genestics											
			-			-							
Forms	of instruction	Vorlesung (43%), Praktikum (57%)											
		180 hours		1									
rrs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination								
hot		a contact hours	b			Tota							
otal workload in hours			preparation/follow-										
loa	Lecture	30	up work 20										
ork	Seminar	50	20										
3	Practical training	40	30										
ota	exercises												
Ѓ	Study trip												
	Homework												
		70	50	30	30	180	/ 6 CP						
	Form(s) of assessment		al exam or b) other exa										
-	Components of final	Lab protocol (50 %), oral exam (50 %)		, 0.1		,						
e	grade												
dul inat	Form of module												
Module aminatio	component retake												
Mo	examination												
Module examination		Oral exam or repeat/revision of the examination as described in b).											
Mo exami	Form of module retake examination	Oral exam of repea				Wiso Duration 1 Semaster							
o Ereque	examination	WiSe		Duratio	on 1 Semester								
- reque ntake	examination ncy capacity			Duratio	on 1 Semester								
- reque ntake	examination ncy capacity ge of instruction	WiSe 30 English	essen.de/cms/fbz/fb09										

MP 1	LOO - Bioinformatics				14. Se	em.;	6 CP			
English	Module Title	Bioinformatics								
Faculty	/ / chair / department	Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Pflanzenbau und								
		Pflanzenzüchtung II / Biometrie und Populationsgenetik mit dem Schwerpunkt Bioinformatik								
	s to degree	Profil, Master (1	4.)							
	s/semesters									
	e coordinator	Prof. Dr. Matthias		_						
nstruc	uisites for participation		Prof. Dr. Matthias Friscl tics and bioinformatics	1						
Course		Students								
			ramming skills in R							
			about different high th	roughput technolog	ies and their applicat	ion area	s in natura			
		sciences	about unrerent nightin		ies and then applied		is in nature			
			gn high throughput expe	riments						
			ledge about the analysis		al data sets					
			about the functional in							
/lodul	e content	Programming an	nd data analysis in R							
			 Programming and data analysis in R Introduction in different high throughput technologies and their application areas 							
			Design of high throughput experiments							
		 Applying of public R packages for the preprocessing and statistical analysis of high dimensional data 								
		sets								
		• Functional interpretation of the results using web-based or R-based programming tools								
orms	of instruction	Vorlesung (50%), Praktikum (50%)								
		180 hours		Dautanana	C m a dula					
		Consisting of: A co	ourses in total	B autonomous work in the	C module examination					
ILS				module	examination					
l otal workload in hours		a contact hours	b			Tota				
<u> </u>			preparation/follow-							
bad			up work							
ž	Lecture	30	30							
S	Seminar									
ē	Practical training	30	30							
0	exercises									
	Study trip									
	Homework	60	60	30	30	100	/ 6 CP			
	Form(s) of assessment		es (12), written examina							
uo	10mm(s) of assessment	staff (see SpezO §				by the	caching			
	Components of final		written examination (70	%)						
	grade		,	,						
PX1	Form of module									
<u>e</u>	component retake									
Module examinat	examination		· ·							
ž	Form of module retake	Written examinat	ion or repeat/revision of	f the examination as	described in b).					
	examination				4.6					
reque		WiSe	analaga in guarda af t		n 1 Semester					
	capacity		ercises in groups of size	20)						
angua /ebsit	age of instruction	English	iaccon do Incontation	nation						
/ensit	.e	nttp://www.uni-g	iessen.de/population-ge	enetics						

MP 1	26 - Selection for d	isease resistan	ce in farm anima	als	3./4. 9	Sem.;	6 CP		
English	Module Title	Selection for disease resistance in farm animals							
Faculty	/ chair / department		Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Tierzucht und						
Applies to degree			Haustier- und Pathogen	etik					
	to degree s/semesters	Profil, Master (3./4	+.)						
	coordinator	Prof. Dr. Gesine Lü	ihken						
Instruct	tors	Prof. Dr. Gesine Lü	ihken						
Prerequ	uisites for participation	Basic knowledge o	f genetics and molecula	ar genetics; MP33 (r	ecommended)				
Course	aims	The students							
		in diseas • will have	v phenotypic paramete e susceptibility e practical experience in	sample collection,	laboratory and data	analysis			
		disease s	ble to assess different s susceptibility	-					
		 will be a animals 	ble to asses and design	scientific research p	projects on disease r	resistance	in farm		
Module	e content	barriers	of infections, innate and	d acquired immunity	y				
			of disease susceptibility	•					
		-			on/susceptibility sta	atus			
		 phenotypic parameters for diagnosis of host infection/susceptibility status practical training: sample collection from farm animals (e. g. sheep, cattle), laboratory 							
		analysis of phenotypic parameters for infection/susceptibility status, data analysis							
		 strategies for identification of indirect and direct genetic markers for disease resistance 							
		• Strategies for identification of mullect and direct genetic markets for disease resistance							
Forms o	of instruction	Vorlesung (67%), Praktikum (33%)							
		180 hours							
IIS		Consisting of: A co	urses in total	B autonomous work in the module	C module examination				
Total workload in hours		a contact hours	b preparation/follow- up work			Tota	I		
klo	Lecture	33	66						
vor	Seminar								
al <	Practical training	16	24						
Tot	exercises								
•	Study trip								
	Homework		11				1		
		49	101	te estille te E - P. J.	30		/ 6 CP		
ion	Form(s) of assessment		ritten examination (opt ducted by the teaching s			e) or b) of	iner		
minat	Components of final grade		vritten examination (70						
Module examination	Form of module component retake examination								
Я	Form of module retake examination		on or repeat/revision of						
requer		WiSe		Duratio	on 1 Semester				
	capacity	30							
	ge of instruction		nation, English or Germa)			
Website	e	https://www.uni-g	giessen.de/cms/fbz/fb0	9/institute/ith/ag-lu	lehken				

MP E	B 145 - Methods of		-		14. S	em.;	6 CP			
	n Module Title		nal Analysis and Plannin							
	y / chair / department		en, Ökotrophologie und Agrar- und Entwicklung		ent / Institut für Agr	arpolitik ı	und			
	s to degree	Profil, Master (14	l.)							
	es/semesters e coordinator	Prof. Dr. P. Michae	l Schmitz							
Instruc		apl. Prof. Harsche,								
	uisites for participation	none	PD Granuke							
Course		Students will								
000.00			a the necessity and pur	noco of domorcatio	n and differentiation	oc of rura	Irogione			
		-	e the necessity and pur			is of rura	regions			
			wledge of the major m	-						
			y analytic parameters for							
		be able t developr	o apply quantitative me nents	ethods for the analy	vsis and forecasting of	of regiona	al			
		 recognize planning 	e the necessity of evalu	ation within the sco	ope of regional and e	environm	ental			
			o assess the advantage	s and disadvantage	s of various evaluati	on metho	ods			
			o select and apply adec	-						
			nental Planning							
			the basics of project m	anagement						
		- consider	the busies of project III	anagement						
Modul	e content	principle	s of regional grouning	and differentiation						
		hundhed on eQuera. Querand and americanitation.]								
			 methods of regional demarcation 							
		statistical parameters of regional analysis								
		complex indicators for describing regional structures								
		 methods of regional structural analysis 								
		regional models								
		foundations of welfare theory								
		evaluation methods								
		application of evaluation methods to examples of regional and environmental planning								
		 project management in regional and environmental planning 								
			0 0		1 0					
Forms	of instruction	Vorlesung (67%), Übung (33%)								
		180 hours		1						
urs		Consisting of: A co	urses in total	B autonomous work in the module	C module examination					
hot		a contact hours	b			Tota				
Total workload in hou			preparation/follow-							
bad			up work							
rkl	Lecture	40	40							
Ŵ	Seminar									
tal	Practical training									
ΠO	exercises	20	40							
	Study trip		-							
	Homework	<u> </u>	20	20	20	400				
	Form(a) of and and a	60	80	20	20		/ 6 CP			
tion	Form(s) of assessment	8)	ition, paper or b) other	examinations cond	ucted by the teachir	ig statt (si	ee spezO			
fic	Components of final grade	written examinatio	on (80 %), paper (20 %)							
aminatio	Form of module									
lule examinatio	component retake examination			oral examination or repeat/revision of the examination as described in b)						
Module examinatio	component retake examination Form of module retake examination	oral examination o	r repeat/revision of the	e examination as de	scribed in b)					
	examination Form of module retake examination	oral examination o	r repeat/revision of the		scribed in b) on 1 Semester					
Module examination anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase and anbase anbas anbase anbas anban	examination Form of module retake examination		r repeat/revision of the							

MP B	3 147 - Isotopenhyd	rologie			3./4. 9	Sem.;	6 CP			
English	Module Title	Isotope hydrology								
	/ chair / department	Agrarwissenschaften, Ökotrophologie und Umweltmanagement / Institut für Landschaftsökologie un								
		Ressourcenmanagement / Landschafts-, Wasser- und Stoffhaushalt								
Applies	to degree	Profil, Master (3./4.)								
courses/semesters										
Module	e coordinator	Prof. Dr. Lutz Breu	er							
Instruct		Prof. Dr. Lutz Breu	er, Dr. Natalie Orlowski							
Prerequ	uisites for participation	Keine								
Course aims		Die Studierenden								
		 arbeiten 	sich vertieft in ein aktu	elles Spezialgebiet o	der Umweltwissenso	chaften ei	n.			
			aktuelle Publikationen a				,			
			ein aktuelles Thema als	-	-					
		• Konnen	eni aktuelles mema als	Obersicilit ausarbeit						
Module	e content	Anwend	ung stabilar katana in d	han I Imu alturissans	chaftan					
			ung stabiler Isotope in o		charten					
			gen der Isotopenhydrol							
			hebung der isotopische	n Zusammensetzun	g von Gewässer-, Bo	oden-, uno	t			
		Pflanzenproben im Feld								
		(Isotopen-)Probenanalysen im Labor und Ergebnisinterpretation								
Forms o	of instruction	Vorlesung (50%), Seminar (50%)								
		180 hours								
LLS		Consisting of: A courses in total		B autonomous work in the module	C module examination					
Total workload in hours		a contact hours	b preparation/follow- up work			Tota	I			
log	Lecture	30	45			-				
ž.	Seminar	30	45							
<u>></u>	Practical training		15							
ota	exercises									
Ē	Study trip									
	Homework									
		60	90		30	180	/ 6 CP			
uo	Form(s) of assessment	a) Klausur und Seminararbeit oder b) Prüfungsleistung nach Maßgabe des Lehrenden (siehe SpezO 18).								
examination	Components of final grade	Klausur (50 %), Sei	minararbeit (50 %)							
xar	Form of module									
e e	component retake									
qul	examination									
Module	Form of module retake	Klausur oder Wied	erholung/Überarbeitur	ng der in b) festgese	tzten Prüfungsleistu	ng.				
~	examination		-		-					
Freque	ncy	WiSe		Duratio	on 1 Semester					
	capacity	30		•						
Langua	ge of instruction	Deutsch oder Engl	isch							
Websit			giessen.de/cms/fbz/fb0	9/institute/ilr/wasse	or .					