# Modulhandbuch Course Book

# M.Sc. Agricultural and Food Economics (AFECO)

Studienbeginn ab WS 2020/2021

Beginning of studies from WS 2020/2021





# Modul-Übersicht/ Directory of modules

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Complex systems modeling of human-environment interactions	
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Partial and General Equilibrium Modelling	
Food security and sustainable food systems	
Probabilistic Programming for Applied Agricultural Economics	
Satellite Data in Agricultural Economics	
Data Wrangling, Visualization and GIS Data Analysis with R	
Research Seminar in Resource and Environmental Economics	
Major or Minor Market and Consumer Research (MAC)	
Global Agricultural and Food Markets	
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Food Industrial Economics	
Behavioral Economics in Agri-Food markets	
Advanced Methods of Market and Consumer Research	
Communication in the Food Sector	
Ethics in Food Consumption and Production	
Seminar Markets and Consumers	
Special Project in Market and Consumer Research	
Advanced Applied Econometrics	
Food security and sustainable food systems	
Food, Health and Policy: A multidisciplinary Problem Based Learning perspective	
Research Seminar in Market and Consumer Research	
Minor Development Economics (DEV)	
Development Economics	
Impact evaluation of conservation & development projects and environmental policies	
Food security and sustainable food systems	
Minor Agroeconomic Modelling (MOD)	
Applied Modelling of Agricultural Systems	
Advanced Applied Econometrics	
Partial and General Equilibrium Modelling	
Bio-Economic Modelling At Farm-Scale	
Advanced Environmental Economics	
Data Wrangling, Visualization and GIS Data Analysis with R	
Practice-oriented Track for Major "Agribusiness"	
Internship in Agricultural and Food Economics	



Practice-oriented Research Seminar in Agribusiness	
Practice-oriented Masterthesis	
Practice-oriented Track for Major "Agricultural and Development Policy"	
Internship in Agricultural and Food Economics	
Practice-oriented Research Seminar in Agricultural and Development Policy	
Practice-oriented Masterthesis	
Practice-oriented Track for Major "Resource and Environmental Economics"	
Internship in Agricultural and Food Economics	
Practice-oriented Research Seminar in Resource and Environmental Economics	
Practice-oriented Masterthesis	
Practice-oriented Track for Major "Market and Consumer Research"	
Internship in Agricultural and Food Economics	
Practice-oriented Research Seminar in Market and Consumer Research	
Practice-oriented Masterthesis	
Free elective module	
Internship in Agricultural and Food Economics	
Seminar zur Betriebsentwicklung im Organischen Landbau	
Masterthesis	
Masterthesis	



# Abkürzungen/Abbreviations:

## Häufigkeit/Course cycle

SS=Sommersemester/Summer semester

WS=Wintersemester/Winter semester

#### Verwendbarkeit des Moduls/Study program allocation

P/C=Pflichtmodul/Compulsory

WP/E=Wahlpflichtmodul/Elective

fWP/O=freies Wahlpflichtmodul/Optional

PM=Projektmodul/Project module

#### Lehr- und Lernformen/Teaching and learning methodes

V/L=Vorlesung/Lecture

Ü/T=Übung/Tutorial

S=Seminar

P=Praktikum/Practical training

E=Exkursion/Excursion

prÜ/pT=praktische Übung/ Practical course

PS=Projektseminar/Project seminar

T/sT=Tutorium/Student tutorial

K/C=Kolloquium/Colloquium

AG/SG=Arbeitsgemeinschaft/Study group

B-Arb/BT=Bachelorarbeit/Bachelorthesis

M-Arb/MT=Masterarbeit/Masterthesis

Mit Asterisk (\*) gekennzeichnet: Lehrveranstaltungen, für die gemäß § 13 Abs. 6 der POO als Voraussetzung für die Teilnahme an Modulprüfungen die verpflichtende Teilnahme festgelegt ist. Die Pflicht zur Teilnahme besteht dann zusätzlich zu etwaigen sonstigen aufgeführten Studienleistungen.

Marked with an asterisk (\*): Courses for which, in accordance with § 13 Paragraph 6 of the POO, compulsory attendance is specified as a prerequisite for taking module examinations. The compulsory attendance then exists in addition to any other listed academic achievements.



# **Compulsory modules**

**30 ECTS-CP must be completed.** 



Module	Title: E	xter	nded Methods of Empirical Res	earch						
Module II	D <b>/Code:</b> B	AS-1	10 [780761110]							
1. Conte	nt and int	ende	ed learning outcomes							
Learning content:	Ethics in e	empir	ical research							
content.	Quantitat		Research into R; statistical distribution theory; Bayes theorem; refresher matrix algebra for statistical analysis;							alvsis
	linear reg	ressio	on analysis and Gauss Markov theorem; use of non-metric (dummy) variables; logistic regression; hypothesis testing; time trend analysis							
		in So	search cial Science; philosophy of science; ke earch (observation, interview, focus g			-		theory;	; met	hods of
Learning		eres	earch (observation, interview, locus g	gioups), appi			aich			
		mple	tion of the course, the students							
		-	es in empirical research.							
			statistical distribution theory and und	lerstand Bay	es theorem.					
- compreh	end the th	eore	tical basics of linear regression and lo	gistics regre	ssion.					
- can prep	are data fo	or ana	alysis and perform empirical research	using OLS.						
- are able	to generat	e and	test hypotheses (t-test, F-test and A	nova) and to	interpret p-v	alues.				
- are able	to perform	ı a tre	end analysis for typical time series dat	ta along the	agri-food chai	n.				
- will be a	ble to inter	pret	statistical software outputs.							
- can expl	ain major e	piste	mological approaches in social science	ce, different	ways of scient	ific reasoni	ng and	the bas	sic	
assumptic	ons of critic	al ra	tionalism and the positivism dispute.							
- are able	to describe	e the	key aspects and quality criteria in qua	alitative rese	arch and how	it different	tiates f	rom qua	antita	ative
research.										
- can sum	marize diff	erent	methods of qualitative research.							
- will be a	ble to discu	iss a	research topic in a group, develop a c	qualitative su	irvey and appl	y a Ground	led The	ory app	oroad	h to
analyze in	terview da	ta.								
- will be a	ble to inter	pret,	reflect on study results and present t	those.						
2. Prerec	luisites									
obligatory	1									
recomme	nded	Intro	oductory course in methods of empirio	cal research						
Maximum of studen		60 st	tudents							
3. Study	program	alloc	ation							
Study pro	gram					Compulso	ory/ Ele	ective	Se	mester
M.Sc. Agri	icultural ar	d Fo	od Economics				С			1.+2.
4. Teachi	ing and le	arnir	ng methodes				_			
Type of	Interval		Торіс		Language of	Group	SWS	Wo	orklo	ad [h]
course					instruction	size		Conta	act	Self-
								time	e	study
L	during the	e	Quantitative Methods		English	60	2,0	30,0	)	45,0
	semester									
Т*	during the	e	Quantitative Methods: Exercises with	n R	English	30	2,0	30,0	)	75,0
	semester									
L	during the	5	Qualitative Methods		English	60	2,0	30,0	C	60,0
5. Course	semester			6. Workloa	ad [b]	7. Durati	00	8 Cro	dite	(ECTS)
	cycle				au [II]				uits	(2013)
WS+SS				270		2		9,0		



Module Title: Ex	tended Methods of Empirical Research			
Module ID/Code: BA	S-110 [780761110]			
9. Requirements fo	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Written exam [780761119]		graded	English	67%
Assignment [780761118]	Contributions to group and team submissions e.g. research question, interview guides, reports or term papers, presentations. Will be verified through a common group work protocol., Regular and active participation in group meetings, group discussions.	graded	English	33%
Academic Achieveme	nts			
10. Module coordin	ation			
Module coordinator				
Prof. Dr. Monika Hart	mann			
Teaching person				
The teaching persons https://basis.uni-boni	in the current semester can be found in basis: n.de/			
Institute/ Departmen	t			
Agrar-, Forst- und Ern	ährungswissenschaften			
11. Further informa	tion			
The computer Lab is r	ecessary for the exercises with R (see above)			



Module			rsion in Agricultural and Food Economic	S							
			20 [780761120]								
1. Contei			ed learning outcomes								
Learning			, to enterprises along the food chain, to instituti			•					
content:		-	ation of presentations about and background inf				-			-	
Learning	outcomes	llien	ges and sustainability. Discussion of topics relate	ed to the res	earc	n program	is of the	e ILR, a	na th	e faculty	
		mnle	tion of the course, the students								
		-	issues that are sector-relevant.								
			pr-relevant information in a condensed manner								
	•		ss sector-relevant future challenges.								
			lifferent perspectives and teaching modules to e	explain real s	situa	ations in ag	ricultu	re, in tl	he foo	od chain	
			uss future challenges.								
		kno	wledge into practice.								
2. Prereq	-										
obligatory	/										
recomme	nded										
Maximum	n number										
of studen	ts										
3. Study	program a	alloc	ation								
Study pro	gram					Compulso	ory/ Ele	ective	Se	mester	
M.Sc. Agri	icultural an	d Fo	od Economics				С			1.+2.	
-			ng methodes								
Type of	Interval	-	Topic	Language	e of	Group	sws	w	orklo	ad [h]	
course			•	instructio		size		Cont	1	Self-	
								time		study	
E*	-	ock	Excursions, lasting 1 to 5 days to domestic and	English		40	3,0	3,0 48		,0 62,0	
(blocked) S*			international destinations	En allah		60	1.0	20			
5*	during the semester	2	Excursion background block seminar	English		60	1,0	20,	0	50,0	
5. Course			6. Workl	oad [h]		7. Durati	on	8. Cre	edits	(ECTS)	
WS+SS			180			2		6,0	curto	(2010)	
	rements fo	or th	e rewarding of credits (ECTS)			2		0,0			
		-	erequisites for admission to the Assessment		Gra	aded	Langu		We	ighting	
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•   • •							fact		
					ves	s/no	(exam	าง			
none						<b>s/no</b> t graded	(exan	ו)	Tucc		
none						<b>s/no</b> t graded	(exan	1)			
none <b>Academic</b>	Achievem	ents				•	(exan	<u>ı)</u>			
<b>Academic</b> - In total p	participatio	n in	and proof of five days of excursion		no	t graded		<u>)</u>			
<b>Academic</b> - In total p - Two acti <sup>.</sup>	oarticipatio ve pre-excu	n in ursio	n presentations: one poster presentation and or		tion	t graded		ı <u>)</u>			
<b>Academic</b> - In total p - Two acti <sup>,</sup> - Active pa	participatio ve pre-excu articipation	n in ursio in d	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p		tion	t graded		ı <u>)</u>			
Academic - In total p - Two acti - Active pa 10. Modu	participatio ve pre-excu articipation ule coordi	n in ursio in d <b>nati</b>	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p		tion	t graded		1 <u>)</u>			
Academic - In total p - Two acti - Active pa 10. Modu Module co	participatio ve pre-excu articipation ule coordi oordinator	n in ursio in d <b>nati</b>	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p		tion	t graded		1)			
Academic In total p Two actir Active pa 10. Module Module co Dr. Nicola	participatio ve pre-excu articipation <b>ule coordi</b> oordinator s Gerber	n in ursio in d <b>nati</b>	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p		tion	t graded		1) 			
Academic - In total p - Two acti - Active pa 10. Modu Module co Dr. Nicola Teaching	participatio ve pre-excu articipation ule coordi oordinator s Gerber person	n in ursio in d nati	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p on		tion	t graded		ı) 			
Academic - In total p - Two acti - Active pa 10. Modu Module co Dr. Nicola Teaching The teach	participatio ve pre-excu articipation ule coordi oordinator s Gerber person ing person	n in ursio in d <b>nati</b> s in t	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p on he current semester can be found in basis:		tion	t graded		1) 			
Academic - In total p - Two acti - Active pa 10. Module co Dr. Nicola The teach https://ba	participatio ve pre-excu articipation ule coordi oordinator s Gerber person ing person asis.uni-bor	n in ursio in d nati	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p on he current semester can be found in basis:		tion	t graded					
Academic - In total p - Two activ - Active pa 10. Module co Dr. Nicola The teach https://ba Institute/	participatio ve pre-excu articipation ule coordi oordinator s Gerber person ing person asis.uni-bor Departme	n in ursio in d nati s in t n.de <b>nt</b>	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p on he current semester can be found in basis:		tion	t graded					
Academic - In total p - Two activ - Active pa 10. Module co Dr. Nicola Teaching The teach https://ba Institute/ Agrar-, Fo	participatio ve pre-excu articipation ule coordi oordinator s Gerber person ing person asis.uni-bor Departme	n in ursio in d nati s in t nn.de nt	n presentations: one poster presentation and or iscussions on the excursion and pre-excursion p on the current semester can be found in basis: e/ ungswissenschaften		tion	t graded					



Module ID		icroeconomics								
		S-130 [780761130]								
		nded learning outcome								
-	Choice and	demand: utility maximization	tion, expenditure	e minimiza	tion, Slutsk	y equation m	arket d	emand,	welf	fare
content:	measures									
		pply and factor demand: p		ons, cost m	ninimizatior	n, profit maxi	mizatio	n		
		on of supply and demand t	-							
	-	ve markets for products an interaction (game theory),			mporfact cr	modition				
Learning o				ecources, ii		Inpetition				
After a suc	ccessful con	pletion of the course, the	students							
		ne neoclassical theory of si		nd market	s at a forma	al mathemati	cal leve	l.		
- are able t	to formulat	e and solve unconstrained	and constrained	optimizati	ion problen	ns and apply	optimiza	ation to	ols t	o solve
quantitativ	ve economi	: problems.								
		on of economic decision p				propriate too	l from s	et of po	ossib	ilities.
		ulus and spreadsheet tool	is to economic de	ecision pro	blems.					
2. Prereq										
obligatory	'									
recomme	nded									
Maximum	number									
of student	ts									
3. Study <sub>l</sub>	program a	location								
Study pro	gram					Compuls	ory/ Ele	ective	Se	emester
M.Sc. Agri	cultural and	Food Economics					С			1.
4. Teachi	ng and lea	rning methodes								
Type of	Interval	Topic			Language	of Group	SWS	W	Norkload [h]	
course					instruction	-		Conta	1	Self
								tim	e	stud
L		Microeconomics			English	120	3,0	45,0	0	60,0
Т		Microeconomics			English	50	1,0	15,0	0	60,0
5. Course	cvcle		6	6. Workloa	ad [h]	7. Durat	ion	8. Cre	dits	(ECTS)
										•
WS			1	.80		1		0.0		
	ements fo	the rewarding of credi		.80		1		6,0		
9. Requir		r the rewarding of credi Prerequisites for admissi	its (ECTS)				Langu	•	We	ighting
9. Requir		r the rewarding of credi Prerequisites for admissi	its (ECTS)			Graded	Langu (exam	lage	We	
9. Requir Types of A	ssessment	_	its (ECTS)				Langu (exan Englis	iage 1)		tor
<b>9. Requir</b> Types of A Written ex	Assessment	_	its (ECTS)			Graded yes/no	(exan	iage 1)	fact	tor
9. Requir Types of A Written ex [78076113	Assessment kam 39]	_	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer	kasessment kam 39] nt	_	its (ECTS)			Graded yes/no	(exan	iage 1) h	fact	tor 6
9. Requir Types of A Written ex [78076113 Assignmer	kasessment kam 39] nt	_	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	6
9. Requir Types of A Written ex [78076113 Assignmer [78076113	kasessment kam 39] nt	Prerequisites for admissi	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
Types of A Written ex [78076113 Assignmer [78076113	Assessment kam 39] ht 38]	Prerequisites for admissi	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic	Assessment kam 39] ht 38]	Prerequisites for admissi	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic 10. Modu	Assessment (am 39] ht 38] Achieveme	Prerequisites for admissi	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic Academic 10. Modu	Assessment (am (39] ht (38] Achieveme (ale coordin	Prerequisites for admissi nts ation	its (ECTS)			Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic 10. Modu Module co Prof. Dr. T Teaching p	Assessment (am (39] ht (38] Achieveme (ale coordin pordinator homas Hec (person	Prerequisites for admissi nts ation	its (ECTS) ion to the Assess	sment		Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic 10. Module Module co Prof. Dr. T Teaching p The teachi	Assessment (am (am (am) (an) (an) (an) (an) (an) (an) (an) (an	Prerequisites for admissi nts ation celei in the current semester ca	its (ECTS) ion to the Assess	sment		Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic Itaching p The teaching p The teaching p	Assessment (am (am (am) (an) (an) (an) (an) (an) (an) (an) (an	Prerequisites for admissi nts ation celei in the current semester ca n.de/	its (ECTS) ion to the Assess	sment		Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic 10. Module co Prof. Dr. T Teaching p The teachi https://ba Institute/	Assessment (am (am (am) (am) (am) (am) (am) (am) (	Prerequisites for admissi nts ation kelei in the current semester ca h.de/ t	its (ECTS) ion to the Assess	sment		Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6
9. Requir Types of A Written ex [78076113 Assignmer [78076113 Academic 10. Module co Prof. Dr. T Teaching p The teachi https://ba	Assessment (am (am (am) (am) (am) (am) (am) (am) (	Prerequisites for admissi nts ation celei in the current semester ca n.de/	its (ECTS) ion to the Assess	sment		Graded yes/no graded	(exan Englis	iage 1) h	<b>fac</b> 50%	tor 6



wodule	Title: Or	ganizational Management									
Module II	<b>D/Code:</b> BA	S-140 [780761140]									
1. Conte	nt and inte	nded learning outcomes									
Learning	Participant	are able to apply theory concepts	of management a	nd organizat	tion to the p	articula	rities of	the			
content:	enterprises	and chains that are operating main	and chains that are operating mainly in the sectors of agriculture, food and supporting industries.								
	Moreover,	participants will have to compare, present and discuss different seminal scientific articles stemming from									
	the domain	of Strategic Management (e.g. Resource-based view), Organizational Management (e.g. Value chain									
	analysis), E	ntrepreneurship (e.g. business moo	dels) and related a	reas. These t	heory conce	epts are	also ap	plied	and		
	discussed t	o case studies drawn from leading	international busir	ness schools	(e.g. Harvar	d Busin	ess Scho	ool).			
Learning	outcomes										
		pletion of the course, the students									
- are able	to recall and	describe the main theories constit	tuting the pillars of	f manageme	nt and orgai	nization					
		eoretical approaches and views and	-			-					
		nformation from scientific literatu	•	tical industri	al cases with	the the	eory.				
		liscuss scientific management litera									
		f applications of various theories a	•								
	• .	roblems, find potential solutions, a									
		case studies as well as relate mana	-		d" examples	•					
		most approapriate strategic tools t	o practical manage	erial cases.							
		articles and present them in class.									
		different theoretical management	approacnes.								
2. Prerect											
recomme	-										
Maximum		0 students									
of studen											
	program al	location									
Study pro	-				Compuls	ory/ Ele	ective	Sen	nester		
M.Sc. Agri	icultural and	Food Economics				С			1.		
4. Teachi	ing and lea	ning methodes									
Type of	Interval	Торіс		Language o	f Group	SWS	Wo	rkloa	d [h]		
course				instruction	size	size Contact time		ct	Self-		
									study		
1	during the	English									
L	during the			English	50	4,0	56,0	)	124,0		
	semester		C Markley								
5. Course	semester		6. Workloa		7. Durati		8. Cre				
5. Course	semester e cycle		180								
5. Course WS 9. Requir	semester e cycle rements for	the rewarding of credits (ECTS	180 5)	ad [h]	<b>7. Durati</b>	on	<b>8. Cre</b> 6,0	dits (	ECTS)		
5. Course WS 9. Requir	semester e cycle rements for	the rewarding of credits (ECTS Prerequisites for admission to the	180 5)	ad [h]	7. Durati 1	on Langu	<b>8. Cre</b> 6,0	dits ( Weig	ECTS)		
5. Course WS 9. Requir Types of A	semester e cycle rements for Assessment		180 5)	ad [h]	7. Durati 1 Graded es/no	on Langu (exan	8. Crea 6,0 age	dits ( Weig facto	ECTS)		
5. Course WS 9. Requir	semester e cycle rements for Assessment		180 5)	ad [h]	7. Durati 1	on Langu	8. Crea 6,0 age	dits ( Weig	ECTS)		
5. Course WS 9. Requir Types of A Presentat [78076114	semester e cycle rements for Assessment ion 49]		180 5)	ad [h]	7. Durati	On Langu (exan Englis	8. Cree 6,0 age 1)	dits ( Weig facto 33%	ECTS)		
5. Course WS 9. Requir Types of A Presentat	semester e cycle rements for Assessment ion 49]		180 5)	ad [h]	7. Durati 1 Graded es/no	on Langu (exan	8. Cree 6,0 age 1)	dits ( Weig facto	ECTS)		
5. Course WS 9. Requir Types of A Presentat [78076114 Assignment	semester e cycle rements for Assessment ion 49]		180 5)	ad [h]	7. Durati	On Langu (exan Englis	8. Cree 6,0 age 1)	dits ( Weig facto 33%	ECTS)		
5. Course WS 9. Requir Types of A Presentat [78076114 Assignmen [78076114	semester e cycle rements for Assessment ion 49]	Prerequisites for admission to the	180 5)	ad [h]	7. Durati	On Langu (exan Englis	8. Cree 6,0 age 1)	dits ( Weig facto 33%	ECTS)		



# Module Title: Organizational Management

Module ID/Code: BAS-140 [780761140]

# 10. Module coordination

Module coordinator

Dr. David Antons

**Teaching person** 

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

**11. Further information** 

Harvard cases (Harvard Business School) need to be bought, approx 5  $\notin$  / case



# Module Title: Risk Management in the Agribusiness

Module ID/Code: BAS-150 [780761150]

# 1. Content and intended learning outcomes

LearningDifferent concepts of risk measures and risk management; risk management instruments in the agricultural and foodcontent:sector; theoretical concepts addressing risk in decision making; accompanying exercises and case studiesLearningsector; theoretical concepts addressing risk in decision making; accompanying exercises and case studies

# Learning outcomes

After a successful completion of the course, the students...

- identify different types of risks in the agri-food sector.

- discuss and apply different risk measures.

- classify and critically discuss the role of risk for current issues in the agri-food sector.

- name important risk management tools for the agri-food sector and understand their function.

- understand relevant theories and concepts for decision-making under risk.

- apply theories and concepts of decision-making under risk and risk management to relevant issues using empirical methods (and software).

# 2. Prerequisites obligatory recommended Extended Methods of Empirical Research (BAS-110)

Maximum number

# of students

3. Stuc	ly program a	llocation
---------	--------------	-----------

Study program	Compulsory/ Elective	Semester
M.Sc. Agricultural and Food Economics	C	2.
4. Teaching and learning methodes		

4. Teach	ing and learn	ing methodes						
Type of	Interval	Торіс		Language of	Group	SWS	Worklo	oad [h]
course				instruction	size		Contact	Self-
							time	study
L		Risk Management Lecture		English	50	1,0	14,0	22,0
Т		Risk Management Practical		English	50	1,0	14,0	40,0
5. Cours	e cycle		6. Worklo	ad [h]	7. Durati	on	8. Credits	(ECTS)
SS			90		1		3,0	

# 9. Requirements for the rewarding of credits (ECTS) Types of Assessment Prerequisites for admission to the Assessment

Types of Assessment	Frerequisites for aumission to the Assessment	Graueu	Language	weighting
		yes/no	(exam)	factor
Written exam [90		graded	English	
min]				
[780761157]				

Graded

Language

Weighting

# Academic Achievements

# **10. Module coordination**

Module coordinator

Prof. Dr. Niklas Möhring

# Teaching person

The teaching persons in the current semester can be found in basis:

# https://basis.uni-bonn.de/

Institute/ Department

# Agrar-, Forst- und Ernährungswissenschaften

# 11. Further information



# Major or Minor Agribusiness (ABS)

# Requirements for the Major Specification: - Modules accounting for a minimum of 30 ECTS-CP in the Major Specification - The Research Seminar is in the Major Specification - The Master Thesis is in the Major Specification Requirements for the Minor Specification:

- Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



Modula	IITIE: FI	nancial Accounting							
woodule IL	<b>D/Code:</b> AE	S-100 [780762100]							
1. Conter	nt and inte	nded learning outcomes							
Learning	Students le	arn about the annual financ	ial statements as require	ed by Germa	n commercia	l law (H	IGB) an	d as p	roposed
content:		cultural Ministry for farms. A							
		eet and the financial statem	ent of a firm, being able	to analyse it	for rentabilit	y, solve	ency an	d stab	ility of
	firm.								
Learning o									
		pletion of the course, the st	tudents						
		ounting tasks.							
		e to accounting. cial statements.							
		financial ratios) from financi	al statements						
		tuation of firms.	ai statements.						
2. Prereq									
obligatory									
recomme		achelor course in Financial	Accounting like Ökonomi	ie II offered i	n Bonn				
Maximum									
of student									
	program a	location							
Study pro					Compulse	ory/ Ele	ective	Sen	nester
	-	Food Economics				E			2.
-		ence (Teacher's Training)				E			2.
		ence (Teacher's Training)				E			2.
-		rning methodes							
Type of	Interval	Topic		Language o	of Group	sws	W	orkloa	d [b]
course	IIItervar	Topic		instruction				Vorkload [h] tact Self	
course				matiaction	5120		tim		
L	during the	Financial Accounting		German	15	2,0	28,0		62,0
- ,						_,-	,	-	/-
	semester								
T	-	Accounting and analyzin	ng financial statements	German	15	2,0	28,0	C	62,0
Т	semester		ng financial statements	German	15	2,0	28,0	C	62,0
	semester during the semester		ng financial statements 6. Worklo		15 <b>7. Durati</b>		28,0 <b>8. Cre</b>		
<b>5. Course</b> SS	semester during the semester e cycle	Accounting and analyzin	<b>6. Worklo</b> 180						
<b>5. Course</b> SS	semester during the semester e cycle		<b>6. Worklo</b> 180		7. Durati		8. Cre		
5. Course SS 9. Requir	semester during the semester cycle ements fo	Accounting and analyzin	6. Worklo 180 5 (ECTS)	 bad [h]	7. Durati 1 Graded		<b>8. Cre</b> 6,0	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A	semester during the semester cycle ements fo assessment	Accounting and analyzin r the rewarding of credits Prerequisites for admission	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	on	8. Cre 6,0	dits (	ECTS)
5. Course SS 9. Requir Types of A Written ex	semester during the semester cycle ements fo assessment	Accounting and analyzin	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded	on Langu	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min]	semester during the semester cycle ements fo Assessment cam [90	Accounting and analyzin r the rewarding of credits Prerequisites for admission	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min]	semester during the semester cycle ements fo Assessment cam [90	Accounting and analyzin r the rewarding of credits Prerequisites for admission	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210	semester during the semester cycle ements fo Assessment cam [90	Accounting and analyzin The rewarding of credits Prerequisites for admission Presentation	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210	semester during the semester e cycle ements fo Assessment kam [90	Accounting and analyzin The rewarding of credits Prerequisites for admission Presentation	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210 Academic	semester during the semester e cycle ements fo Assessment kam [90	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written e> min] [78076210 Academic 10. Modu	semester during the semester e cycle ements fo Assessment kam [90 07] Achieveme	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex- min] [78076210 Academic 10. Module co	semester during the semester cycle ements fo Assessment kam [90 07] Achieveme	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210 Academic Academic 10. Modu	semester during the semester e cycle ements fo Assessment (am [90 07] Achieveme ule coordin pordinator inn Trenkel	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts	6. Worklo 180 5 (ECTS)	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210 Academic 10. Modu Dr. Herma Teaching r The teachi	semester during the semester e cycle ements fo Assessment (am [90 07] Achieveme Jle coordin ordinator Inn Trenkel person ing persons	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts ation in the current semester can	6. Worklo 180 s (ECTS) n to the Assessment	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex- min] [78076210 Academic 10. Module co Dr. Herma Teaching p The teaching https://ba	semester during the semester e cycle ements fo Assessment cam [90 07] Achieveme ule coordir pordinator inn Trenkel person sis.uni-bon	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts ation in the current semester can n.de/	6. Worklo 180 s (ECTS) n to the Assessment	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex min] [78076210 Academic Academic Dr. Herma The teaching p The teaching https://ba	semester during the semester e cycle ements fo Assessment (am [90 07] Achieveme Jle coordin ordinator Inn Trenkel person ing persons sis.uni-bon Departmer	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts ation in the current semester can n.de/ t	6. Worklo 180 s (ECTS) n to the Assessment	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)
5. Course SS 9. Requir Types of A Written ex- min] [78076210 Academic 10. Module co Dr. Herma Teaching p The teaching https://ba Institute/ Agrar-, Fou	semester during the semester e cycle ements fo Assessment (am [90 07] Achieveme Jle coordin ordinator Inn Trenkel person ing persons sis.uni-bon Departmer	Accounting and analyzin r the rewarding of credits Prerequisites for admission Presentation nts ation in the current semester can n.de/ t ährungswissenschaften	6. Worklo 180 s (ECTS) n to the Assessment	ad [h]	7. Durati 1 Graded yes/no	On Langu (exam	8. Cre 6,0 age	dits ( Wei	ECTS)



1. Conte	nt and int	end	ed learning outcon	nes							
Learning content:	relevant f are surve structura both intro processes the settin database managem	for m ys, m l equ oduce s, cor g of s, all nent.	ovides an introduction anagement research leans-end chain mood ation modeling, chois e and facilitate the a mpanies, entire supp agribusiness. Where with the goal of bein This course is espect and Innovation Manag	n, whether in an a leling, social network ce modelling, an pplication of the ly chain, or even applicable, stude og able to use the ally recommend	academic or o work analysis, d science-fict se methods fo the broader ents will also ese methods f ed for studen	corporate se , patents ar tion prototy or a range c developme become acc for conduct	tting. Some d data analy ping. In this v f relevant un nt of technol- juainted with ng their own	example sis, grou way, th its of ar ogy inno n releva studies	es of th up conc e cours nalysis: ovation nt softw s in the	ese n ept n e is s prod syste wares field	nethods napping et up to lucts, ems in s and of
Learning	outcomes	gyai		ement in Agribu	5111255.						
- will be a - will be a - will be a - will be a	ble to inde ble to impl ble to anal ble to asse ble to inde	pend eme yse ( ss, ev	nd typify relevant re lently compare and o nt research problem qualitative or quanti valuate and justify th lently conduct studie	distinguish amon s and methods to tative) data, and peir choice of reso	g different ty o obtain accu discuss impo earch methoo	pes of researate and inf rate and inf ortant findin ds for answe	orch methods ormative res gs of their re ering researc	s. ults. search. h quest	ions.		
obligatory recomme Maximun of studen	nded n number ts	25 s	-110 Extended Meth tudents	ods of Empirical	Research						
obligatory recomme Maximum of studen 3. Study	nded n number ts program	25 s	tudents	ods of Empirical	Research						
obligatory recomme Maximun of studen 3. Study Study pro	nded n number ts program	25 s alloc	tudents ation	ods of Empirical	Research		Compuls		ective	Se	mester
obligatory recomme Maximun of studen <b>3. Study</b> Study pro M.Sc. Agri	nded n number ts program gram icultural ar	25 s alloc	tudents cation od Economics	ods of Empirical	Research		Compuls	ory/ Ele E	ective	Se	mester 3.
obligatory recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi	nded n number ts program igram icultural ar	25 s alloc	tudents ation od Economics ng methodes	ods of Empirical	Research			E			3.
obligatory recomme Maximun of studen <b>3. Study</b> Study pro M.Sc. Agri	nded n number ts program gram icultural ar	25 s alloc	tudents cation od Economics	ods of Empirical	Research	Language	of Group			orklo	3. ad [h] Self-
obligatory recomme Maximum of studen <b>3. Study</b> Study pro M.Sc. Agri M.Sc. Agri M.Sc. Agri <b>4. Teachi</b> Type of course	nded n number ts program icultural ar ing and le Interval during th semester	25 s alloc nd Fo arni e	tudents ation od Economics ng methodes		siness	instruction English	of Group size 25	E SWS 4,0	Wo Conta time 56,0	orklo act e 0	3. ad [h] Self- study 124,0
obligatory recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course	nded n number ts program icultural ar ing and le Interval during th semester	25 s alloc nd Fo arni e	tudents ation od Economics ng methodes Topic		siness	instruction English	of Group size 25 7. Durati	E SWS 4,0	Wo Conta time 56,0 8. Cre	orklo act e 0	3. ad [h] Self- study
obligatory recomme Maximum of studen <b>3. Study</b> Study pro M.Sc. Agri <b>4. Teachi</b> Type of course L	nded n number ts program igram icultural ar ing and le Interval during th semester	25 s alloc ad Fo arni e	tudents ation od Economics ng methodes Topic Applied Planning M	ethods in Agribu	siness	instruction English	of Group size 25	E SWS 4,0	Wo Conta time 56,0	orklo act e 0	3. ad [h] Self- study 124,0
obligatory recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course L 5. Course WS 9. Requin	nded n number ts program icultural ar ing and le Interval during th semester cycle	25 s alloc arni e e	tudents ation od Economics ng methodes Topic	ethods in Agribu edits (ECTS)	siness 6. Workloa 180	instruction English ad [h]	of Group size 25 7. Durati 1 Graded	E SWS 4,0 Con	Wa Conta tim 56,0 8. Cre 6,0	orklo act e 0 edits	3. ad [h] Self- study 124,0 (ECTS)
obligatory recomme Maximum of studen <b>3. Study</b> Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course L 5. Course WS 9. Requin	nded n number ts program igram icultural ar ing and le Interval during th semester e cycle	25 s alloc arni e e	tudents ation od Economics ng methodes Topic Applied Planning M	ethods in Agribu edits (ECTS)	siness 6. Workloa 180	instruction English ad [h]	of Group size 25 7. Durati 1	E SWS 4,0	We           Conta           tim           56,0           8. Cree           6,0           age           n)	orklo act e 0 edits	3. ad [h] Self- study 124,0 (ECTS) ighting or



Module Title: Methods in Management Research
Module ID/Code: ABS-120 [780762120]
10. Module coordination
Module coordinator
Dr. David Antons
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information
Not offered in WS 23/24



			tment and Financing 30 [780762130]						
	-		d learning outcomes						
Learning			valuation of single investment pro	oiects using dy	vnamic conce	ots: simultan	eous pla	anning o	of investmer
content:			overview and analysis of typical a						
		-	ancial management and evaluati					-	
	uncertain	ty		_				-	
Learning	outcomes								
After a su	ccessful co	mplet	ion of the course, the students						
			oncepts for the assessment of in	vestment and	financing dec	isions, critica	lly refle	ct on th	em and app
			of agricultural enterprises.						
-	-	-	s for investments in agriculture.		un dan niak ana	مريم المنظلة مريمة			
- Understa agricultur		tically	reflect on relevant concepts for	investments (	under risk and	apply them	to relev	ant exar	nples from
-		ance d	of the concepts learned for curre	ont issues in ag	riculture (e g	sustainabili	tv and r	esilience	<b>_</b> )
			decisions in new, agriculture-relation						
			eir implementation and societal o					· · · · ,	, ,
2. Prerec	-		·						
obligatory	-								
recomme		Risk M	Management in Agribusiness, Mi	croeconomics	. Extended M	ethods of Em	pirical F	esearch	. Agricultur
			uction Economics				Pincuri		.,
Maximun	n number								
of studen	ts								
3. Study	program	alloca	ation						
Study pro	gram					Compuls	ory/ Ele	ective	Semester
M.Sc. Agr	icultural ar	d Foo	od Economics				E		3.
			(Teacher's Training)				E		3.
			nd Home Economics (Teacher's Ti	raining)			Е		3.
			g methodes				_		
Type of	Interval		Topic		Language	of Group	SWS	Wo	rkload [h]
course	interval	'			instruction		5115	Conta	
								time	
L	during the	e I	Investment		English	40	1,5	23,0	
	semester								
L	full-day b	lock I	Financing (optional in German)		German	40	0,5	8,0	12,0
(blocked)									
Т	during the	e l	Investment		English	40	2,0	30,0	60,0
	semester								
L	during the	e F	Financing		English	40	0,5	8,0	12,0
<b>F Ca</b>	semester			C Morte	lead [h]	7 Durat		0.0	
5. Course	e cycle			6. Work	ioad [n]	7. Durat	ion		dits (ECTS)
WS D. Domuiu		<b></b>	nonverding of modite (FCTC)	180		1		6,0	
•			e rewarding of credits (ECTS)	<b>A</b>		Cura da d	1		14/
	Assessmen	t Pre	requisites for admission to the A	Assessment		Graded yes/no	Langu (exan	-	Weighting factor
iypes of A						graded	Englis	-	ומנוטו
	vam [00								
Written e	xam [90					Bradea			
Written e min]	-					Bradea	8		
Written e	-					5.0000	8		



# Module Title: Investment and Financing

Module ID/Code: ABS-130 [780762130]

# 10. Module coordination

#### Module coordinator

Prof. Dr. Niklas Möhring

# **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

# Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

**11. Further information** 

Dr. Gerd Wesselmann (former director of WGZ Bank) teaches only in German. An English alternative is offered.



# Module Title: Agricultural Production Economics

Module I	<b>D/Code:</b> A	BS-210	[780762210]							
1. Conte	nt and int	ended	learning outcomes							
Learning			f agricultural production econor		-		-	-		
content:			y of farms; theoretical and appl			ty analysis; ı	manage	ment c	halle	nges
Learning		agricul	Itural production; farm product	tion organizatio	n.					
	outcomes									
			on of the course, the students Ital theories and concepts of ag		uction oconon	aicc				
			eflect on the relevance of theory	· · ·			ssues ir	agricu	lture	lea
		-	ble and resilient production syst	-			33003 11	lagiicu	iture	(c.g.,
			insights (e.g. from agronomy o	-	models and tl	neories of pr	oductio	on econ	omic	s.
			ts of the introduced fundament							
them.										
			ots and models they have learne	ed theoretically	, algebraically	and empirio	cally to	relevan	nt pro	oblems of
	al producti	on.								
2. Prerec	-									
obligator	У									
recomme	ended									
Maximun	n number									
of studen	its									
3. Study	program a	allocat	tion							
Study pro	ogram					Compuls	ory/ Ele	ective	Se	emester
M.Sc. Agr	icultural an	d Food	l Economics				Е			1.
M.Ed. Agr	ricultural Sc	ience (	Teacher's Training)				Е			1.
M.Ed. Agr	ricultural Sc	ience (	Teacher's Training)				E			1.
4. Teach	ing and lea	arning	methodes							
Type of	Interval	Тс	opic		Language o	of Group	SWS	W	orklo	ad [h]
course					instruction	size		Conta	act	Self-
								tim	e	study
L	during the	e Th	heory		English	30	2,0	28,0	0	42,0
	semester									
Т	during the	e Ap	pplication		English	30	2,0	28,0	0	82,0
5. Course	semester			6. Worklo	ad [b]	7. Durati	l	9 Cro	dita	(ECTS)
WS	e cycle			180	Jau [n]	1	on	6,0	uits	(ECTS)
	rements fo	or the	rewarding of credits (ECTS)	100		1-		0,0		
•			equisites for admission to the	Assessment		Graded	Langu	lage	We	ighting
	Assessmen			Assessment		ves/no	(exan	-	fact	
Written e	xam [90					graded	Englis			
min]	-						0			
[7807622	19]									
Academic	c Achievem	ents								



# Module Title: Agricultural Production Economics Module ID/Code: ABS-210 [780762210] 10. Module coordination Module coordinator Prof. Dr. Niklas Möhring Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



1 Contor													
			ed learning out										
Learning content:	processes technolog innovative environm new prod developm emphasis	, stra y an e pro ent; uct a ent a , by r	s of this course re ategies, and struc d innovation mar jects and organiz and facilitate the nd technology de and implementat neans of case-stu siness model as p	tures that are nagement tool ations; assist development evelopment pr ion of strategi udy discussion	e relevai ls; explo in the c t and ev rocesse ic innov as, in-cla	nt. Thus, thi ore how the reation of a valuation of s. Discussion vation conce ass assignme	s course wil se help to s n innovatio appropriate n of how to epts in the c ents, guest l	l provi upport n-orier strate appro ontext ecture	ide a de t and de nted an egies fo priately c of agri es, and,	etailed c esign th id innov r the im y utilize busines	overvie e man vation- pleme tools f	ew of s agem suppo entation for the ives sp	strategi ent of orting on of e pecific
Learning o						0							
- interpret - characte - execute a - different - summari regard to f - summari these fron - classify a projects a - critically - generate of design-	;, explain, a rize and cla and apply iate and arg manageme ze and pro n one anot nd differen nd within o apply and potential thinking ap	and s assify corpo tribu anize ent o vide her. ntiate appr busin	ation of the cours ummarize releva of different forms orate foresight ar ate types of innove the challenges a f intellectual prop examples of the e the various sou ent organizations aise conceptual to ness models and aches.	nt issues and a and types of in ad technology vation strategi and opportuni perty. various ways f rces of innova s. pools and fram	stages of nnovati forecas ies alon ities of o to struc ative ide neworks	ions in the c sting tools, s gside their f open innova cture innova eas as well a s toward the	ontext of ag such as pate fit within sp ation in the tion proces s their relat	gribusi ent ana ecific c contex ses, as ive sui releva	ness. alysis. organiza kt of agi well as itability ant case	ational s ribusine s compa for dist es from	structu ess, inc are and cinct ty agribu	luding l cont vpes o siness	rast f s.
2. Prereq	-												
obligatory	/	BAS	<ul> <li>140 Organization</li> </ul>	hal Manageme									
			6	iai managerri	ent								
recomme	nded				ent								
recomme Maximum of student	number ts		tudents		ent								
Maximum of student	number		tudents		ent								
Maximum of student 3. Study	number ts program		tudents		ent			Co	ompulso	ory/ Ele	ctive	Se	mester
Maximum of student <b>3. Study</b> Study pro	number ts program gram	alloc	tudents		ent			Co	ompulso	ory/ Ele	ctive	Se	mester 2.
Maximum of student <b>3. Study</b> Study pro M.Sc. Agri	number ts program gram cultural ar	alloc d Fo	tudents ation		ent			Co	ompulso		ctive	Se	
Maximum of student 3. Study   Study pro M.Sc. Agri 4. Teachi	number ts program gram cultural ar	alloc d Fo	tudents ation od Economics		ent		Language		ompulso				
Maximum of student <b>3. Study</b> Study pro M.Sc. Agri	number ts program gram cultural ar ng and le	alloc d Fo	tudents ation od Economics ng methodes		ent		Language	of G		E	W Cont	orklo	2. ad [h] Self-
Maximum of student <b>3. Study</b> Study pro M.Sc. Agri M.Sc. Agri <b>4. Teachi</b> Type of course	number ts program gram cultural ar ng and le Interval during the	d Fo arni	tudents ation od Economics ng methodes Topic Strategic Techno	plogy and Inno				of G	iroup	E	W	orklo act	2. ad [h] Self- study
Maximum of student <b>3. Study</b> Study pro M.Sc. Agri M.Sc. Agri <b>4. Teachi</b> Type of course	number ts program cultural ar ng and le Interval during the semester	d Fo arni	tudents ation od Economics ng methodes Topic	plogy and Inno		6. Worklo	instruction English	of G	Group size 20	E SWS 4,0	W Cont tim 56,	orklo act e 0	2. ad [h] Self- study 124,0
Maximum of student <b>3. Study</b> Study pro M.Sc. Agri M.Sc. Agri <b>4. Teachi</b> Type of course	number ts program cultural ar ng and le Interval during the semester	d Fo arni	tudents ation od Economics ng methodes Topic Strategic Techno	plogy and Inno		6. Worklo	instruction English	of G 1 7.	iroup size	E SWS 4,0	W Cont tim 56, <b>8. Cre</b>	orklo act e 0	2. ad [h] Self- study
Maximum of student 3. Study pro- Study pro- M.Sc. Agri M.Sc. Agri 4. Teachi Type of course 5. Course	number ts program gram cultural ar ng and le Interval during the semester	alloc d Fo arni	tudents ation od Economics ng methodes Topic Strategic Techno Management in	plogy and Inno Agribusiness	ovation	6. Worklo 180	instruction English	of G	Group size 20	E SWS 4,0	W Cont tim 56,	orklo act e 0	2. ad [h] Self- study 124,0
Maximum of student 3. Study Study pro M.Sc. Agri 4. Teachi Type of course 5. Course 5. Course 5. Course 5. Course	number ts program cultural ar ng and le Interval during the semester cycle	d Fo arnii	tudents ation od Economics ng methodes Topic Strategic Techno Management in	ology and Inno Agribusiness credits (ECT	ovation S)	180	instruction English ad [h]	of G 1 7. 1	Froup size 20 Durati	E SWS 4,0 ON	W Cont tim 56, 8. Cre 6,0	orklo act 0 edits	2. ad [h] Self- study 124,0
Maximum of student 3. Study bitudy pro- M.Sc. Agri 1. Teachi Type of course 5. Course 5. Course 5. Course 5. Course	number ts program cultural ar ng and le Interval during the semester cycle	d Fo arnii	tudents ation od Economics ng methodes Topic Strategic Techno Management in	ology and Inno Agribusiness credits (ECT	ovation S)	180	instruction English ad [h]	of G 1 7. 1 Grade	Group size 20 Durati	E SWS 4,0 On Langu	W Cont 56, 8. Cre 6,0	orklo act 0 edits	2. ad [h] Self- study 124,C (ECTS)
Maximum of student 3. Study Study pro M.Sc. Agri 4. Teachi Type of course 5. Course 5. Course 5. Course 5. Course	number ts program cultural ar ng and le Interval during the semester cycle ements for Assessmen	d Fo arnin e Dr th t Pr	tudents ation od Economics ng methodes Topic Strategic Techno Management in	ology and Inno Agribusiness credits (ECT	ovation S)	180	instruction English ad [h]	of G 1 7. 1	iroup size 20 Durati d o	E SWS 4,0 ON	W Cont tim 56, 8. Cro 6,0 age	orklo act 0 edits	2. ad [h] Self- study 124,( (ECTS) ighting or



Module Title: Strategic Technology and Innovation Management	
Module ID/Code: ABS-230 [780762230]	
10. Module coordination	
Module coordinator	
Dr. David Antons	
Teaching person	
The teaching persons in the current semester can be found in basis:	
https://basis.uni-bonn.de/	
Institute/ Department	
Agrar-, Forst- und Ernährungswissenschaften	
11. Further information	



Module	Title: S	emi	inar Economics of Sustainable A	Agricultura	l Product	ion Systen	ns			
Module ID	D <b>/Code</b> : A	BS-3	800 [780762360]							
1. Conter	nt and int	end	ed learning outcomes							
Learning content:			elated to agri-business and productivit nplementation with statistical softwar		nd planning	problems, a	pplicatio	on of ef	ficien	ісу
Learning o	-	-		-						
After a suc	ccessful co	mple	etion of the course, the students							
		-	ect on relevant challenges for agricultu	iral producti	on systems	and their su	stainabi	lity and	resili	ience.
			ries and methods in the field of produce	ction econor	nics and dee	cision theory	' to prol	olems o	f agri	cultural
•			value chain.							
	evaluate a	and i	mplement research designs to answer	specific rese	earch questi	ons using th	e appro	priate c	luant	itative
methods.	mnirical re	sult	s and relate them to current scientific	literature an	d discuss ar	nd derive sou	ietal			
	-		echniken wie die Strukturierung eines					l das		
Datenman		-	_	0.1						
2. Prereq	uisites									
obligatory	1	Pas	sed exam in module BAS-110 and one	of the modu	les BAS-130	or ABS-210				
recomme	nded									
Maximum	number	12 s	students							
of student	ts									
3. Study	program	allo	cation							
Study pro	gram					Compuls	ory/ Ele	ective	Sei	mester
M.Sc. Agri	cultural ar	nd Fo	ood Economics				E			2.
4. Teachi	ng and le	arni	ng methodes							
Type of	Interval		Торіс		Language o	of Group	SWS	Wo	orkloa	ad [h]
course					instruction	size		Conta		Self-
								time		study
S	during the semester	e			English	12	4,0	56,0	)	124,0
5. Course	cycle			6. Workloa	ad [h]	7. Durat	ion	8. Cre	dits	(ECTS)
SS				180		1		6,0		
9. Requir	ements f	or tł	ne rewarding of credits (ECTS)			•				
Types of A	ssessmen	t Pr	rerequisites for admission to the Asse	ssment	(	Graded	Langu	iage	Wei	ghting
					y	/es/no	(exan	-	fact	or
Report					£	graded	Englis	h		
(presentat										
[78076236	99]									
Academic	Achievem	ents	6							
10. Modu	le coord	inati	ion							
Module co	oordinato	•								
Prof. Dr. N	liklas Möh	ring								
Teaching	person									
			the current semester can be found in b	pasis:						
https://ba Institute/			e/							
	-		ungswissenschaften							
<b>11. Furth</b>										
II. Fulth		auu								



nd su em fo	focused on ustainabilit		ology ar	ad inn			
nd su em fo	ustainabilit		ology ar	ad inn			
nd su em fo	ustainabilit		ology ar	nd inn			
em fo		v tranci					
	or problem	-		-			
	n appropria						
		<i>,</i>					
on bo	oth in form	of a pr	esenta	tion a	nd a		
	1		- 1				
	Compulse		ective	Sei	mester		
		E			2.		
	T						
	Group	SWS		Vorkload [h]			
on	size				Self- study		
	25	4,0			124,0		
		on		dits	(ECTS)		
	1		6,0				
		-	-				
				Tact	<i></i>		
0.							
3	ge of ion	ge of Group ion 25	Compulsory/ Ek Se of Group ion Size SWS 25 4,0 7. Duration 1 Graded Langu yes/no (exan	Compulsory/ Elective         E         3e of Group size       SWS With Contain tim         25       4,0       56,0         7. Duration       8. Cresting         1       6,0         Graded yes/no       Language (exam)	ge of ion     Group size     SWS     Workload       25     4,0     56,0       7. Duration     8. Credits       1     6,0		



Module			ial Project in Technology and Ir	nnovation	Manage	mer	nt				
Module I	<b>D/Code:</b> A	BS-3	20 [780762320]								
1. Conter	nt and inte	end	ed learning outcomes								
Learning content:		pic a	ect in line with a topic from the field o and form of deliverable (paper, report or.								
Learning o											
After a suc	ccessful co	nple	etion of the course, the students								
- obtain de	eep knowle	dge	of selected technology and innovatio	n manageme	ent issues.						
			nding of managerial and strategic con	cepts.							
			ire and data analysis.								
- are able debate.	to apply th	eori	es, tools and methods from the innov	ation manag	ement dor	nain	to current	t societ	ai and	econ	omic
2. Prereq	wisites										
obligatory		BAS	-140 or ABS-230 with 1.3 or better ha	ve to be com	pleted at t	the s	tart of this	s modu	le		
recomme	nded	ABS	-120 Methods in Management Resear	rch							
Maximum	number	3 st	udents								
of student	ts										
3. Study	program a	lloc	cation								
Study pro	gram						Compulso	ory/ Ele	ective		mester
M.Sc. Agri	cultural an	d Fo	od Economics					E			2./3.
4. Teachi	ng and lea	arni	ng methodes								
Type of	Interval		Торіс		Language		Group	SWS	W	orklo	ad [h]
course					instructio	n	size		Conta		Self-
PS	during the		Special project		English		3	2,0	tim		study 150,0
r3	semester		Special project		Eligiisti		5	2,0	30,0	J	150,0
5. Course	cycle			6. Worklo	ad [h]	1	7. Duratio	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
-			ne rewarding of credits (ECTS)								
Types of A	Assessment	Pr	erequisites for admission to the Asse	essment			ded	Langu	-		ighting
		_				yes,		(exam		fact	or
Project wo [78076232						grad	ded	Englis	h		
[78070232	29]										
Academic	Achievem	ents									
10. Modu	ule coordi	nati	on								
Module co	oordinator										
Dr. David	Antons										
Teaching	person										
			he current semester can be found in l	basis:							
	isis.uni-bor Departme		e/								
	-		ungswissenschaften								
	er inform										
III. FUITIN		auU	11								
Not offere	ed in WS 22	/วว									



Module	Title: S	рес	cial Project in Production Econor	mics							
Module ID	<b>)/Code:</b> A	BS-3	340 [780762340]								
1. Conter	nt and int	end	ed learning outcomes								
Learning content:	coordinat encourage	or. T ed. F	ch-oriented project work for early stag Fopics are from the field of production Form of deliverable (paper, report, post in the first two weeks.	economics,	where int	erdi	sciplinary r	esearcl	n topics	s are	
Learning o	outcomes										
- define a	relevant re	sear	etion of the course, the students rch question for current challenges in a amework to answer it.	agricultural p	productio	۱.					
		ntify	shortcomings of the approach used an	nd suggest p	ossible so	lutic	ons.				
2. Prereq											<u> </u>
obligatory	1	ABS	5-210 with 1.3 or better and APO-230 w	vith 1.7 or b	etter have	e to	completed	at the s	start of	this I	module
recomme	nded	BAS	5-110 Extended Methods of Empirical R	esearch							
Maximum of student		3 st	udents								
	program a	allo	cation								
Study pro	-						Compulso		ective		mester
			ood Economics					E			2./3.
		arni	ng methodes				1	r			
Type of	Interval		Торіс		Language		Group	SWS		1	ad [h]
course					instructio	on	size		Cont tim		Self- study
PS	during the semester	9			English		3	2,0	30,	-	150,0
5. Course				6. Workloa	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
WS/SS	-			180			1		6,0		
9. Requir	ements fo	or th	he rewarding of credits (ECTS)								
Types of A	ssessmen	t Pr	rerequisites for admission to the Asses	ssment		-	aded s/no	Langu (exam	-	Wei fact	ighting or
Project wo [78076234						gra	aded	Englis	h		
Academic	Achievem	ents	5					I		<u> </u>	
10. Modu	ıle coordi	nati	ion								
Module co	oordinator										
Prof. Dr. N	liklas Möhı	ring									
	ing persons		the current semester can be found in b	basis:							
	sis.uni-bor		e/								
	Departme		runga wissenschafter								
-			rungswissenschaften								
			on paper, data and technical documentation	on) to be ag	reed upor	n bet	tween stud	ent and	d coord	linato	r within



Module	Title: B	Bio-E	-Ecc	onom	ic Mo	odelli	ng A	t Farı	m-Sca	ale						
Module I	D <b>/Code:</b> E	NV-2	-240	) [7807	64240	)]										
1. Conter	nt and int	end	ded	learn	ing ou	utcom	nes									
Learning	1. Introdu	ictio	on: \	Why do	o we n	eed si	mulat	tion m	odels?	What are	farm-scale sir	nulation m	odels?			
content:	2. Introdu	ictio	on to	Linea	ar Prog	gramm	ning									
	2.1 Assum	nptio	ions	of Line	ear Pro	ogrami	ming									
	2.2 Prima					0	0									
	3. Introdu	ictio	on to	o GAM	S											
	3.1 Langu	age	e stri	ucture												
	3.2 A first	-				el of a	farm									
	4. Modell		-					ons at	farm	scale						
	4.1 Herd (	-														
	4.2 Crops	-		-												
	4.3 Labou			,			,									
	4.4 Comb	ing t	the	eleme	nts, in	itegrat	ting er	nviron	ment i	indicators						
	5. Modeli	-				-	-									
	5.1 Maxin						0	-								
	5.2 Accou		-													
	5.3 Indivis															
	5.4 Full fir	nanc	cial	plan ai	nd inc	ome ta	ах									
	6. Modeli			•												
		-					uncer	tainty	, мот	AD and Tai	rget MOTAD					
	6.2 State							,			0					
	6.3 Dynar		-													
Learning o							· ·									
After a suc	ccessful co	mple	letic	on of th	ne cou	irse. th	ne stu	dents.								
		-								nomic mo	dels and desc	ribe the int	eractio	ns inside	and	
					-						ization model					
		-					-			-	omic models i		ware pag	ckage GA	MS	
											und of micro-e			0		
		-						-		-	ons such as ch			tput pric	es o	r farm-
				-					-		lication of a b	-	-			
- will be at																
2. Prereq	uisites															
obligatory	1															
recomme	nded	Am	micr	oecono	omics	course	- at m	aster	level s	uch as BAS	-130 and a co	ourse on rig	sk mana	gement	such	as BAS-
										ECO progra				Berneine	5461	
Maximum	number			dents	41969			, y (								
of student		203	Stut	actites												
	program a	alloc	ocat	ion												
Study pro												Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agri	cultural an	nd Fo	ood	Econo	mics								Е			2.
4. Teachi																
Type of	Interval			opic							Language of	Group	SWS	Wo	rklo	ad [h]
course											instruction	size		Conta	- 1	Self-
														time		study
L+T	during the	þ	in	cludes	regula	ar rear	ding a	nd cor	ding 29	sigments	English	20	4,0	56,0		124,0
	semester			ciuues	regula	arredu	ang a		anig da	SIGNICIUS		20	4,0	50,0		124,0
5. Course										6. Worklo	ad [b]	7. Durat	ion	8 Cros	dite	(ECTS)
	cycle														ait5	LCIS
SS										180		1		6,0		



Module Title: Bio	o-Economic Modelling At Farm-Scale			
Module ID/Code: EN	V-240 [780764240]			
9. Requirements for	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Term paper [780764249]		graded	English	
Academic Achieveme	nts			
10. Module coordin	ation			
Module coordinator				
PD Dr. Wolfgang Britz				
Teaching person				
The teaching persons	in the current semester can be found in basis:			
https://basis.uni-bonr	n.de/			
Institute/ Departmen	t			
Agrar-, Forst- und Erna	ährungswissenschaften			
11. Further informa	tion			
	course license for GAMS. All material including the soft s. The term paper has to be handed in 8 weeks after sen		sed for teachin	g are made



1. Conte	nt and int	end	ed learning outcomes							
Learning content:	Marketing influence sourcing	g Cor s), ne coop	ncept: Gain insights into the impact of euromarketing, the role of the compet erations, competition, buyer power, v tion and promotion) with specific focu	titive enviror vertical integ	nment (inform ration), the m	nation tech	nology,	concer	ntrati	on,
	competiti	ve e	nagement: Apply marketing stragegie nvironment using an interactive simul ies for the development of marketing	ation game,						
Learning	outcomes		`							
- can desc - have an - know the - explain t - can anal - are able - able to c - are able	ribe releva overview c e marketin he differer yse consur to analyse levelop and to analyze	nt p n co g fiel ner r deve d imp and	etion of the course, the students sychological and sociological construct impetitive conditions in food markets lds of action and opportunities to appliin the impact of marketing strategies of eactions based on psychological and s elopments in food value chains. olement marketing strategies at firm lo interpret market information based of	with a focus ly instrumen depending o sociological c evel in a high on research s	on German f ts in the com n the market constructs. hly competitiv studies.	ood market petitive sur environme	roundir nt (e.g.	-		
	•	, disc	cuss and defend marketing strategies	implemente	d.					
2. Prerect obligatory	-									
Jungalur	Y									
		Kno	wlege about the food sector							
recomme Maximun of studen	nded n number ts	20 s	wlege about the food sector							
recomme Maximun of studen 3. Study	nded n number ts program	20 s	tudents			Computs	ory/Ele		Sa	mostor
recomme Maximun of studen 3. Study Study pro	nded n number ts program	20 s	cation			Compuls		ective		
recomme Maximun of studen 3. Study Study pro M.Sc. Agri	nded n number ts program gram icultural ar	20 s alloc d Fo	cation			Compuls	ory/ Ele E	ective		<b>mester</b> 1./3.
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi	nded n number ts program gram icultural ar	20 s alloc d Fo	cation cod Economics ng methodes		Language of					
recomme Maximun of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of	nded n number ts program igram icultural ar ing and le	20 s alloc d Fo	cation		Language of instruction		E		orklo act	1./3. ad [h] Self-
recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course	nded n number ts program icultural ar ing and le Interval during the semester	20 s alloc d Fo arni	cation cation ood Economics ng methodes Topic Marketing		instruction English	Group size 20	E SWS 2,0	W Conta tim 30,	orklo act e 0	1./3. bad [h] Self- study 50,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course	nded n number ts program icultural ar ing and le Interval during the semester	20 s alloc d Fo arni	cation cod Economics ng methodes Topic		instruction English English	Group size 20 20	E SWS 2,0 2,0	W Cont. tim 30, 30,	orklo act 0 0	1./3. ad [h] Self- study 50,0 70,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course	nded n number ts program icultural ar ing and le Interval during the semester	20 s alloc d Fo arni	cation cation ood Economics ng methodes Topic Marketing	6. Workloa	instruction English English	Group size           20           20           7. Durati	E SWS 2,0 2,0	W Cont. tim 30, 30, 8. Cre	orklo act 0 0	1./3. bad [h] Self- study 50,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course	nded n number ts program icultural ar ing and le Interval during the semester during the semester	20 s alloc d Fo arni	atudents cation cod Economics ng methodes Topic Marketing Marktstrat Simulation Game	6. Worklos	instruction English English	Group size 20 20	E SWS 2,0 2,0	W Cont. tim 30, 30,	orklo act 0 0	1./3. ad [h] Self- study 50,0 70,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course L T 5. Course WS 9. Requin	nded n number ts program icultural ar ing and le Interval during the semester during the semester e cycle	20 s alloc d Fo arni e e e	cation cation ood Economics ng methodes Topic Marketing	180	instruction English English ad [h]	Group size 20 20 7. Durati 1	E SWS 2,0 2,0 Con	W Cont. tim 30, 30, 6,0 6,0	orklo act 0 0 edits	1./3. ad [h] Self- study 50,0 70,0 (ECTS)
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course L 5. Course WS 9. Requin	nded n number ts program icultural ar ing and le Interval during the semester during the semester e cycle	20 s alloc d Fo arni e e e	tudents cation cod Economics ng methodes Topic Marketing Marktstrat Simulation Game me rewarding of credits (ECTS)	180	instruction English English ad [h] Gi	Group size 20 20 7. Durati 1	E SWS 2,0 2,0	W Cont 30, 30, 8. Cre 6,0	orklo act 0 0 edits	1./3. ad [h] Self- study 50,0 70,0 (ECTS) ighting cor



# Module Title: Food Marketing Module ID/Code: MAC-100 [780765100] 10. Module coordination Module coordinator Jeanette Klink-Lehmann Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



content: tradeoffs quality, a between perspect evaluate include t	between hu nd the triple agriculture, ve and with specific food opics such as rket revolution ompletion of key terms re od systems in use dietary so allocation allocation cience and R	elated to food sec relate to the vari analyze the susta the public debat surveys and nutri	I planetary hea nutrition, as we mate change, d ples from low-, from a compre g, GMOs, meat rs. students curity and sust inability implic te around sust ition assessme	alth goals. Co ell as related diets, nutritic , middle-, an ehensive sus t consumptic tainable diets le developm cations of spe rainable agric ent tools.	oncepts and n policy interv on, and health d high-incom stainable deve on, palm oil, r s. eent goals (SD ecific interver culture and n	neasuremer entions, will n will be ana e countries elopment pe nutrition-ser display of the series of the series of the series o	nt of foo l be disc alyzed fi . Case s erspecti nsitive a	od securi cussed. Li rom a glo tudies wi ive. Case agricultur	ty, dietary inks obal ill be used t studies will re, and the studies will re, and the Semester	
Learning outcomes After a successful co - are able to define - can explain how fo - can identify policy - can evaluate the a - can construct and 2. Prerequisites obligatory recommended Maximum number of students 3. Study program M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For 4. Teaching and le	allocation allocation ance and a rguments in use dietary s	f the course, the elated to food sec relate to the vari analyze the susta the public debat surveys and nutri	students curity and sust ious sustainab inability implic te around sust ition assessme	le developm cations of spo ainable agric ent tools.	ent goals (SD ecific interver culture and n	ntions. utrition.	-	ective		
<ul> <li>are able to define</li> <li>can explain how for</li> <li>can identify policy</li> <li>can evaluate the a</li> <li>can construct and</li> <li><b>2. Prerequisites</b></li> <li>obligatory</li> <li>recommended</li> <li>Maximum number</li> <li>of students</li> <li><b>3. Study program</b></li> <li>M.Sc. Agricultural a</li> <li>M.Sc. Nutrition Scie</li> <li>M.Sc. Molecular For</li> <li><b>4. Teaching and le</b></li> </ul>	key terms re od systems needs and a rguments in use dietary s allocation ad Food Econ cience and R nce	elated to food sec relate to the vari analyze the susta the public debat surveys and nutri	curity and sust ious sustainab inability implic te around sust ition assessme	le developm cations of spo ainable agric ent tools.	ent goals (SD ecific interver culture and n	ntions. utrition.	-	ective		
2. Prerequisites obligatory recommended Maximum number of students 3. Study program M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For 4. Teaching and let	allocation nd Food Eco cience and R nce	nomics				Compuls	-	ective		
obligatory recommended Maximum number of students <b>3. Study program</b> M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For <b>4. Teaching and le</b>	nd Food Eco cience and R nce		ement in the Ti			Compulse	-	ective		
Maximum number of students <b>3. Study program</b> Study program M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For <b>4. Teaching and le</b>	nd Food Eco cience and R nce		ement in the Ti			Compuls	-	ective		
of students 3. Study program Study program M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For 4. Teaching and le	nd Food Eco cience and R nce		ement in the Ti			Compulse	-	ective		
Study program M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For 4. Teaching and left	nd Food Eco cience and R nce		ement in the Ti			Compuls	-	ective		
M.Sc. Agricultural a M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For <b>4. Teaching and le</b>	cience and R nce		ement in the Ti			Compuls	-	ective		
M.Sc. Agricultural S (ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For <b>4. Teaching and le</b>	cience and R nce		ement in the Ti				F		2	
(ARTS) M.Sc. Nutrition Scie M.Sc. Molecular For <b>4. Teaching and le</b>	nce	Resource Manage	ement in the Ti	manalas and C					3.	
M.Sc. Molecular Fo 4. Teaching and le				ropics and Si	ubtropics		E		3.	
4. Teaching and le	nd Technolog				E		3.			
		gy					E		3.	
Type of Interval	arning met	thodes			T	1		1		
course	Торіс				Language of instruction	f Group size	SWS	Wor Contac time		
L during th					English	120	4,0	56,0	124,0	
5. Course cycle				6. Worklo	ad [h]	7. Duration		8. Credits (ECTS)		
WS				180		1		6,0		
9. Requirements	or the rew	arding of credit	its (ECTS)							
Types of Assessment Prerequisites for admission to the Assessme					-	raded es/no	Langu (exarr	•	Weighting factor	
Written exam [780763269]					g	raded	Englis	-		



Module Title: Food security and sustainable food systems
Module ID/Code: APO-260 [780763260]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



		P <b>robabilistic Programmin</b> PO-320 [780763320]	_ ·· ¥							
1. Conte	nt and int	ended learning outcomes								
Learning content:	Programmand stand and stand and exter statistical coding ex of Bayesia	learn to apply Probabilistic Pro ning is a novel data science to lard econometrics. The course nding their methodical toolkit. analysis of questions relevant amples and exercises (in Pytho an modeling and how to interp to data analytic jobs in researc	ol combining Bayesian St contributes to the mast Students will learn a bas to policy and business. on and the NumPyro frar pret Bayesian modeling r	tatistical Moc er's degree b sic workflow 1 The workflow mework). Alo	lelling, elem y deepening to perform t v is intensive ng the way,	ents of g stude heory- ely prac the co	<sup>E</sup> Machin nt's qua guided, ticed w urse cov	ne Le antita appli ith gu vers t	arning, tive ski ied uided he basi	
Learning	outcomes		·····							
are able are able cience pr are able commonl have obt	to comput to apply P rojects). to explain y applied e	et Bayesian modeling results. le statistics of interest from Ba robabilistic Programming for t and evaluate the benefits of (I conometric approaches. hon) coding experience and da	heir own empirical applio Bayesian) Probabilistic Pi	rogramming	approaches	compa	red to c	other		
market. <b>2. Prerec</b>	wisitos									
obligator	-	none								
recomme		One of either APO-230 or EN	V-130							
of studen		20 students								
-		allocation								
Study pro	-				Compuls		ective	Se	mester	
-		nd Food Economics				E			3.	
		arning methodes		1.			· •••			
Type of course	Interval	Торіс		Language or instruction	f Group size	SWS	Conta tim	act	ad [h] Self- study	
L	during th semester			English	20	2,0	30,0		60,0	
рТ	during th semester			English	20	2,0	30,0		60,0	
5 Course	e cycle		6. Worklo	ad [h]	7. Duration		8. Credits (ECTS)			
			180		1		6,0			
WS	9. Requirements for the rewarding of credits (ECTS)         Types of Assessment       Prerequisites for admission to the A         Assignment       Assignment			G	raded	Langu	Language (exam) English		Weighting factor	
WS 9. Requir Types of A		rerequisites for admission	n to the Assessment	у	<b>es/no</b> raded			fact	or	



# Module Title: Probabilistic Programming for Applied Agricultural Economics

# Module ID/Code: APO-320 [780763320]

# 10. Module coordination

#### Module coordinator

Dr. Hugo Storm

## **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

## 11. Further information

Guided coding examples and exercises will be provided in Python, but no previous Python experience is required. It is sufficient that students have gained some previous experience in coding in general, for example by completing either APO-230 or ENV-130 (both using R) successfully. Nevertheless, a strong interest and motivation to learn Python basics is expected. Background Links:

- Ghahramani, Zoubin. 2015. "Probabilistic Machine Learning and Artificial Intelligence." Nature 521 (7553): 452–59.

- McElreath, Richard. 2020. Statistical Rethinking: A Bayesian Course with Examples in R and Stan. Chapman and Hall/CRC.

- Thomas Heckelei, Hugo Storm, Kathy Baylis. 2023. Probabilistic Programming for Embedding Theory and Quantifying

Uncertainty in Econometric Analysis. Keynote, XVII EAAE Congress 2023 Rennes. https://github.com/hstorm/pp\_eaae\_rennes - NumPyro Documentation: https://num.pyro.ai/en/stable/



# Module Title: Satellite Data in Agricultural Economics

Module ID/Code: ENV-320 [780764320]

# 1. Content and intended learning outcomes

Learning<br/>content:Introduction and Overview, a primer on satellite data, opportunities arising from satellite data, what can be<br/>measured with satellite data, pitfalls, impact evaluations using satellite data, final discussion and conclusion.

# Learning outcomes

After a successful completion of the course, the students...

- are able to work with data in Google Earth Engine and in R.

- understand potentials and pitfalls of satellite data in agricultural, environmental, and resource economics.

- can compute geospatial measures and statistics, such as distances between features, or local averages of variables.

- can transform maps into tables.

- have a working knowledge of how to answer economic questions with geospatial data.

2. Prerec	luisites											
obligatory	/	non	е									
recomme			Statistics, Econometrics, Impact Evaluation, GIS, R, Foundations of Agricultural, Environmental, and Resource Economics, Google Earth Engine, Python									
Maximum		16 s	tudents									
of studen												
	program a	alloc	cation						- 1			
Study pro	-						Compulse		ctive	Se	mester	
			od Economics					E			3.	
4. Teachi	ng and lea	arni	ng methodes									
Type of	Interval		Торіс		Language		Group	SWS	W	orklo	ad [h]	
course					instructio	n	size		Contact		Self-	
					<b>_</b>				tim	-	study	
L	during the semester	j	Lecture Satellite Data		English		16	1,5	23,	0	47,0	
т	during the	2	Lecture Satellite Data		English		16	0,5	8,0	)	12,0	
	semester	-			211811011		10	0,0	0,0	, 	12,0	
L	during the semester	e Lecture Analysis and Modelling			English		16	1,5		0	47,0	
Т	during the semester	è	Lecture Analysis and Modelling		English		16	0,5	8,0	)	12,0	
5. Course				6. Worklo	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)	
WS				180			1	-	6,0		<u> </u>	
9. Requir	ements fo	or th	ne rewarding of credits (ECTS)						<u> </u>			
		-	erequisites for admission to the Asse	ssment			aded s/no	Langu (exam	-	We fact	ighting tor	
Written e	kam [90						aded	Englis	-	100		
min]						U						
[7807643]	29]											
Academic	Achievem	ents										
10. Mod	ule coordi	nati	on									
Module c	oordinator											
Prof. Dr. D	avid Wüpp	ber										
Teaching												
			he current semester can be found in b	basis:								
	isis.uni-bor		e/									
	Departme											
-			ungswissenschaften									
11. Furth	er inform	atio	n									



1. Conte	nt and int	end	ed learning outcomes							
Learning			earn how to effectively prepar							
content:	types of o	data v	visualization in particular differ	ent kinds of plott	ing methods v	vill be shown	and ap	plied ir	n exer	rcises.
	Particula	remp	phasis will be given to spatial d	ata and GIS analy	ses. Students	will learn abo	out the	basics o	of GIS	and
	-	-	ojections, different spatial dat							
			to combine them in spatial an							
			e this free and open source to					s. Stud	ents v	will app
		ods t	o visualize data of their own ch	noice and present	their results	during the co	ourse.			
	outcomes									
		-	etion of the course, the student		with thom					
	and the pe and the ba		rities of different data formats	and now to work	with them.					
			ifferent data in R.							
			erent data in R.							
			s with data of different formats	5.						
	•	'	ckages and methods learned to		tudies					
			ir own analyses and to visualiz							
2. Prerec					- /					
obligator	•									
recomme	nded	Exp	erience with R (programming) i	is recommended						
Maximur	n number	25 s	tudents							
of studer	ts									
3. Study	program	allo	cation							
Study pro	ogram					Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agr	icultural a	nd Fo	od Economics				E			2.
			ng methodes							
Type of	Interval		Торіс		Language	of Group	SWS	W	orklo	ad [h]
course					instruction	-		Conta		Self-
								tim		study
L	during th	e	Data Wrangling, Visualization	and GIS Data	English	25	2,0	30,0	)	60,0
	semester		Analysis with R		0	_	, -	,		/ -
Т	during th		Solving Exercises Together		English	25	2,0	30,0	C	60,0
	semester		6 6		U		,	,		,
5. Cours	e cycle			6. Work	oad [h]	7. Durati	ion	8. Cre	dits	(ECTS)
SS	-			180		1		6,0		
9. Requi	rements f	or th	ne rewarding of credits (ECT							
-			erequisites for admission to the			Graded	Langu	-		ighting
Donort		+				yes/no	(exan		fact	
Report [7807642	79]					graded	Englis	n	50%	)
Presentat [7807642		Su	Ibmission of all reports			graded	Englis	h	50%	, )
1,00,042	, 0]									
		1					1		1	



Module Title: Data Wrangling, Visualization and GIS Data Analysis with R
Module ID/Code: ENV-270 [780764270]
10. Module coordination
Module coordinator
JunProf. Dr. Lisa Biber-Freudenberger
Teaching person
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



Module Module II			arch Seminar in Agribusiness							
	-		30 [780762330]							
			ed learning outcomes					-		
Learning			iews, preparation of a research conception of a research conception of the second state of the second stat							
content:			the art in a thematic field which is clo and topic of others in the seminar.	ose to the re	search ques	stion; scientifi	c alscu	ssion of	rowr	1
Learning c		υρια								
		mple	etion of the course, the students							
			m background of a chosen topic after	conducting	a literature	review.				
			estion or a testable hypothesis from a	•						
	-		ompare state-of-the-art research artic							
			proproate methodology relevant for t							
		e cor	ncept of their Master thesis, including	work plan a	nd expected	d outcomes.				
2. Prereq		40.5								
obligatory		_	CTS-CP							
recomme		ABS	-120 Methods in Management Resear	rch						
Maximum										
of student										
3. Study Study	program a	a1100	cation			Compulso	ory/ Ele	octivo	So	mester
	-	d Fo	od Economics			-	or ABS	cuve	36	3.
			ng methodes							5.
Type of	Interval		Topic		Language	of Group	SWS	W	orklo	ad [h]
course					instruction	-	5115	Conta		Self-
								tim		
S*	during the	j	Class discussions, presentations, feed	dback	English	30	2,0	60,	0	20,0
	semester		sessions							
S*	during the	Ś	Own research, writing a term paper		English	30	0,0	0,0	)	100,0
	semester			6. Workloa	ad [b]	7. Durati		9 6 4	4:40	(ECTS)
5. Course WS/SS	cycle			180	au [ii]	1		6,0	uits	(ECT3)
-	ements fo	nr th	ne rewarding of credits (ECTS)	100		<b>L</b>		0,0		
			rerequisites for admission to the Asse	essment		Graded	Langu	lage	We	ighting
.,						yes/no	(exan	•	fact	
Report						graded	Englis	h		
(presentat										
[78076233	39]									
Acadomic	Achievem	onto								
Reautinic	Acmevem	ents								
10. Modı	ule coordi	nati	ion							
	oordinator									
Prof. Dr. D	Dr. Daniel H	erm	ann							
Teaching	person									
		s in t	the current semester can be found in I	basis:						
•	isis.uni-bor		e/							
	Departme									
			ungswissenschaften							
	er inform									
	uidelines ar	nd in	fo leaflet about the Master thesis pro-	cess can be f	found unde	r: https://ww	w.afec	o.uni-b	onn.c	le/while
tudying										



# Major or Minor Agricultural and Development Policy (APO)

### Requirements for the Major Specification: - Modules accounting for a minimum of 30 ECTS-CP in the Major Specification - The Research Seminar is in the Major Specification - The Master Thesis is in the Major Specification

# Requirements for the Minor Specification: - Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



	-		10 [780763110]							
	-		ed learning outcomes							
Learning content:	benefit ar 2) Econon countries	ialys nic a top	Background for evaluating agricultura is, public choice nalysis of agricultural policies of impo- ics and future challenges in internatio )	rtant global	players (e.g.	EU, US, Chir	na), dev	eloping	, tran	sition
Learning	outcomes		·							
- will be a - will be a - will be a	ble to recal ble to critic ble to appl	l the ally y ecc	ation of the course, the students agricultural policy portfolios of impor discuss the outcomes of different exis phomic theory in analysing exemplary d apply relevant economic theories to	ting studies agricultural	in view of as policies.	·	nade.			
2. Prerec										
obligatory										
recomme	nded	Мос	dule BAS-130 "Microeconomics"							
Maximun of studen										
-	program a	alloc	ation							
Study pro	-					Compuls	-	ective		meste
-			od Economics				E			1./3.
			e (Teacher's Training)				E		-	1./3.
			e (Teacher's Training)				E			1.
		arni	ng methodes					1		
Type of course	Interval		Торіс		Language of instruction	-	SWS	Wo Conta	1	ad [h] Self-
L	during the	2	European and International Agricultu	ral Policy	English	120	3,0	<b>tim</b> 45,0		<b>stud</b> 40,0
т	semester during the	ò	European and International Agricultu	ral Policy	English	30	1,0	15,0	)	80,0
5. Course	semester cvcle			6. Worklo	ad [h]	7. Durati	ion	8. Cre	dits	(ECTS)
WS				180		1	-	6,0		
9. Requii	ements f	or th	e rewarding of credits (ECTS)							
Types of A	Assessmen	t Pr	erequisites for admission to the Asse	ssment		Graded ves/no	Langu (exam	-	Weia facto	ghting or
Assignme [7807631					٤	graded	Englis	h	50%	
Oral exam					Ę	graded	Englis	h	50%	1
[7807631]	18]									



Module Title: European and International Agricultural Policy	
Module ID/Code: APO-110 [780763110]	
10. Module coordination	
Module coordinator	
Dr. Arnim Kuhn	
Teaching person	
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/	
Institute/ Department	
Agrar-, Forst- und Ernährungswissenschaften	
11. Further information	



1. Conte	nt and int	ended learning outcome	S						
Learning content: Learning After a su are able between are able and food - are able	Why do w (Hecksche Who gain country" What are tariff mea What are versus mu How do n outcomes ccessful co to explain countries. to identify trade. to assess t	ve observe trade? Technolog er-Ohlin Model), increasing s and who loses from trade or agent perspective, deviat the trade and welfare impa	gical differences (Ricardia returns to scale ? Gains from trade: the c tions from the perfect ma acts of specific policies? I nts? Multilateral trade a ade? students nd new economic theorie ries and apply them to pr ts of trade policies indep	country perspect arket assumption import tariffs, in greements (WT) es of internation redefined resear pendently in the	tive, gains f in nport quota O), regional al trade de ch problem context of	rom tra as, expo trade a terminin	nde: the ort subsi- agreeme ng trade e field o	e "with idies, ents, ents	non- regiona
		oly spreadsheets and forma							
2. Prerec				·					
obligator	-								
		Module BAS-130 ARTS-AE6	6 or similar knowledge in	microeconomi	cs at maste	r level			
Maximun of studen 3. Study	n number its program		6 or similar knowledge in	microeconomi			active	Sa	mostor
Maximun of studen 3. Study Study pro	n number ats program ogram	allocation	6 or similar knowledge in	microeconomi	cs at maste	ory/ Ele	ective	Se	
Maximun of studen <b>3. Study</b> Study pro M.Sc. Agr	n number ats program ogram icultural ar	allocation d Food Economics	6 or similar knowledge in	i microeconomi			ective	Se	mester 3.
Maximun of studen 3. Study Study pro M.Sc. Agr 4. Teach	n number its program igram icultural ar ing and le	allocation d Food Economics arning methodes	6 or similar knowledge in		Compuls	ory/ Ele E			3.
Maximun of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of	n number ats program ogram icultural ar	allocation d Food Economics	6 or similar knowledge in	Language of	Compuls	ory/ Ele		orklo	3. ad [h] Self-
Maximun of studen <b>3. Study</b> Study pro M.Sc. Agr M.Sc. Agr <b>4. Teach</b> Type of course	n number its program icultural ar ing and le Interval during the semester	allocation d Food Economics arning methodes Topic Applied Trade Theory	and Policy	Language of instruction English	Compuls Group size	ery/Ele E SWS 3,0	Wo Conta time 45,0	orklo act e 0	3. ad [h] Self- study 40,0
of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course	n number its program icultural ar ing and le Interval during the semester during the	allocation d Food Economics arning methodes Topic Applied Trade Theory	and Policy d practical problems	Language of instruction English English	Compuls Group size 120 20	SWS           3,0           1,0	<b>W</b> ( <b>Conta</b> <b>tim</b> 45,( 15,(	orklo act e 0	3. ad [h] Self- study 40,0 80,0
Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course	n number its program icultural ar ing and le Interval during the semester during the	allocation d Food Economics arning methodes Topic Applied Trade Theory	and Policy d practical problems <b>6. Work</b>	Language of instruction English English	Compuls Group size 120 20 7. Durati	SWS           3,0           1,0	Wo           Conta           time           45,0           15,0           8. Cree	orklo act e 0	ad [h] Self- study
Maximun of studen B. Study Study pro M.Sc. Agr I. Teach Type of Course	n number its program icultural ar ing and le Interval during the semester during the semester e cycle	allocation d Food Economics arning methodes Topic e Applied Trade Theory e Solving theoretical and	and Policy d practical problems 6. Work 180	Language of instruction English English	Compuls Group size 120 20	SWS           3,0           1,0	<b>W</b> ( <b>Conta</b> <b>tim</b> 45,( 15,(	orklo act e 0	3. ad [h] Self- study 40,0 80,0
Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course 5. Course 5. Course WS 9. Requir	n number its program icultural ar ing and le Interval during the semester during the semester e cycle	allocation d Food Economics arning methodes Topic Applied Trade Theory	and Policy d practical problems 6. Work 180 its (ECTS)	Language of instruction English English load [h]	Compuls Group size 120 20 7. Durati	SWS           3,0           1,0	Wa           Conta           time           45,0           15,0           8. Cree           6,0	orklo act e 0 0 edits	3. ad [h] Self- study 40,0 80,0 (ECTS) ighting



# Module Title: Applied Trade Theory and Policy Module ID/Code: APO-120 [780763120] 10. Module coordination Module coordinator Prof. Dr. Thomas Heckelei Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



Module				Agricultural S	Systems					
	D/Code: A		-							
Learning	In this cou			develop an or im	nprove an exis	sting partial o	r general eq	uilibriu	ım mode	and apply
		on the top e EU Comn		the supervisor v	will propose to	opics based or	n contact to	institu	itions suc	h as OECD,
				of simulation mo	odel (partial c	or general equ	ilibrium, de	tails oi	n model s	tructure) to
		on of the r	necessary data	and parameters						
	-			the changes to a		odel				
	- Mapping	g of the pol	licy question int	to an appropriat	te shock defin	ition of the e	quilibrium r	nodel		
		-	alyzing counter							
			the model (onli							
	- Preparat	ion of a pr	esentation (ca.	30-45 minutes)	and a report	t (ca. 50 page)	for the clie	nt		
				heir findings afte re their report.						
				. The supervisor						
	-			dological questi				which i	iccucu, c	opecially
Learning o	-									
After a su	ccessful co	mpletion o	of the course, th	ne students						
		-		nt equilibrium m	nodel.					
				on based on qua		s.				
- will have	evaluated	the impac	t of changes in	policies on quar	ntities, prices	and welfare b	based on the	e appli	cation on	the chosen
and expan	nded equili	brium mod	lel.							
- will syntl	netize thes	e impacts i	in a presentatio	on for the client	and jointly do	ocument and o	comment th	nem in	a larger r	eport.
2. Prereq	uisites									
obligatory										
recomme	nded		-	eneral equilibriu		h as "Partial a	ind General	Equilit	orium Mo	delling"
		-		erm of AFECO pro	ogram)					
Maximum		20 studen	ts							
of student	program a	llocation								
Study pro		anocation					Compulso	rv/ Fle	ctive	Semester
	cultural an	d Food Eco	onomics				compuise	E		3.
	ng and le									
Type of	Interval	Topic				Language of	Group	SWS	Wor	kload [h]
course	interval	lopic				instruction	size	5115	Contac	
									time	study
Proj	during the	2				English	20	4,0	56,0	124,0
-	semester					-			, ,	,
5. Course	e cycle				6. Workloa	ad [h]	7. Duratio	on	8. Cred	its (ECTS)



Module Title: Ap	plied Modelling of Agricultural Systems			
Module ID/Code: AP				
9. Requirements for	the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded	Language	Weighting
		yes/no	(exam)	factor
Report		graded	English	50%
(presentation)				
[780763229]				
Report		graded	English	50%
[780763228]		0	0	
Academic Achieveme	nts			
10. Module coordin	ation			
Module coordinator				
PD Dr. Wolfgang Britz				
Teaching person				
01	in the current semester can be found in basis:			
https://basis.uni-bonr				
Institute/ Departmen	t			
Agrar-, Forst- und Erna	ährungswissenschaften			
11. Further informa	tion			
Not offered in WS 22/	23			
Presentation for client	will be schuled after end of term, Report has to be han	ded in 8 weeks afte	r end of term	
Students will receive a	course license for GAMS. Examples of past clients and t	themes: FAO (Rome	): analysis of cli	mate change
impacts on agri-food r	narkets in developing countries; OECD (Paris): analysis o	of the impact of the	US/China trade	ware on

impacts on agri-food markets in developing countries; OECD (Paris): analysis of the impact of the US/China trade ware on selected agri-food markets; GIZ (Bonn): analysis of policy options to foster the self-sufficiency in Western African rice markets; World Bank (Washington D.C.): Analysis of climate change impacts on households in selected developing countries in the context of the Socio-Economic Pathway 2



Module	Title: A	dva	anced Applied Econometrics								
Module I	<b>D/Code:</b> A	PO-2	230 [780763230]								
1. Conter	nt and inte	ende	ed learning outcomes								
Learning content:	<ul> <li>Model sp</li> <li>Endogen</li> <li>strategies</li> <li>Panel da</li> <li>Maximur</li> </ul>	pecif ious ) ta ar m Lik	kelihood Estimation	choice)	-		od of Mom	ents, id	lentifica	ation	
Loorning		aepe	endent variable models								
Learning o		mnla	etion of the course, the students								
- are able - are able - are capa - select ap	to correctly to apply m ble of apply propriate e	y inte atrix ying econ	erpret excerpts from econometric tex algebra in the context of statistics. econometric methods to estimate qu ometric methods based on the analys pret outputs from econometric softwa	antitative ec sis of the dat	onomic mo a situation					thec	)ry.
2. Prereg	uisites			·							
obligatory		Pass	sed exam in module BAS-110								
recomme	nded										
Maximum of student											
	program a	alloc	cation								
Study pro							Compulso	ry/ Ele	ctive	Ser	mester
	-	d Fo	od Economics				•	E			2.
			ng methodes								
Type of	Interval		Topic		Language	of	Group	SWS	Wo	orkloa	ad [h]
course					instructio		size		Conta		Self-
_									time		study
L			Advanced Applied Econometrics		English		120	3,0	45,0		40,0
Т			Advanced Applied Econometrics		English		20	1,0	15,0		80,0
5. Course	e cycle			6. Workloa	ad [h]		7. Duratio	on		dits	(ECTS)
SS				180			1		6,0		
-			ne rewarding of credits (ECTS)			•					1
Types of A	Assessment	t Pr	rerequisites for admission to the Asse	essment			aded s/no	Langu (exam	-	facto	ghting or
Assignme	nt	+				-	aded	Englis	•	Tact	<u>,, , , , , , , , , , , , , , , , , , ,</u>
[78076323						0		0			
Academic	Achievem	ents									
10. Modu	ule coordi	nati	ion								
Module co	oordinator										
Prof. Dr. T	homas Heo	ckele	21								
Teaching	person										
The teach	ing persons		the current semester can be found in	basis:							
	sis.uni-bor		e/								
Institute/	Departme	nt									
11. Furth	er inform	atio	n			_					



		<b>)evelopme</b> PO-240 [780	nt Economics							
	-	_	ning outcomes							
Learning			conomic development, eco	nomic growth	models ca	usos of diff	prontial	conomi	aro	wth and
content:	-		ountries, including the role	-					-	will all
content.	-		al resources for developme				-			
	-		al policy problems, specifica							
			of high resource endowme							
		developing	-					0		,
Learning o										
After a suc	ccessful co	mpletion of	the course, the students							
- are able	to describ	e key concep	ts and structure of econom	ic growth mode	els and driv	ers of socio	-econon	nic devel	opm	ent.
			ns, labor markets, migratio							
developm	ent.									
			pts for analysis of developm							
			icting research on sustainab	ole natural reso	ource mana	gement top	oics.			
			s through case studies.	<b>.</b>						
		ize lessons le	arnt from case studies to b	roader develop	oment issue	S.				
2. Prereq										
obligatory	1									
recomme	nded	Modules "A	dvanced Applied Economet	rics", "Researcl	h Seminar c	n agricultu	ral and d	evelopm	nent	policy"
			nics of Sustainability"			U		•		. ,
Maximum	number									
of student	ts									
3. Study	program	allocation								
Study pro	gram					Compu	lsory/ El	ective	Se	mester
M.Sc. Agri	cultural ar	d Food Econ	omics				Е			2.
M.Sc. Agri (ARTS)	cultural Sc	ience and Re	source Management in the	e Tropics and Su	ubtropics		E			2.
4. Teachi	ng and le	arning met	hodes			•				
Type of	Interval	Topic			Language	of Group	sws	Wo	orklo	ad [h]
course					instruction	n size		Conta	ct	Self-
								time	2	study
L	during the semester	e Develo	pment Economics		English	25	2,0	30,0	)	60,0
Т	during the semester	e Assigne	ement		English	25	2,0	30,0	)	60,0
5. Course				6. Workloa	ad [h]	7. Dura	tion	8. Cre	dits	(ECTS)
SS	•			180		1		6,0		
	ements f	or the rewa	rding of credits (ECTS)							
		1	ites for admission to the As	ssessment		Graded yes/no	Lang (exar	-	Wei fact	ghting or
Written ex	am					graded	Engli			
[78076324										
Academic	Achievem	ents					1			



Module Title: Development Economics	
Module ID/Code: APO-240 [780763240]	
10. Module coordination	
Module coordinator	
Prof. Dr. Matin Qaim	
Teaching person	
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/	
Institute/ Department	
Agrar-, Forst- und Ernährungswissenschaften	
11. Further information	



1 Conto	D/Code: A									
	1		d learning outcomes	-2 \A/b = + = -	alian ula ti a				1-2	
Learning			: Why do we need simulation models	s? what are	simulation	models acting	g at mar	ket sca	le?	
content:	2. Introdu									
	- Languag									
	-		et model in GAMS							
			odity models (MCMs) i-market model in GAMS							
			plicy instruments in a MCM							
			proach and spatial arbitrage							
	-		of three MCMs: the Policy Evaluation	n Model of th	Ne OFCD th	e AgriSnace r	nodel fo	nr Norw	ıav ar	
			General Equilibrium models			e Agriopuee i	louente		ay ui	
			of a Social Accounting Matrix							
			ure of a CGE (production function, fir	nal demand.	trade repre	sentation)				
			on and calibrating a CGE against the s			,				
			(Armington, CET, Melitz model)							
			/sis with CGEBox							
Learning	outcomes	,								
After a su	ccessful co	nplet	ion of the course, the students							
			e building blocks of partial and gener	ral equilibriu	m models a	nd describe t	he intei	raction	s insid	de and
			ocks as expressed in their equations.							
		-	uilibrium models in the software page		and condu	ct counterfac	tual ana	alysis.		
			e outcome of such models against th	-				-	know	ledge o
			re general of the economic system.	•			-			•
- will be a	ble to eval	iate tl	he impact of changes in policies on q	quantities, pr	rices and we	elfare based o	on the a	pplicat	ion of	:
equilibriu	m models.									
- will be a	ble to synt	netize	these impacts in a short report.							
2. Prerec	quisites									
obligator	y									
recomme	nded	A mic	croeconomics course at master level	such as BAS	130 That c	ourse is obli	atory i	n tho A	FECO	
recomme	inueu		ram. A course on Global Food Marke				satory i	ii uie A	LCO	
Maximun	n number		udents	to and Syster		of is neipiui.				
of studen		20 50								
	nrogram	olloca								
3. Study	program	alloca				Compute	om/ Ela	ativo	500	mostor
3. Study Study pro	ogram		ation			Compuls		ective	Sei	
<b>3. Study</b> Study pro M.Sc. Agr	o <b>gram</b> icultural ar	d Foo	ation od Economics			Compuls	or <b>y/ El</b> e E	ective	Sei	mester 2.
3. Study Study pro M.Sc. Agr 4. Teach	ogram icultural ar ing and le	d Foo arnin	ation od Economics g methodes				E			2.
3. Study Study pro M.Sc. Agr 4. Teach	o <b>gram</b> icultural ar	d Foo arnin	ation od Economics		Language	of Group				
3. Study Study pro M.Sc. Agr 4. Teach Type of	ogram icultural ar ing and le	d Foo arnin	ation od Economics g methodes		Language	of Group	E		orkloa	2. ad [h] Self-
3. Study Study pro M.Sc. Agr 4. Teach Type of course	ogram icultural ar ing and le Interval	d Foo arnin 1	ation ad Economics g methodes Topic		instruction	of Group n size	E SWS	W Conta tim	orkloa act e	2. ad [h] Self- study
<b>3. Study</b> Study pro M.Sc. Agr	ogram icultural ar ing and le Interval during th	d Foo arnin 1	ation od Economics g methodes	assigments		of Group	E	W	orkloa act e	2. ad [h] Self- study
3. Study Study pro M.Sc. Agr 4. Teach Type of course	ogram icultural ar ing and le Interval during th semester	d Foo arnin 1	ation ad Economics g methodes Topic	-	instruction English	of Group n size 20	E SWS 4,0	Wo Conta tim 56,0	orkloa act e 0	2. ad [h] Self- study 124,0
3. Study Study pro M.Sc. Agr 4. Teach Type of course	ogram icultural ar ing and le Interval during th semester	d Foo arnin 1	ation ad Economics g methodes Topic	assigments	instruction English	of Group n size	E SWS 4,0	Wo Conta tim 56,0	orkloa act e 0	ad [h]
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course	ogram icultural ar ing and le Interval during th semester	d Foo arnin 1	ation ad Economics g methodes Topic	-	instruction English	of Group n size 20	E SWS 4,0	Wo Conta tim 56,0	orkloa act e 0	2. ad [h] Self- study 124,0
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course	pgram icultural ar ing and le Interval during th semester e cycle	d Foo arnin P	ation ad Economics g methodes Topic	6. Worklo	instruction English	of Group n size 20 7. Durat	E SWS 4,0	Wo Conta tim 56,0 8. Cre	orkloa act e 0	2. ad [h] Self- study 124,0
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course SS 9. Requi	egram icultural ar ing and le Interval during th semester e cycle	d Foo arnin 1 e i	ation ad Economics g methodes Topic includes regular reading and coding a	<b>6. Worklo</b> 180	instruction English	of Group n size 20 7. Durat	E SWS 4,0	<b>W</b> <b>Cont</b> <b>tim</b> 56,0 <b>8. Cre</b> 6,0	orkloa act e 0 edits	2. ad [h] Self- study 124,0
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course SS 9. Requi	egram icultural ar ing and le Interval during th semester e cycle	d Foo arnin 1 e i	ation ed Economics g methodes Topic includes regular reading and coding a e rewarding of credits (ECTS)	<b>6. Worklo</b> 180	instruction English ad [h]	of Group n size 20 7. Durat 1	E SWS 4,0 on	W( Cont: tim 56,0 8. Cre 6,0	orkloa act e 0 edits	2. ad [h] Self- study 124,0 (ECTS) ghting
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course SS 9. Requi	e cycle rements f	d Foo arnin 1 e i	ation ed Economics g methodes Topic includes regular reading and coding a e rewarding of credits (ECTS)	<b>6. Worklo</b> 180	instruction English ad [h]	of Group n size 20 7. Durat 1 Graded	E SWS 4,0 On Langu	Wr Cont: tim 56,0 8. Cre 6,0	orkloa act e 0 edits	2. ad [h] Self- study 124,0 (ECTS) ghting
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course SS 9. Requi Types of A	pgram icultural ar ing and le Interval during th semester e cycle rements f Assessmen	d Foo arnin 1 e i	ation ed Economics g methodes Topic includes regular reading and coding a e rewarding of credits (ECTS)	<b>6. Worklo</b> 180	instruction English ad [h]	of Group n size 20 7. Durat 1 Graded yes/no	E SWS 4,0 on Langu (exam	Wr Cont: tim 56,0 8. Cre 6,0	orkloa act e 0 edits	2. ad [h] Self- study 124,0 (ECTS) ghting
3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course 5. Course 9. Requi Types of A	pgram icultural ar ing and le Interval during th semester e cycle rements f Assessmen	d Foo arnin 1 e i	ation ed Economics g methodes Topic includes regular reading and coding a e rewarding of credits (ECTS)	<b>6. Worklo</b> 180	instruction English ad [h]	of Group n size 20 7. Durat 1 Graded yes/no	E SWS 4,0 on Langu (exam	Wr Cont: tim 56,0 8. Cre 6,0	orkloa act e 0 edits	2. ad [h] Self- study 124,C (ECTS) ghting



#### Module Title: Partial and General Equilibrium Modelling

Module ID/Code: APO-250 [780763250]

#### 10. Module coordination

#### Module coordinator

PD Dr. Wolfgang Britz

#### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

#### Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

#### **11. Further information**

Students will receive a course license for GAMS. All material including the software code, slides used for teaching are made available via E-Campus. The term paper has to be handed in 8 weeks after semester end.



1. Conter	nt and inte	nded learning outcom	S						
Learning content:	tradeoffs b quality, and between ag perspective evaluate sp include top	etween human health and d the triple burden of ma griculture, biodiversity, c e and with empirical example recific food systems topi	ure and nutrition through d planetary health goals. Contrition, as well as related mate change, diets, nutriti ples from low-, middle-, an from a comprehensive su g, GMOs, meat consumpti	oncepts and n d policy interv on, and healtl nd high-incom stainable deve	neasuremer entions, wil n will be ana le countries elopment p	nt of foo I be disc alyzed f . Case s erspect	od secur cussed. I rom a gl tudies w ive. Case	ity, dieta Links obal vill be use studies	ry ed t wil
Learning o									
- are able - can expla - can iden - can evalu	to define ke ain how food tify policy ne uate the arg	d systems relate to the v eeds and analyze the sus	curity and sustainable diet ious sustainable developn inability implications of sp te around sustainable agri	nent goals (SD pecific interve	ntions.				
2. Prereq		e dietary surveys and no							
obligatory									
recomme									
Maximum of studen									
3. Study	program al	location			-				
Study pro	gram				Compuls	ory/ Ele	ective	Semest	:er
		Food Economics				E		3.	
M.Sc. Agri (ARTS)	cultural Scie	nce and Resource Mana	ement in the Tropics and S	Subtropics		E		3.	
M.Sc. Nut	rition Scienc	e				Е		3.	
M.Sc. Mol	ecular Food	Technology				Е		3.	
4. Teachi	ng and lea	rning methodes							
Type of course	Interval	Торіс		Language of instruction	f Group size	SWS	Wo Conta time		lf-
L	during the semester			English	120	4,0	56,0		4,0
5. Course			6. Worklo	oad [h]	7. Durati	ion	8. Cree	dits (EC1	S)
WS			180		1		6,0		
9. Requir	ements for	the rewarding of cre	its (ECTS)				-		
Types of A	Assessment	Prerequisites for admis	ion to the Assessment		iraded es/no	Langu (exan	-	Weightin factor	١g
	xam			-	raded	Englis	-		



Module Title: Food security and sustainable food systems
Module ID/Code: APO-260 [780763260]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



			inar Policy Analysis								
Module ID	<b>D/Code:</b> A	PO-3	300 [780763300]								
1. Conter	nt and inte	end	ed learning outcomes								
Learning content:	Topical iss term pape		on agricultural policy at European and	d internation	al level wil	l be	analysed i	n prese	ntatior	ns and	written
Learning c		.13.									
-		mple	etion of the course, the students								
			the relevant theories and methods in the	he field of e	conomic no	alicy	i analysis tr	nolicy	iccupc	rolate	d to the
	al and food				cononne pe	JIIC	y analysis to	poncy	133063	relate	
-			ply research techniques such as struct	uring resear	ch papers.	lite	rature sear	ch. refe	erencin	g and	
technical v			[·· ) ·					,		0	
- are able	to present	rese	earch results using appropriate technic	ques and can	efficiently	' mo	oderate a so	cientific	c discus	sion.	
- are able	to develop	and	l judge research designs in order to an	swer specifie	c research	que	stions with	the ap	propria	ate qu	alitative
	ative meth										
- are able	to discuss r	ese	arch results and relate it to state-of-th	ie-art acader	mic literatu	ire	and to deriv	ve polic	y impli	catior	IS.
2. Prereq	uisites										
obligatory	/										
recomme	nded										
Maximum of student											
3. Study	program a	allo	cation								
Study pro	gram						Compulso	ory/ Ele	ctive	Ser	nester
M.Sc. Agri	cultural an	d Fo	ood Economics					E			3.
4. Teachi	ng and lea	arni	ing methodes								
Type of	Interval		Торіс		Language	of	Group	SWS	W	orkloa	d [h]
course					instructio	n	size		Conta	act	Self-
						_			tim	e	study
S	during the semester	2	Policy Analysis		English		15	4,0	56,0	C	124,0
5. Course				6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits (	ECTS)
WS	•			180	• •		1		6,0		•
9. Requir	ements fo	or th	he rewarding of credits (ECTS)	I							
			rerequisites for admission to the Asse	ssment		Gr	aded	Langu	age	Wei	ghting
			·			ye	s/no	(exam	-	facto	
Term pape	er					gra	aded	Englis	h	67%	
[78076330	09]										
Presentati						gra	aded	Englis	h	33%	
[78076330	08]										
Academic	Achievem	ents	5								
10. Modu	ule coordi	nati	ion								
Module co	oordinator										
Prof. Dr. T	homas Hec	kele	ei								
Teaching	person										
		s in t	the current semester can be found in t	basis:							
https://ba	sis.uni-bor	n.d									
	Departme										
			rungswissenschaften								
11. Furth	er inform	atio	on								



Module Title: Special Project in Agricultural and Development Policy										
Module I	D <b>/Code:</b> A	PO-3	10 [780763310]							
1. Contei	nt and int	end	ed learning outcomes							
-		-	s from the field of Agricultural and D	-				form of	f delive	rable (paper,
content:		ster	documentation) to be agreed upo	n between s	tudent and	d coo	ordinator.			
Learning o										
		-	tion of the course, the students	-l 4 l-						
			ected policy issue correctly and with or ed theories and appropriate qualitative		ativo toolo	ofa	nalycic to r	ancwor		fic policy
	seach ques	• •		ve or quantit		01 8	illalysis to a	answer	a speci	ne policy
			ive options to analyse policies or eval	uated altern	ative polici	ies v	vith respec	t to eco	onomic	impacts.
			mic literature and their own research							
-	esearch gap						•			,
2. Prerec	quisites									
obligatory	y	Two	out of the modules APO-110, APO-22	20, APO-230,	APO-240,	APC	)-250 have	to be o	complet	ted with
		sim	ble average at or below 1.3 at the star	rt of this moo	dule					
recomme	nded									
Maximum of studen										
3. Study	program a	alloc	ation							
Study pro	gram						Compulso	ry/ Ele	ctive	Semester
M.Sc. Agri	icultural an	d Fo	od Economics					E		2./3.
4. Teachi	ing and lea	arni	ng methodes							
Type of	Interval		Торіс		Language	of	Group	SWS	Wo	orkload [h]
course					instructio	n size			Conta	
		course instruction								
									time	
PS	during the	9	Special project		English		3	2,0	<b>time</b> 30,0	-
	semester	9	Special project	6 Worklo	_		-		30,0	) 150,0
5. Course	semester	5	Special project	6. Worklo	_		7. Duratio		30,0 <b>8. Cre</b>	
5. Course WS/SS	semester e cycle			<b>6. Worklo</b> 180	_		-		30,0	) 150,0
5. Course WS/SS 9. Requir	semester e cycle rements fo	or th	e rewarding of credits (ECTS)	180	_		<b>7. Duratio</b>	on	30,0 <b>8. Cre</b> 6,0	) 150,0 dits (ECTS)
5. Course WS/SS 9. Requir	semester e cycle rements fo	or th		180	_	Gra	7. Duratio	Dn	30,0 <b>8. Cre</b> 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir	semester e cycle rements fo Assessmen	or th	e rewarding of credits (ECTS)	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS)
5. Course WS/SS 9. Requir Types of A	semester e cycle rements fo Assessmen ork	or th	e rewarding of credits (ECTS)	180	_	Gra	7. Duratio	Dn	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project we [78076333	semester e cycle rements fo Assessmen ork 19]	or th t Pr	e rewarding of credits (ECTS)	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project we [78076333	semester e cycle rements fo Assessmen ork	or th t Pr	e rewarding of credits (ECTS)	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project we [78076333	semester e cycle rements fo Assessmen ork 19]	or th t Pr	e rewarding of credits (ECTS)	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [7807633: Academic	semester e cycle rements fo Assessmen ork 19]	or th t Pr ents	e rewarding of credits (ECTS) erequisites for admission to the Asse	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [78076333 Academic 10. Modu	semester e cycle rements fo Assessmen ork 19] : Achievem	or th t Pr ents	e rewarding of credits (ECTS) erequisites for admission to the Asse	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project we [7807633: Academic 10. Module co	semester cycle rements for Assessmen ork 19] Achievem ule coordi	or th t Pr ents	e rewarding of credits (ECTS) erequisites for admission to the Asse	180	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [78076333 Academic 10. Modu Prof. Dr. T Teaching	semester cycle rements for Assessmen ork 19] cAchievem ule coordi oordinator homas Heo person	or th t Pr ents nati	erewarding of credits (ECTS) erequisites for admission to the Asse on	essment	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [78076333] Academic 10. Modu Module co Prof. Dr. T Teaching The teach	semester cycle rements for Assessmen ork 19] Achievem ule coordi oordinator homas Heo person ing person	or th t Pr ents nati	e rewarding of credits (ECTS) erequisites for admission to the Asse on i he current semester can be found in	essment	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project we [78076333 Academic 10. Modu Module co Prof. Dr. T Teaching The teach https://ba	semester e cycle rements for Assessmen ork 19] Achievem ule coordi oordinator homas Heo person ing person asis.uni-bor	or th t Pr ents nati	e rewarding of credits (ECTS) erequisites for admission to the Asse on i he current semester can be found in	essment	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [78076333 Academic 10. Module Prof. Dr. T Teaching The teach https://ba	semester cycle rements for Assessmen ork 19] Achievem ule coordi oordinator homas Heo person ing person asis.uni-bor Departme	or th t Pr ents nati	erequisites for admission to the Asse on i he current semester can be found in e/	essment	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting
5. Course WS/SS 9. Requir Types of A Project wo [78076333 Academic 10. Modu Module co Prof. Dr. T Teaching The teach https://ba Institute/ Agrar-, Fo	semester cycle rements for Assessmen ork 19] Achievem ule coordi oordinator homas Heo person ing person asis.uni-bor Departme	or th t Pr ents nati	e rewarding of credits (ECTS) erequisites for admission to the Asse on i he current semester can be found in e/ ungswissenschaften	essment	_	Gra	7. Duratio	on Langu (exam	30,0 8. Cre 6,0 age	) 150,0 dits (ECTS) Weighting



Module			bilistic Programming for Appli 0 [780763320]	ed Agricu	ltural Eco	nomics					
	-		l learning outcomes								
Learning content:	Students Programm and stand and exter statistical coding ex of Bayesia	learn to ning is lard ec nding th analys amples an mod	o apply Probabilistic Programming to a novel data science tool combining conometrics. The course contributes heir methodical toolkit. Students will sis of questions relevant to policy and s and exercises (in Python and the Ne deling and how to interpret Bayesian analytic jobs in research or the priva	Bayesian St to the maste I learn a bas d business. T umPyro fran modeling re	atistical Mo er's degree ic workflow The workflo nework). A	odelling, e by deepe to perfo ow is inter long the v	element ening st rm theo nsively p way, the	s of uder ory-g oract cou	Machin nt's qua guided, ticed w nrse cov	ne Le Intita appl ith gr vers t	arning, itive skil ied uided :he basi
Learning o											
are able are able cience pr are able commonly have obt	to comput to apply Pr ojects). to explain v applied e	e statis robabil and ev conom	esian modeling results. stics of interest from Bayesian mode listic Programming for their own emp valuate the benefits of (Bayesian) Pro netric approaches. oding experience and data science sl	pirical applic	ogrammin	g approac	hes cor	npar	ed to c	other	
market.											
2. Prereq		none									
obligatory		none									
recomme			f either APO-230 or ENV-130								
Maximum of studen		20 stu	idents								
3. Study	-	allocat	tion								
Study pro	-		-			Comp	oulsory	/ Ele	ctive	Se	mester
-			d Economics				E				3.
	-		g methodes		[	-					
Type of course	Interval	Т	opic		Language instruction			WS	Wo Conta time	act	ad [h] Self- study
L	during the semester		heory		English	20	) 2	2,0	30,0	C	60,0
рТ	during the semester		hpplication		English	20		2,0	30,0		60,0
5. Course	cycle			6. Workloa	ad [h]		ration			dits	(ECTS)
WS	-			180		1			6,0		
Types of A Assignme	Assessmen		rewarding of credits (ECTS) requisites for admission to the Asse	ssment		Graded yes/no graded	(e	ngu xam nglisl	ı)	We fact	ighting or
[78076332 Academic	29]	ients									



#### Module Title: Probabilistic Programming for Applied Agricultural Economics

#### Module ID/Code: APO-320 [780763320]

#### 10. Module coordination

#### Module coordinator

Dr. Hugo Storm

#### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

#### 11. Further information

Guided coding examples and exercises will be provided in Python, but no previous Python experience is required. It is sufficient that students have gained some previous experience in coding in general, for example by completing either APO-230 or ENV-130 (both using R) successfully. Nevertheless, a strong interest and motivation to learn Python basics is expected. Background Links:

- Ghahramani, Zoubin. 2015. "Probabilistic Machine Learning and Artificial Intelligence." Nature 521 (7553): 452–59.

- McElreath, Richard. 2020. Statistical Rethinking: A Bayesian Course with Examples in R and Stan. Chapman and Hall/CRC.

- Thomas Heckelei, Hugo Storm, Kathy Baylis. 2023. Probabilistic Programming for Embedding Theory and Quantifying

Uncertainty in Econometric Analysis. Keynote, XVII EAAE Congress 2023 Rennes. https://github.com/hstorm/pp\_eaae\_rennes - NumPyro Documentation: https://num.pyro.ai/en/stable/



#### Module Title: Satellite Data in Agricultural Economics

Module ID/Code: ENV-320 [780764320]

#### 1. Content and intended learning outcomes

Learning<br/>content:Introduction and Overview, a primer on satellite data, opportunities arising from satellite data, what can be<br/>measured with satellite data, pitfalls, impact evaluations using satellite data, final discussion and conclusion.

#### Learning outcomes

After a successful completion of the course, the students...

- are able to work with data in Google Earth Engine and in R.

- understand potentials and pitfalls of satellite data in agricultural, environmental, and resource economics.

- can compute geospatial measures and statistics, such as distances between features, or local averages of variables.

- can transform maps into tables.

- have a working knowledge of how to answer economic questions with geospatial data.

2. Prerec	luisites									
obligatory	/	non	e							
recomme	nded		istics, Econometrics, Impact Evaluatio		undations o	f Agricultu	al, Enviro	onment	al, ar	nd
D.d.a.v.ivas.vva			ource Economics, Google Earth Engine tudents	e, Python						
Maximum of studen		10.8	students							
3. Study	program a	alloc	cation							
Study pro	gram					Compu	lsory/ Ele	ective	Se	mester
M.Sc. Agr	icultural an	id Fo	od Economics				E			3.
4. Teachi	ing and lea	arni	ng methodes							
Type of	Interval		Торіс		Language o	-	sws	W	orklo	ad [h]
course	course			instruction		size		Cont		Self-
1	during the Lecture Satellite Data Englisi		English	16	1 5	tim		<b>study</b> 47,0		
L	semester		16	1,5	23,	0	47,0			
Т	during the Lecture Satellite Data English		16	0,5	8,0	)	12,0			
L	semester during the semester	õ	Lecture Analysis and Modelling		English	16	1,5	23,	0	47,0
Т	during the	9	Lecture Analysis and Modelling		English	16	0,5	8,0	)	12,0
5. Course				6. Worklo	ad [h]	7. Dura	tion	8. Cre	dits	(ECTS)
WS				180		1		6,0		
9. Requi	rements fo	or th	ne rewarding of credits (ECTS)							
Types of A	Assessment	t Pr	rerequisites for admission to the Asse	ssment		Graded yes/no	Langı (exan	-	We fac	ighting tor
Written e	xam [90					graded	Englis		100	
min]							0			
[7807643]	29]									
Academic	Achievem	ents	;						<u> </u>	
10. Mod	ule coordi	nati	ion							
Module c	oordinator									
Prof. Dr. D	David Wüpp	ber								
Teaching	-									
			the current semester can be found in b	basis:						
-	sis.uni-bor Departme		е/							
	-		ungswissenschaften							
	er inform									
		auu								



Module			arch Seminar in Agricultural and	d Develop	oment Po	licy	,				
Module ID	D/Code: A	PO-3	330 [780763330]								
1. Conter	nt and inte	end	ed learning outcomes								
Learning	Literature	stu	dies, preparation of a research concept	and a prop	osal, prese	entat	tions of the	e state	of the a	art in	а
content:	thematic f	ield	which is close to the research question	n; scientific	discussion	of o	wn researd	ch topi	c and to	opic d	of others
	in the sem	inar	r.								
Learning o	outcomes										
		-	etion of the course, the students								
			m background of a chosen topic after c	-		rev	iew.				
		-	estion or a testable hypothesis from a p								
			ompare state-of-the-art research articl								
		пар	propriate methodology relevant for the	e research q	uestion(s)	afte	r evaluatio	on of al	ternati	ve	
approache			ncept of their Master thesis, including v	vork plan av	ad avpacta	dau	teomoc				
2. Prereq		COI	rept of their Master thesis, including v	vork plati al	iu expecter	u ou	itcomes.				
		10 F	ECTS-CP								
obligatory recomme		40 [									
Maximum											
of student											
	program a	llo	cation						. 1		
Study pro	-						Compulso		ective	Se	mester
			ood Economics				C fo	r APO			3.
	-	arni	ng methodes		1						
Type of	Interval		Торіс		Language		Group	SWS	Wo	orklo	ad [h]
course					instructio	n	size		Conta		Self-
- 1									tim		study
S*	during the		Class discussions, presentations, feedl	back	English		15	2,0	30,0	0	30,0
S*	semester		sessions		En aliah		15	0.0	0.0		120.0
5*	during the semester		Own research, writing term paper		English		15	0,0	0,0		120,0
5. Course				6. Workloa	ad [h]		7. Duratio	n D	8. Cre	dits	(ECTS)
WS/SS				180	aa []		1		6,0	anto	(2010)
-	ements fo	nr th	ne rewarding of credits (ECTS)	100		!·	±		0,0		
•			rerequisites for admission to the Asses	smont		Gra	ded	Langu	200	Wo	ighting
rypes or P	33635111611		erequisites for autilission to the Asses	Sillent			/no	(exam	-	fact	
Term pape	۶r	Re	egular participation to learn from other	rs		grad	-	Englis		67%	
[78076333						0					•
Presentati	on	Re	egular participation to learn from other	ſS		grad	ded	Englis	h	33%	/ 0
[78076333	38]										
Academic	Achievem	ents									
10. Modu	ule coordi	nati	ion								
Module co	oordinator										
Prof. Dr. T	homas Hec	kele	ei								
Teaching	person										
The teachi	ing persons	in t	the current semester can be found in b	asis:							
	sis.uni-bon		e/								
	Departme										
Agrar-, Foi	rst- und Err	nähr	rungswissenschaften								
11. Furth	er inform	atio	on								



# Major or Minor Resource and Environmental Economics (ENV)

### Requirements for the Major Specification: - Modules accounting for a minimum of 30 ECTS-CP in the Major Specification - The Research Seminar is in the Major Specification - The Master Thesis is in the Major Specification

# Requirements for the Minor Specification: - Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



	-	NV-100 [780764100] ended learning outcome						
	1	roaches of ecological and er	onmontal oconomics: ii	ntortomporal	allocation	fronov	vablo and	d non
content:		e resources; Hartwick-rule; (		•				
content.		urve and pollution haven hy				-	-	
		ility, monetary valuation of			a chects, it		Sumption	i unu
Learning	outcomes	inty, monetary valuation or	in on interical impacts)					
		mpletion of the course, the	Idents					
		ncepts of sustainability and		ntal economic	· <b>c</b>			
		e welfare functions into pre	-					
		omic models and their assun						
	-	conomic theory to problems		nics (e. g. rene	ewable reso	urces).		
		os and cons of different pol						
		conomic theory to real world						
- can syst	ematically	organize their arguments in	e form of essays.					
		the gist of scientific articles.						
<ul> <li>can disc</li> </ul>	uss scientif	ic articles.						
2. Prerec	quisites							
obligator	y							
recomme	nded	solid knowledge of microec	omics, institutional eco	nomics and w	elfare theo	ry		
Maximun	n number							
of studen	ts							
3. Study	program	allocation						
Study pro	ogram				Compuls	ory/ Ele	ective	Semeste
M.Sc. Agr	icultural ar	d Food Economics				Е		1.
M.Ed. Ag	ricultural So	ience (Teacher's Training)				Е		1.
M.Ed. Ag	ricultural So	ience (Teacher's Training)				E		1.
		arning methodes						
Type of	Interval	Topic		Language of	Group	SWS	\\/or	kload [h]
course	Interval	TOPIC		instruction	size	3003	Contac	
course				mstruction	5120		time	stud
L	during the	e economics on sustaina	ity	English	20	2,0	30,0	40,0
Т	semester during the	e economics on sustaina	ity	English	20	2,0	30,0	80,0
5. Cours	semester		6. Worklo	ad [b]	7. Durati		Q Crod	its (ECTS
	elycie							
WS			180		1		6,0	
		or the rewarding of credi				1.		
Types of A	Assessmen	t Prerequisites for admissi	to the Assessment		raded	Langu	-	<b>Neighting</b>
M/ritton o	vam [120			-	es/no	(exan	-	actor
min]	xam [120			g	raded	Englis		
minj [7807641	091							
1,00,041	00]							
						1		



# Module Title: Economics on Sustainability Module ID/Code: ENV-100 [780764100] 10. Module coordination Module coordinator Prof. Dr. Jan Börner Prof. Dr. Jan Börner Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information Institute/ Information



Module			onmental Economics and Polic	cies						
	-		10 [780764110]							
1. Contei			d learning outcomes							
Learning content:	instrumer commanc compatib Agricultur	nts (Co I and o le inst ral env	nmental policy: Public goods, Commo pase, Pigou); pragmatic policy instruit control approaches, taxes, subsidies, cruments; eco-tax and double divider vironmental policy: Property rights, t ctions in AEM; influences from other	ments (with , emission tra nd; :axes and agr	real world e ading; Asyn ri-environm	examples): en netric informa lental measur	ivironm ation an res (AEN	ental lia d incen Л), perf	ability tive	γ,
Learning	outcomes									
After a su	ccessful co	mplet	ion of the course, the students							
			institutional economics to analyze e	nvironmenta	al policy.					
- can discı	uss comple	x mat	ters grounded in economic theory.							
- identify	implicit as	sumpt	tions of certain economic approache	s.						
			heir argumentation.							
			ed to new policy fields.							
-		resear	rch approaches to empirical question	ıs.						
2. Prereq										
obligatory	/									
recomme	nded	solid	knowledge of microeconomics and i	nstitutional	economics	as well as we	lfare ec	onomic	S	
Maximum of studen										
3. Study	program	alloca	ation							
Study pro	gram					Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agri	icultural ar	d Foo	d Economics				E			2.
4. Teachi	ing and le	arnin	g methodes							
Type of	Interval		Горіс		Language	of Group	SWS	w	orklo	ad [h]
course					instructio	-		Conta		Self-
								tim	e	study
L	during the semester	e (	enironmental economics and policies	S	English	20	2,0	30,	0	40,0
Т	during the semester	e (	environmental economics and policion	es	English	20	2,0	30,0	0	80,0
5. Course	e cycle			6. Worklo	ad [h]	7. Durat	ion	8. Cre	dits	(ECTS)
SS	•			180		1		6,0		
	rements f	or the	e rewarding of credits (ECTS)							
•		-	requisites for admission to the Asse	essment		Graded	Langu	lage	We	ighting
/			• • • • • • • • • • • • • • • • • • • •			yes/no	(exan	-	fact	
	-					graded	Englis	-		
Written ex	xam [120						1 -		1	
	xam [120									
Written ex min] [7807641:	•									



# Module Title: Environmental Economics and Policies Module ID/Code: ENV-110 [780764110] 10. Module coordination Module coordinator Prof. Dr. Jan Börner Prof. Dr. Jan Börner Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Institute/ Department



Module			act evaluation of conservation	& develop	ment pro	oje	cts and ei	nviron	ment	al po	licies
Module I	D <b>/Code:</b> E	NV-1	130 [780764130]								
1. Contei	nt and int	end	ed learning outcomes								
Learning content:	<ul> <li>Understand</li> <li>Overview</li> <li>and quasi</li> </ul>	andir v, ha -exp	ct evaluation in guiding the design of ng and developing a theory of change ands-on application, and critical assess erimental research designs ase studies; advanced topics, such as i	sment of qua	antitative e	valı	uation metl	nods in	cluding		imental
Learning	outcomes										
<ul> <li>know alt</li> <li>understa</li> <li>apply sel</li> <li>critically</li> </ul>	ernative quand how dif ected eval	uanti fere uatio	etion of the course, the students itative evaluation methods and their u nt types of biases affect evaluations o on methods to real world problems. ngs from evaluation studies.		-		vation initi	atives.			
2. Prerec	-										
obligatory											
recomme	nded										
of studen	ts		tudents								
	program a	alloc	cation								
Study pro	-						Compulso		ctive		nester
			od Economics					E			2.
		arni	ng methodes		1						
Type of	Interval		Торіс		Language		Group	SWS		orkloa	
course					instruction		size		Conta time		
L	during the semester	ò	Impact Evaluation		English		25	2,0	30,0		60,0
Т	during the	è	Exercise		English		25	2,0	30,0	)	60,0
5. Course				6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits (	FCTS)
SS				180			1		6,0		,
9. Requir	ements fo	or th	ne rewarding of credits (ECTS)						- / -		
-		_	erequisites for admission to the Asse	essment			aded s/no	Langu (exam	-	Weig facto	hting r
Assignmer [78076413						gra	aded	Englis	h		
Academic	Achievem	ents	i								
10. Modu	ule coordi	nati	on								
Module c	oordinator										
Prof. Dr. J	an Börner										
Teaching	person										
			the current semester can be found in	basis:							
	sis.uni-bor Departme		2/								
			ungswissenschaften								
-	er inform										
11. Furth	ier morm	auo	11								



Module Module I			plex systems modeling of hur 40 [780764140]	man-enviro	nment in	teractions					
	-		ed learning outcomes								
	1. Introdu										
content:	- Humai - Compl - Model - Basic i 2. Game t - Coope 3. Dynam - Intera	n-environment (H-E) interactions in social-ecologial systems ex systems, Critical transitions and Resilience ing as a way to make sense of the world ntroduction to python as a common-purpose programming language theory: Modeling strategic interactions ration as collective action to maintain the commons ical systems: Modeling change and stability cting cause and effect relationships nd-cup resilience based modelling: Modeling collective behavior from interacting agents									
			-	havior from ir	nteracting a	gents					
	- Divers	e, bo	undedly rational agents under ineq	uality							
	5. Synthe	sis: N	1odeling intelligent agents as dynar	nical systems							
Learning o											
		•	tion of the course, the students								
- can cont advantage - can write - can anal	rast the ch es. e simple m yze such m	odels odels	eling approaches to human-enviror teristics of different modeling appro s or alter more difficult models of H s of H-E interactions regarding pher el results on the basis of a model's a	oaches to H-E -E interaction nomena in cor	interactions s in python.	and explain	-	-			
			iently, synthesise model results and	-	oth in writt	en and oral	form.				
2. Prereg											
obligatory	-										
		har!	o knowlodgo in microgrammic (	mother and -	upomiest	stome and !	n n ac = -		0000		
recomme	naea		c knowledge in microeconomics (ga gramming language is an advantage	• •	iynamical sy	stems, and I	n a gene	nai-pur	pose		
Maximum	number		tudents								
of studen		203									
3. Study	program	alloc	ation								
Study pro	gram					Compul	sory/ Ele	ective	Se	mester	
M.Sc. Agri	icultural ar	nd Fo	od Economics				E			3.	
4. Teachi	ing and le	arniı	ng methodes								
Type of	Interval	-	Торіс		Language	of Group	SWS	w	orklo	ad [h]	
course			•		instructio	-		Cont	1	Self-	
								tim	e	study	
L	during th semester		Complex H-E models		English	20	2,0	42,	0	93,0	
Т	during th semester		Implementing and analyzing H-E m		English	20	2,0	14,		31,0	
5. Course	e cycle			6. Worklo	oad [h]	7. Durat	tion	8. Cre	edits	(ECTS)	
WS				180		1		6,0			
•			e rewarding of credits (ECTS)								
Types of A	Assessmen	t Pr	erequisites for admission to the As	sessment		Graded	Langu			ighting	
Dava a d						yes/no	(exan		fact		
Report [78076414	49]					graded	Englis	5n	50%	Ō	
Presentati [78076414						graded	Englis	sh	50%	6	
Academic	Achieven	ents									



Module Title: C	omplex systems modeling of human-environment interactions
Module ID/Code: E	NV-140 [780764140]
10. Module coordi	nation
Module coordinator	
Jun. Prof. Dr. Wolfra	m Barfuss
Teaching person	
The teaching persons	s in the current semester can be found in basis:
https://basis.uni-bor	nn.de/
Institute/ Departme	nt
Agrar-, Forst- und Eri	nährungswissenschaften
11. Further inform	ation



Module Title: Advanced Environmental Economics													
Module ID/Code: ENV-210 [780764210]													
1. Content and intended learning outcomes													
Learning content:	economic	terpretation and discussion of theoretical models and applications in environmental and resource cs. Examples from forest and biodiversity conservation, pollution and waste, non-renewable resources, undary resource use, and international environmental agreements.											
Learning outcomes													
After a successful completion of the course, the students													
- know alternative theoretical approaches in environmental and resource economics.													
- understand the implications of assumptions in formal economic models for real world applications.													
- apply theory and numerical techniques to solve common problems in environmental and resource economics.													
2. Prerequisites													
obligatory	/												
recomme	ironmental Economics and Policy, Eco	ustainabilit	lity										
Maximum number 25 students of students													
3. Study program allocation													
Study program Compulsory/ Elective Semester													
M.Sc. Agri	cultural ar	d Fo	od Economics				Е		3.				
4. Teachi	4. Teaching and learning methodes												
Type of	Interval		Торіс	of Group	SWS	We	orkload [h]						
course					instructio	n size		Conta time					
L	during the semester	ē	Advanced Environmental Economics		English	25	2,0	30,0					
Т	during the semester	5	Assignment	English	25	2,0 30,		) 120,0					
5. Course				6. Workloa	ad [h]	7. Durati	ion	8. Credits (ECTS)					
WS				180		1							
9. Requir	ements f	or th	ne rewarding of credits (ECTS)										
			rerequisites for admission to the Asse	essment		Graded	Langu	age	Weighting				
			-			yes/no	(exam	າ)	) factor				
Oral exam [78076422						graded	Englis	h					
Academic Achievements													
10. Modu	ule coordi	nati	ion										
Module co	oordinator												
Prof. Dr. Ja	an Börner												
Teaching	person												
The teaching persons in the current semester can be found in basis:													
	isis.uni-bor Departme		e/										
Agrar-, Forst- und Ernährungswissenschaften													
	er inform												



Module	Title: B	Bio-I	-Ec	соі	noi	mia	c M	lod	elli	ng	At	: Fa	rm-	Sca	le											
Module II	D <b>/Code:</b> E	NV-2	-24	40	[78(	076	6424	10]																		
1. Conte	nt and int	end	de	d I	ear	nir	ng c	oute	com	nes																
Learning	1						_					ion	mod	els?	Wha	t are	fa	rm-scale sir	nula	ntion n	nod	els?				
content:	2. Introdu				-																					
	2.1 Assum							-		-																
	2.2 Prima							-			0															
	3. Introdu	ictio	on	to	GA	MS																				
	3.1 Langu	age	e st	tru	ctu	re																				
	3.2 A first simple GAMS model of a farm																									
	4. Modelling core bio-economic interactions at farm scale																									
	4.1 Herd dynamics, requirements and cost minimal feed mix																									
	4.2 Crops	, rota	otat	tior	۱s <i>,</i> (	cro	ppir	ng ir	nten	sity	/															
	4.3 Labou	ır use	se																							
	4.4 Comb	ing t	th	ie e	len	nen	ts, i	inte	grat	ting	; en	virc	nme	ent i	ndica	tors										
	5. Modeling Investments and Financing Decisions																									
5.1 Maximizing Net Present Value																										
	<ul><li>5.2 Accounting for depreciation</li><li>5.3 Indivisibilities in investments</li></ul>																									
	5.4 Full financial plan and income tax																									
	6. Modeling Risk and risk behavior																									
	6.1 State of nature, decision under uncertainty, MOTAD and Target MOTAD																									
	6.2 State contingent decision variables																									
	6.3 Dynar	nic s	stc	och	ast	ic p	orog	gran	nmir	ng																
Learning	outcomes																									
After a su	ccessful co	mple	let	tior	۱ of	the	e co	urs	e, th	ne s	tud	lent	s													
- will be a	ble to outli	ne tl	the	e b	uilc	ling	g blo	ocks	of f	farn	n-so	cale	bio	eco	nomi	c mo	de	Is and desc	ibe	the in	tera	actior	ns in	iside a	nd	
		-								-	-					-		tion model								
																		nic models i					kag	e GAN	ЛS.	
		-										-				-		d of micro-e				-				
					-									-				s such as ch	-		-		-	price	s or	farm-
														sed o	on the	e app	olic	ation of a b	io-e	conor	nic I	mode	el.			
	ble to synt	hetiz	ize	e th	ese	: im	pac	ts i	nas	shoi	rt re	еро	rt.													
2. Prerec	-																									
obligatory	/																									
recomme	nded	A m	mic	cro	eco	nor	mic	s co	urse	e at	ma	aste	r lev	el su	uch as	5 BAS	5-1	30 and a co	ours	e on ri	sk r	nana	gem	nent s	Jch	as BAS-
		150	0. I	Bot	th c	our	rses	ar	e ob	oliga	ator	ry ir	n the	AFE	CO p	rogra	am	•								
Maximum	number	20 s	) sti	ude	ent	5																				
of studen	ts																									
3. Study	program	allo	oca	atio	on																					
Study program								Compulsory/ Elective Seme					nester													
M.Sc. Agri	cultural ar	nd Fo	00	od E	Ecor	non	nics	;													Ε					2.
4. Teachi	ng and le	arni	nin	ng r	net	tho	de	s																		
Type of	Type of Interval			Торіс										Language of		Group		sws		Wor	orkload [h]					
course											i	instruction		size				ontact	_							
																							•	time		study
L+T	during the	е	i	inc	lud	es r	egu	ılar	read	ding	g an	nd c	odin	g as:	sigme	ents	E	nglish		20	$\uparrow$	4,0		56,0		124,0
	semester						5				-			-	5			-				-				
5. Course	e cycle													6	5. Wo	orklo	bac	l [h]	7.	Dura	tior	า	8.	Credi	ts (	ECTS)
SS											_				.80		_		1				6,0			
33														1	.60				L				0,0	,		



Module Title: Bio	o-Economic Modelling At Farm-Scale					
Module ID/Code: EN	V-240 [780764240]					
9. Requirements for	r the rewarding of credits (ECTS)					
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor		
Term paper [780764249]		graded	English			
Academic Achieveme	nts					
10. Module coordin	ation					
Module coordinator						
PD Dr. Wolfgang Britz						
Teaching person						
The teaching persons	in the current semester can be found in basis:					
https://basis.uni-bonr	n.de/					
Institute/ Departmen	t					
Agrar-, Forst- und Erna	ährungswissenschaften					
11. Further informa	tion					
	course license for GAMS. All material including the soft s. The term paper has to be handed in 8 weeks after sen		ised for teachin	g are made		



#### Module Title: Seminar on Environmental Economics and Policy Module ID/Code: ENV-300 [780764300] 1. Content and intended learning outcomes Learning Topical and policy relevant issues in environmental and ecological economics. Examples: Policies for tropical forest content: conservation, sustainable green and bioeconomy, international trade and the environment. Learning outcomes After a successful completion of the course, the students... - obtain deep knowledge of selected environmental policy issues. - are able to interpret advanced concepts in environmental policy analysis. - can apply environmental and ecological economic concepts to topical policy debates. - are able to analyze quantitative and qualitative data using empirical methods from environmental economics. - can synthesize complex debates on environmental policy design. 2. Prerequisites obligatory recommended Environmental Economics and Policy, Economics on Sustainability Maximum number 15 students of students 3. Study program allocation Study program **Compulsory/ Elective** Semester M.Sc. Agricultural and Food Economics Е 3. 4. Teaching and learning methodes Type of Interval Topic Language of SWS Workload [h] Group instruction course size Contact Selftime study S\* full-day block Seminar, Friday block in November English 15 4,0 60,0 120,0 (blocked) 6. Workload [h] 7. Duration 8. Credits (ECTS) 5. Course cycle WS 180 1 6.0 9. Requirements for the rewarding of credits (ECTS) Types of Assessment Prerequisites for admission to the Assessment Graded Language Weighting yes/no factor (exam) 50% Term paper **Regular** participation graded English [780764309] Presentation **Regular participation** graded English 30% [780764308] Project work **Regular participation** graded English 20% [780764307] Academic Achievements **10. Module coordination** Module coordinator Prof. Dr. Jan Börner **Teaching person** The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ **Institute/ Department** Agrar-, Forst- und Ernährungswissenschaften 11. Further information



#### Module Title: Special Project in Environmental Economics

Module ID/Code: ENV-310 [780764310]

#### 1. Content and intended learning outcomes

**Learning** Topic from the field of Environmental, Ecological or Resource Economics. Specific topic and form of deliverable **content:** (term paper, report, poster, documentation,...) to be agreed upon between student and coordinator.

#### Learning outcomes

After a successful completion of the course, the students...

- obtain deep knowledge of selected environmental policy issues.
- are able to interpret advanced environmental and ecological economic concepts.
- can apply environmental and ecological economic concepts to topical policy debates.
- can apply advanced skills in literature and data analysis.

#### - are able to synthesize complex debates on environmental policy design. 2. Prerequisites ENV-100 and ENV-110 and ENV-130 have to be completed at or below 1.7 at the start of this module obligatory recommended Environmental Economics and Policy, Economics on Sustainability Maximum number 3 students of students 3. Study program allocation Study program **Compulsory/ Elective** Semester M.Sc. Agricultural and Food Economics Е 2./3. 4. Teaching and learning methodes Type of Interval Topic Language of SWS Workload [h] Group course instruction size Contact Selftime study PS during the Special project English 3 2,0 20,0 160,0 semester 5. Course cycle 6. Workload [h] 7. Duration 8. Credits (ECTS) WS/SS 180 1 6.0 9. Requirements for the rewarding of credits (ECTS) Types of Assessment Prerequisites for admission to the Assessment Graded Language Weighting yes/no factor (exam) Project work graded English [780764319] **Academic Achievements** 10. Module coordination Module coordinator Prof. Dr. Jan Börner **Teaching person** The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



Module	Title: S	Sustainability and Risk
		NV-260 [780764260]
1. Contei	nt and int	ended learning outcomes
Learning content:	change ar	ge about sustainability, risk(s) and transformation is key to understanding the societal challenges of global nd to considering them in one's own field of action. In this course we take an interdisciplinary approach to these concepts integrating knowledge from social and natural theory and science.
	associate the terms theoretics discussing	rom the current state of global sustainability problems and transformation perspectives as well as d political processes, this interdisciplinary and multi-perspective course first illustrates the fundamentals of s 'sustainability', 'risk' and ' transformation' as well as other related concepts and terms. Building on this al unterpinning, particular attention is paid to the 2030 Agenda for Sustainable Development by critically g aspects such as implementation and measurement of the Sustainable Development Goals (SDGs) the basics and critical aspects of economic growth.
	associate sustainab as on mea manage r	ore, we explore how farmers, consumers and insurances take decisions in the face of increasing risks d with global change as well as transformation. This is done by providing insights into the field of le consumption, such as on types, motives and barriers of sustainable production and consumption, as well asures to promote sustainable consumer behaviour. We furthermore explore how natural ecosystems isks and if and how these principles could be also applied in an agricultural context e.g. in the context of agement. Furthermore, we introduce complex systems thinking as a tool to deal with risks.
	limited to case stud	ples used during the course often refer to agriculture and the food industry, but are intentionally not them. Besides the continuous use of built-in short exercises, interactive teaching formats (e.g. live quizzes, ies, simulation game), students will be engaged in lively discussions on the topics and encouraged to bring erspectives.
	small self	for the grading, students will engage in group work to develop and implement either a board game or a -experiment (will be decided each year) incorporating aspects of risks, sustainability or transformation. The this group work will be presented during a public game or poster presentation.
Learning o	outcomes	
<ul> <li>know ab transform</li> </ul>	out the dif ation.	mpletion of the course, the students ferent scientific and political debates as well as their development in the context of sustainability, risks and general and interdisciplinary understanding of complex challenges and concepts related to sustainability,
- understa		ition. Actical challenges and chances related to these concepts for agriculture in different contexts (different farm sizes etc.).
-		nese concepts in the context of research questions related to agriculture and land use.
2. Prerec	uisites	
obligatory	/	
recomme	nded	
Maximum	n number	50 students

of students



Module	Title: Sus	stainability and Risk								
Module ID	/Code: ENV	/-260 [780764260]								
3. Study	program all	ocation								
Study pro	gram					Compulso	ory/ Ele	ctive	Se	emester
M.Sc. Agri	cultural and I	Food Economics					Е			3.
M.Sc. Agri	cultural Scier	nce and Resource Management in the T	ropics and Su	ubtropics			С			3.
(ARTS)										
M.Sc. Crop						E Foc	us PER(	2		3.
4. Teachi	ng and lear	ning methodes								
Type of	Interval	Торіс		Language		Group	SWS	W	orklo	oad [h]
course				instructio	n	size		Conta		Self-
	during the			English		20	4.0	tim	-	study
L	during the semester			English		80	4,0	45,0	J	135,0
5. Course	cycle		6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits	(ECTS)
WS			180			1		6,0		
9. Requir	ements for	the rewarding of credits (ECTS)								
Types of A	ssessment	Prerequisites for admission to the Asse	essment		Gra	aded	Langu	age	We	eighting
						s/no	(exam		fac	tor
Presentati					gra	aded	Englis	h		
[78076426	99]									
Academic	Achievemen	ıts								
10. Modu	le coordina	ation								
Module co	oordinator									
JunProf.	Dr. Lisa Biber	r-Freudenberger								
Teaching	person									
		n the current semester can be found in	basis:							
	sis.uni-bonn.									
	Department									
_		hrungswissenschaften								
	er informat									
External g	uests e.g. far	mers to talk about their perspectives or	n sustainabili	ty, risks an	d tr	ansformati	on			



itle: Ac	vanced Applied Econometrics								
Code: AP	O-230 [780763230]								
and inte	nded learning outcomes								
Model spe Endogeno trategies) Panel data Maximum	ecification (functional form and variable ous regressors (instrumental variable est a analysis n Likelihood Estimation	choice)	_		ents, ic	lentifica	ation		
itcomes									
o correctly o apply ma e of applyi ropriate eq use and int	interpret excerpts from econometric tex trix algebra in the context of statistics. ing econometric methods to estimate que conometric methods based on the analy	uantitative ec sis of the dat	onomic moc a situation a				theory.		
isites									
P	Passed exam in module BAS-110								
ded									
number									
rogram al	llocation								
ram	Compulsory/ Elective Semester								
ultural and	Food Economics				E		2.		
g and lea	rning methodes			1					
nterval	Торіс		Language o	f Group	SWS	Wo	orkload [h]		
			instruction	size		Conta	ict Self-		
			For all also	120	2.0	time			
				-	-				
	Advanced Applied Econometrics		•	-					
cycle			ad [n]		on		dits (ECTS)		
monto fo	the rewarding of credits (FCTS)	180		1		6,0			
		occmont		Product	Langu	200	Weighting		
sessment	Frerequisites for autilission to the Ass	essment			-	-	factor		
				-					
)]									
chieveme	nts				•				
e coordin	ation								
ordinator									
omas Heck	kelei								
erson									
		basis:							
	-								
r informa	tion								
	Code: AP and inte Review of Model spo Endogenc trategies) Panel data Maximum Limited du tcomes essful com correctly apply ma e of apply fopriate ec se and int isites isites isites igand lea nterval cycle chieveme comas Heck g persons s.uni-bonn epartmen	Model specification (functional form and variable Endogenous regressors (instrumental variable est trategies) Panel data analysis Maximum Likelihood Estimation Limited dependent variable models tcomes essful completion of the course, the students correctly interpret excerpts from econometric tex apply matrix algebra in the context of statistics. e of applying econometric methods to estimate qu opriate econometric methods based on the analy se and interpret outputs from econometric softwa isites Passed exam in module BAS-110 Ied Passed exam in module BAS-110 Ied Interval Passed exam in module BAS-110 Ied Advanced Applied Econometrics and learning methodes nterval Advanced Applied Econometrics crycle Prerequisites for admission to the Ass ] Chievements Chievements Coordination Comas Heckelei Coordinati	Code: APO-230 [780763230] and intended learning outcomes Review of the General Linear Model, OLS and GLS practicing m Model specification (functional form and variable choice) Endogenous regressors (instrumental variable estimation, Gen trategies) Panel data analysis Maximum Likelihood Estimation Limited dependent variable models tcomes essful completion of the course, the students correctly interpret excerpts from econometric textbooks and a apply matrix algebra in the context of statistics. e of applying econometric methods to estimate quantitative ec ropriate econometric methods based on the analysis of the dat se and interpret outputs from econometric software packages. Isites Passed exam in module BAS-110 Ied Inumber Iorgram allocation am Itural and Food Economics g and learning methodes tterval Advanced Applied Econometrics Advanced Applied Econometrics Advanced Applied Econometrics Advanced Applied Econometrics isopasemet Prerequisites for admission to the Assessment I chievements e coordination If reference isopase in the current semester can be found in basis: s.uni-bonn.de/ epartment	Code: APO-230 [780763230] and intended learning outcomes Review of the General Linear Model, OLS and GLS practicing matrix algebra Model specification (functional form and variable choice) Endogenous regressors (instrumental variable estimation, Generalised Met trategies) Panel data analysis Maximum Likelihood Estimation Limited dependent variable models tcomes essful completion of the course, the students correctly interpret excerpts from econometric textbooks and articles. apply matrix algebra in the context of statistics. e of applying econometric methods to estimate quantitative economic moc opriate econometric methods based on the analysis of the data situation as e and interpret outputs from econometric software packages. isites Passed exam in module BAS-110 Ied umber ogram allocation am ultural and Food Economics g and learning methodes tterval Advanced Applied Econometrics English Advanced Applied Econometrics English Advanced Applied Econometrics English Sessement Prerequisites for admission to the Assessment I P Advanced Applied Econometric I P Advanced App	Code: APO-230 [780763230] and intended learning outcomes Review of the General Linear Model, OLS and GLS practicing matrix algebra Model specification (functional form and variable choice) Endogenous regressors (instrumental variable estimation, Generalised Method of Mom trategies) Panel data analysis Maximum Likelihood Estimation Limited dependent variable models tcomes essful completion of the course, the students correctly interpret excerpts from econometric textbooks and articles. apply matrix algebra in the context of statistics. e of applying econometric methods to estimate quantitative economic models derived f opriate econometric methods to estimate quantitative economic models derived f passed exam in module BAS-110 led passed exam in module BAS-110 lef passed exam	Code:       APO-230 [780763230]         and intended learning outcomes         Review of the General Linear Model, OLS and GLS practicing matrix algebra         Model specification (functional form and variable estimation, Generalised Method of Moments, ic trategies)         Panel data analysis         Maximum Likelihood Estimation         Limited dependent variable models         tcornectly interpret excerpts from econometric textbooks and articles.         apply matrix algebra in the context of statistics.         e of applying econometric methods to estimate quantitative economic models derived from ecorprita econometric methods based on the data situation and research questio         sestal completion of the course, the students         corprita econometric methods based on the analysis of the data situation and research questio         sead interpret outputs from econometric software packages.         isites         Passed exam in module BAS-110         ied         umber         orgram allocation         am         instruction         Advanced Applied Econometrics         English       20         Advanced Applied Econometrics         English       20         ycle       6. Workload [h]         Advanced Applied Econometrics         English       20	Code:       APO-230 [780763230]         and intended learning outcomes         Review of the General Linear Model, OLS and GLS practicing matrix algebra         Model specification (functional form and variable choice)         Endogenous regressors (instrumental variable estimation, Generalised Method of Moments, identifica trategies)         Panel data analysis         Maximum Likelihood Estimation         Limited dependent variable models         correctly interpret excerpts from econometric textbooks and articles.         apply matrix algebra in the context of statistics.         or of applying econometric methods based on the analysis of the data situation and research question.         search interpret outputs from econometric software packages.         isites         Passed exam in module BAS-110         Iterval       Topic         and and Food Economics       E         g and learning methodes       E         terval       Topic       Language of instruction       SWS       Wc         Advanced Applied Econometrics       English       120       3.0       45.0         ycle       6. Workload [h]       7. Duration       8. Cree         iterval       Topic       English       1       6.0         Advanced Applied Econometrics       English       2.0		



## Module Title: Agricultural Production Economics

Module I	<b>D/Code</b> : A	BS-2	10 [780762210]							
1. Conter	nt and int	ende	ed learning outcomes							
-			of agricultural production economics	-			-	-		
content:			ility of farms; theoretical and applied of a subtraction of the second	-		ty analysis; r	nanage	ment c	halle	nges
Learning o		agric	cultural production; farm production	organization	1.					
		mnlo	tion of the course, the students							
			ental theories and concepts of agricul	ltural produc	ction econom	nics.				
			y reflect on the relevance of theories	•			ssues ir	n agricu	lture	e (e.g.,
			, able and resilient production systems		·			U		
- integrate	e interdisci	plina	ry insights (e.g. from agronomy or eco	ology) into m	nodels and th	neories of pr	oductic	n econ	omic	s.
	question t	he lin	mits of the introduced fundamental th	neories and o	concepts and	understand	lappro	aches th	nat g	o beyond
them.										
	e theories, al producti		cepts and models they have learned th	neoretically,	algebraically	and empirio	cally to	relevan	it pro	oblems of
2. Prereg	-	011.								
obligatory										
recomme										
Maximum of student										
	program	alloc	ation							
Study pro	gram					Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agri	cultural an	d Fo	od Economics				E			1.
M.Ed. Agr	icultural So	ience	e (Teacher's Training)				E			1.
M.Ed. Agr	icultural So	ience	e (Teacher's Training)				Е			1.
4. Teachi	ng and le	arnir	ng methodes							
Type of	Interval		Торіс		Language o	f Group	SWS	We	orklo	oad [h]
course					instruction	size		Conta	act	Self-
								tim		study
L	during the	5	Theory		English	30	2,0	28,0	0	42,0
т	semester		Application		English	30	2.0	20 (	2	02.0
1	during the semester	2	Application		English	50	2,0	28,0	J	82,0
5. Course		I		6. Worklo	ad [h]	7. Durati	on	8. Cre	dits	(ECTS)
WS				180		1		6,0		
9. Requir	ements f	or th	e rewarding of credits (ECTS)							
Types of A	ssessmen	t Pro	erequisites for admission to the Asse	essment		iraded	Langu	-		ighting
					-	es/no	(exan	-	fact	tor
Written ex	kam [90				g	raded	Englis	h		
min]	101									
[78076222	[9]									
Academic	Achievem	ents					1		1	



# Module Title: Agricultural Production Economics Module ID/Code: ABS-210 [780762210] 10. Module coordination Module coordinator Prof. Dr. Niklas Möhring Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



Image: Marring the semester         Ethics in Food Consumption and Production and Production         English and the semester         2.4         36.0         50.0           T         during the semester         Discussion of ethical issues related to (food) consumption and production         English         2.0         0.8         12.0         20.0         2.0 <t< th=""><th>Module</th><th>Title: E</th><th>thic</th><th>s in Food Consumption and Pro</th><th>oduction</th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	Module	Title: E	thic	s in Food Consumption and Pro	oduction						
Learning content:       - Introduction to ethics: ethical theories, ethical arguments         - Application of ethical reasoning to food topics (e. g., global hunger, food biotechnology, livestock welfare/animal rights).       - Ethics and consumer choice: determinants of (non-)ethical consumption (behavioural consumer models); influencing consumer choice (e.g. food labelling policies; nudges).         - Ethics and businesses (in the food sector): Role of businesses in society, Corporate Social Responsibility (CSR) related concepts, effects of CSR (empirical evidence), CSR communication.         - Case studies regarding ethical consumerism and CSR in the food sector.         - Case studies regarding ethical consumerism and CSR in the food sector.         - are able to describe ethical theories and thoreirs and concepts related to responsible firm conduct.         - are able to describe and concepts in the food sector.         - are able to describe and concepts in the food sector.         - are able to describe and concepts in the food sector.         - are able to discuss and reflect on own findings and on research of others.         - have developed skills in producing a scientific presentation.         2. Prerequisites         of students         3. Study program         Misc. Agricultural Science (Teacher's Training)         E       1.         Misc. Agricultural Science (Teacher's Training)       E       1.         Misc. Agricultural Science (Teacher's Training)       E       1. </th <th>Module I</th> <th>D/Code: M</th> <th>AC-</th> <th>230 [780765230]</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Module I	D/Code: M	AC-	230 [780765230]							
content:       - Application of ethical reasoning to food topics (e. g., global hunger, food biotechnology, livestock welfare/animal rights).         - Ethics and consumer choice: determinants of (non-)ethical consumption (behavioural consumer models); influencing consumer choice (e.g. food labelling policies; nudges).       - Ethics and businesses (in the food sector): Role of businesses in society, Corporate Social Responsibility (CSR) related concepts, effects of CSR (empirical evidence), CSR communication.         - Case studies regarding ethical consumerism and CSR in the food sector.       - Case studies regarding ethical consumerism and CSR in the food sector.         - can explain ethical arguments and different views regarding the role of businesses in society.       - can explain dusinesses and concepts related to responsible firm conduct.         - can explain dusinesses and concepts to ethical lisues in the food sector.       - can explain dusinesses and concepts to ethical arguments and different views regarding the role of businesses in society.         - summarise relevant empirical studies investigating responsible/ ethical behaviour.       - can explain dusinesses in access with relevance to the food sector.         - are able to conduct their own evaluation of a specific case linked to the food sector.       - are able to conduct their own evaluation of a specific case linked to the food sector.         - are able to discuss and reflect on own findings and on research of others.       - Item sector dusing a sector for the sector dusing at the food sector.         - are able to discuss and reflect on own findings and on research of others.       - Item sector dusing at the food s	1. Conter	nt and inte	end	ed learning outcomes							
rights).       - Ethics and consumer choice: determinants of (non-)ethical consumption (behavioural consumer models); influencing consumer choice (e.g. food labelling policies; nudges).       - Ethics and businesses (in the food sector): Role of businesses in society, Corporate Social Responsibility (CSR) related concepts, effects of CSR (empirical evidence), CSR communication.         - Case studies regarding ethical consumerism and CSR in the food sector.       - Case studies regarding ethical consumerism and CSR in the food sector.         - are able to describe ethical theories and theories and concepts related to responsible firm conduct.       - are able to describe ethical studes investigating responsible/ ethical behaviour.         - are able to conduct their own evaluation of a specific case linked to the food sector.       - are able to conduct their own evaluation of a specific case linked to the food sector.         - are able to conduct their own evaluation of a specific case linked to the food sector.       - are able to discuss and reflect on own findings and on research of others.         - have developed skills in producing a scientific presentation.       -         Study program allocation         Study program allocation         Study program allocation         Study program allocation         Control Conomics         Equition of the course, the span of the science in the	-	- Introduc	ion	to ethics: ethical theories, ethical argu	uments						
influencing consumer choice (e.g. food labelling policies; nudges).       -         - Ethics and businesses (in the food sector): Role of businesses in society, Corporate Social Responsibility (CSR) related concepts, effects of CSR (empirical evidence), CSR communication.       -         - Case studies regarding ethical consumerism and CSR in the food sector.       -         Learning outcomes       -         After a successful completion of the course, the students       -         - are able to describe ethical theories and theories and concepts related to responsible firm conduct.       -         - can explain ethical arguments and different views regarding the role of businesses in society.       -         - can apply relevant theories and concepts to ethical issues in the food sector.       -         - are able to conduct their own evaluation of a specific case linked to the food sector.       -         - are able to ofiscus and reflect on own findings and on research of others.       -         - hare developed skills in producing a scientific presentation.       Z.         2. Prerequister       -       -         of students       -       E       1.         3. Study program       Iocation       E       1.         Maximum number of Vood Economics       E       1.       .         M.Ed. Agricultural Science (Teacher's Training)       E       1.       . <t< td=""><td></td><td></td><td>on c</td><td>of ethical reasoning to food topics (e. g</td><td>g., global hur</td><td>nger, food biot</td><td>echnology</td><td>, livesto</td><td>ock welf</td><td>fare/</td><td>animal</td></t<>			on c	of ethical reasoning to food topics (e. g	g., global hur	nger, food biot	echnology	, livesto	ock welf	fare/	animal
related concepts, effects of CSR (empirical evidence), CSR communication.         - Case studies regarding ethical consumerism and CSR in the food sector.         Learning outcomes         After a successful completion of the course, the students         - are able to describe ethical theories and theories and concepts related to responsible firm conduct.         - can explain ethical arguments and different views regarding the role of businesses in society.         - summarise relevant empirical studies investigating responsible/ ethical behaviour.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain ethical arguments and different views regarding the role of businesses in society.         - summarise relevant theories and concepts to ethical issues in the food sector.         - can explain ethical arguments and different views regarding the role of obsector.         - are able to odiscuss and reflect on own findings and on research of others.         - have developed skills notuciting a scientific presentation.         Study program         Incertain and Food Economics         Study program       Incertain and Food Economics         M.Ed. Agricultural and Food Economics       E         M.Ed. Agricultural Science (Teacher's Training)       E         4. Teachies ameter       Topic         Instruction       English       20					-		navioural c	onsume	er mode	els);	
Learning ∪utcomes         After a successful completion of the course, the students         - are able to describe ethical theories and theories and concepts related to responsible firm conduct.         - are able to describe ethical studies investigating responsible/ ethical behaviour.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain ethical arguments and different views regarding the role of businesses in society.         - can explain disclasses with relevance to the food sector.         - are able to conduct their own evaluation of a specific case linked to the food sector.         - are able to discuss and reflect on own findings and on research of others.         - have deveruested         - Brerequisites         - Brerequisites         - Brerequisites         Solutents         - Study program         Complexite it for the condicis         Situety prole it for the c							orate Socia	al Resp	onsibilit	ty (CS	SR)
After a successful completion of the course, the students       - are able to describe ethical theories and theories and concepts related to responsible firm conduct.         - are able to describe ethical arguments and different views regarding the role of businesses in society.       - summarise relevant empirical studies investigating responsible/ ethical behaviour.         - can apply relevant theories and concepts to ethical issues in the food sector.       - are able to discuss and reflect on own findings and on research of others.         - are able to discuss and reflect on own findings and on research of others.       - are able to discuss and reflect on own findings and on research of others.         - have developed skills in producing a scientific presentation.       Z         2. Prerequisites			dies	regarding ethical consumerism and CS	SR in the foo	d sector.					
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M.Ed. Agricultural Science (Teacher's Training)       I.         M.Ed. Agricultural Science (Teacher's Training)       I.         M.Ed. Agricultural Science (Teacher's Training)       I.         I. Teaching and learning methodes         Type of course       Interval during the semester       SWS       Work-tot [h]         Language of instruction       SWS       Work-tot [h		-					Compulso	-	ective	Se	
M.Ed. Agricultural Science (Teacher's Training)       I.         4. Teaching and learning methodes         Type of course       Interval       Topic       Language of instruction       Group size       SWS $\frac{W \circ rk \cup d [h]}{line}$ L       during the semester       Ethics in Food Consumption and Production semester       English       20       2,4 $3 \in J$ 50,0         T       during the semester       Discussion of ethical issues related to (food) semester       English       20       0,8 $12,0$ 20,0       20,0 </td <td></td>											
4. Teaching and learning methodes         Type of course       Interval       Topic       Language of instruction       Group size       SWS       Workload [h]         L       during the semester       Ethics in Food Consumption and Production semester       English       20       2,4       36,0       50,0         T       during the semester       Discussion of ethical issues related to (food) consumption and production       English       20       0,8       12,0       20,0         PS       during the semester       Case studies regarding ethics in the food sector. semester       English       20       0,8       12,0       50,0         5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)											
Type of course       Interval       Topic       Language of instruction       Group size       SWS       Workload [h]         L       during the semester       Ethics in Food Consumption and Production semester       English       20       2,4       36,0       50,0         T       during the semester       Discussion of ethical issues related to (food) consumption and production       English       20       0,8       12,0       20,0         PS       during the semester       Case studies regarding ethics in the food sector. semester       English       20       0,8       12,0       50,0         5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)	-							E			1.
course       instruction       size       Contact time       Self-time         L       during the semester       Ethics in Food Consumption and Production semester       English       20       2,4       36,0       50,0         T       during the semester       Discussion of ethical issues related to (food) consumption and production       English       20       0,8       12,0       20,0         PS       during the semester       Case studies regarding ethics in the food sector. semester       English       20       0,8       12,0       50,0         5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)			irni								
L       during the semester       Ethics in Food Consumption and Production       English       20       2,4       36,0       50,0         T       during the semester       Discussion of ethical issues related to (food) consumption and production       English       20       0,8       12,0       20,0         PS       during the semester       Case studies regarding ethics in the food sector. semester       English       20       0,8       12,0       20,0 <b>5. Course cycle 6. Workload [h] 7. Duration 8. Credits (ECTS)</b>		Interval		Торіс			-	SWS		1	ad [h] Self-
semester       semester       Image: constraint of the constraint of th									time	e	study
T       during the semester       Discussion of ethical issues related to (food) consumption and production       English       20       0,8       12,0       20,0         PS       during the semester       Case studies regarding ethics in the food sector. semester       English       20       0,8       12,0       20,0 <b>5. Course cycle 6. Workload [h] 7. Durati 8. Credits (ECTS)</b>	L	-		Ethics in Food Consumption and Prod	luction	English	20	2,4	36,0	)	50,0
PS       during the semester       Case studies regarding ethics in the food sector.       English       20       0,8       12,0       50,0         5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)	Т	_			(food)	English	20	0,8	12,0	)	20,0
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	5. Course				6. Workloa	ad [h]	7. Durati	on	8. Cre	dits	(ECTS)
	WS	-			180		1		6,0		



Module Title: Et	hics in Food Consumption and Production			
Module ID/Code: MA	AC-230 [780765230]			
9. Requirements for	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Project work [780765239]		graded	English	60%
Assignment [780765238]		graded	English	40%
Academic Achieveme				
10. Module coordin	ation			
Module coordinator				
Prof. Dr. Monika Hartı	nann			
Teaching person				
The teaching persons https://basis.uni-bonr	in the current semester can be found in basis: n.de/			
Institute/ Departmen	t			
Agrar-, Forst- und Erna	ährungswissenschaften			
11. Further informa				



	دينا أمصح فص	- اممر	d loorning outcomes									
			d learning outcomes	<u></u>								
Learning			: Why do we need simulation models	s? What are	simulation	mode	els acting	at mar	ket sca	ale?		
content:	2. Introdu											
	- Languag											
	-		et model in GAMS									
			odity models (MCMs)									
			i-market model in GAMS plicy instruments in a MCM									
			proach and spatial arbitrage									
			of three MCMs: the Policy Evaluation	n Model of th	ne OFCD th	ο Δσι	riSnace m	odel fo	nr Norv	vav a	nd CAPI	
			General Equilibrium models		10 0200, 11	C 7 6	iopuee ii	louer re		iaj a		
			of a Social Accounting Matrix									
		pical structure of a CGE (production function, final demand, trade representation)										
		calibration and calibrating a CGE against the SAM										
		in CGEs (Armington, CET, Melitz model)										
		Scenario analysis with CGEBox										
earning	outcomes											
After a su	ccessful co	mplet	ion of the course, the students									
			e building blocks of partial and gener	ral equilibriu	m models a	and d	escribe tl	ne inter	action	s insi	de and	
between	these build	ing bl	ocks as expressed in their equations	•								
will be a	ble to char	ge eq	uilibrium models in the software page	ckage GAMS	and condu	ct co	unterfact	ual ana	lysis.			
			e outcome of such models against th	ne backgrour	nd of micro	-ecor	nomic the	eory and	d their	knov	vledge o	
-			re general of the economic system.									
		late t	he impact of changes in policies on c	quantities, pr	rices and we	elfare	e based o	n the a	pplicat	ion o	of	
-	m models.											
	-	netize	these impacts in a short report.									
2. Preree	-											
obligator	У											
recomme	ended											
		A mic	croeconomics course at master level	such as BAS	130. That c	cours	e is oblig	atory i	n the A	FECC	)	
			croeconomics course at master level ram. A course on Global Food Marke				-	atory ii	n the A	FECC	)	
Maximun	n number	progr					-	atory in	n the A	FECC	)	
of studen	n number its	progr 20 sti	ram. A course on Global Food Marke udents				-	atory in	n the A	FECC	)	
of studen	n number	progr 20 sti	ram. A course on Global Food Marke udents				-	atory in	n the A	FECC	)	
of studen 3. Study	n number its program	progr 20 sti	ram. A course on Global Food Marke udents			0) is l	-					
of studen 3. Study Study pro	n number ats program	progr 20 stu alloca	ram. A course on Global Food Marke udents			0) is l	nelpful.					
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of studen 3. Study Study pro M.Sc. Agr 4. Teach	n number hts program ogram icultural ar ing and le	progr 20 str alloca d Foo arnin	ram. A course on Global Food Marke udents ation od Economics g methodes		ms (BAS 14	0) is l	nelpful. Compulsc	pr <b>y/ Ele</b>	ective	Se	emester 2.	
of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of	n number Its program ogram icultural ar	progr 20 str alloca d Foo arnin	ram. A course on Global Food Marke udents ation od Economics			0) is I	Compulso Group	ory/ Ele	ective W	Se	emester 2. Dad [h]	
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of studen 3. Study Study pro M.Sc. Agr	n number Its program icultural ar ing and le	progr 20 str alloca d Foo arnin	ram. A course on Global Food Marke udents ation od Economics g methodes Topic	ts and System	Language	0) is I	Compulso Group	ery/ Ele E SWS	ctive W Cont tim	Se orklo act	emester 2. Dad [h] Self- study	
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### Module Title: Partial and General Equilibrium Modelling

Module ID/Code: APO-250 [780763250]

### 10. Module coordination

### Module coordinator

PD Dr. Wolfgang Britz

### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

### Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

### **11. Further information**

Students will receive a course license for GAMS. All material including the software code, slides used for teaching are made available via E-Campus. The term paper has to be handed in 8 weeks after semester end.



T. Conte	nt and int	endeo	d learning outcomes							
Learning content:	Students tradeoffs quality, an between perspectiv evaluate s include to	vill lea betwe d the gricul e and pecific	arn to look at agriculture een human health and pla triple burden of malnutr lture, biodiversity, climat with empirical examples c food systems topics fro uch as organic farming, G volution, among others.	anetary hea rition, as we te change, d s from low-, om a compre	Ith goals. Co Il as related iets, nutritio middle-, an chensive sus	ncepts and r policy interv on, and healt d high-incon tainable dev	neasuremer entions, will h will be ana ne countries elopment pe	nt of foo l be disc alyzed fi . Case s erspecti	od secur cussed. I rom a gl tudies w ve. Case	ity, dietary Links obal vill be used e studies w
Learning	outcomes									
- are able - can expl - can iden - can eval	to define k ain how foo tify policy i uate the ar	ey ter d syst eeds gumer	ion of the course, the stu ms related to food secur tems relate to the variou and analyze the sustaina nts in the public debate a etary surveys and nutritic	ity and sustainables sustainables in the second second second subscription of the second second sustation of the second s	e developm ations of spe ainable agric	ent goals (SI ecific interve	ntions.			
2. Prerec										
obligator	-									
recomme	nded									
Maximun of studen	n number ts									
	program a	lloca	tion				1			
Study pro	-						Compuls	-	ective	Semeste
-			d Economics					E		3.
M.Sc. Agr (ARTS)	icultural Sc	ence	and Resource Manageme	ent in the Tr	opics and Su	ubtropics		E		3.
M.Sc. Nut	rition Scier	ce						E		3.
M.Sc. Mo	lecular Foo	d Tech	nology					Е		3.
	ing and le	rning	g methodes			1	T	T		
Type of	Interval	Т	ſopic			Language o	f Group size	SWS	Wo Conta time	
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course	-							on	8. Cree	dits (ECTS
<b>course</b>	semester						1		6,0	
course	semester				180					
course L 5. Course WS	semester e cycle	or the	e rewarding of credits	(ECTS)	180					
course L 5. Course WS 9. Requi	semester e cycle rements fe	1	e rewarding of credits requisites for admission	<u></u>			Graded ves/no	Langu (exam	-	Weighting factor
course L 5. Course WS 9. Requi	semester e cycle rements fo Assessmen xam	1		<u></u>		У		Langu (exan Englis	າ)	



Module Title: Food security and sustainable food systems
Module ID/Code: APO-260 [780763260]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



Module			bilistic Programming for Appli 20 [780763320]	ied Agricu	ltural Eco	onon	nics				
	-		d learning outcomes								
Learning content:	Students Programm and stand and exter statistical coding ex of Bayesia	learn t ning is lard eo nding t analy ample an mo	to apply Probabilistic Programming to a novel data science tool combining conometrics. The course contributes their methodical toolkit. Students will sis of questions relevant to policy an es and exercises (in Python and the N deling and how to interpret Bayesian a analytic jobs in research or the priva	Bayesian St to the mast l learn a bas d business. T umPyro fran modeling r	atistical Mo er's degree ic workflov The workflo nework). A	odelli by de v to p ow is long f	ng, elem eepening erform t intensive the way,	ents of stude heory- ly prac the cou	Machin nt's qua guided, ticed w urse co	ne Le antita appl vith g vers 1	arning, itive skil ied uided :he basi
Learning o											
are able are able cience pr are able commonly have obt	to comput to apply P ojects). to explain v applied e	e stati robabi and e conor	esian modeling results. istics of interest from Bayesian mode ilistic Programming for their own em valuate the benefits of (Bayesian) Pro netric approaches. coding experience and data science sl	pirical applic obabilistic Pr	rogrammin	g app	roaches	compa	red to d	other	
market.											
2. Prereq		none									
obligatory		none									
recomme			of either APO-230 or ENV-130								
Maximum of studen		20 sti	udents								
3. Study	-	alloca	ation								
Study pro	-					C	Compulso	ory/ Ele	ective	Se	mester
-			d Economics					E			3.
	-		g methodes		1						
Type of course	Interval	٦	Горіс		Language instructio		Group size	SWS	W Cont tim	act	ad [h] Self- study
L	during the semester		Theory		English		20	2,0	30,	0	60,0
рТ	during the semester		Application		English		20	2,0	30,		60,0
5. Course	cycle			6. Workloa	ad [h]	7	. Durati	on		edits	(ECTS)
WS	-			180		1			6,0		
•	Assessmen	-	e rewarding of credits (ECTS) requisites for admission to the Asse	ssment		Grad yes/ grad	no	Langu (exan Englis	ר)	We fact	ighting or
Academic	_	ents									



### Module Title: Probabilistic Programming for Applied Agricultural Economics

### Module ID/Code: APO-320 [780763320]

### 10. Module coordination

### Module coordinator

Dr. Hugo Storm

### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

### 11. Further information

Guided coding examples and exercises will be provided in Python, but no previous Python experience is required. It is sufficient that students have gained some previous experience in coding in general, for example by completing either APO-230 or ENV-130 (both using R) successfully. Nevertheless, a strong interest and motivation to learn Python basics is expected. Background Links:

- Ghahramani, Zoubin. 2015. "Probabilistic Machine Learning and Artificial Intelligence." Nature 521 (7553): 452–59.

- McElreath, Richard. 2020. Statistical Rethinking: A Bayesian Course with Examples in R and Stan. Chapman and Hall/CRC.

- Thomas Heckelei, Hugo Storm, Kathy Baylis. 2023. Probabilistic Programming for Embedding Theory and Quantifying

Uncertainty in Econometric Analysis. Keynote, XVII EAAE Congress 2023 Rennes. https://github.com/hstorm/pp\_eaae\_rennes - NumPyro Documentation: https://num.pyro.ai/en/stable/



### Module Title: Satellite Data in Agricultural Economics

Module ID/Code: ENV-320 [780764320]

### 1. Content and intended learning outcomes

Learning<br/>content:Introduction and Overview, a primer on satellite data, opportunities arising from satellite data, what can be<br/>measured with satellite data, pitfalls, impact evaluations using satellite data, final discussion and conclusion.

### Learning outcomes

After a successful completion of the course, the students...

- are able to work with data in Google Earth Engine and in R.

- understand potentials and pitfalls of satellite data in agricultural, environmental, and resource economics.

- can compute geospatial measures and statistics, such as distances between features, or local averages of variables.

- can transform maps into tables.

- have a working knowledge of how to answer economic questions with geospatial data.

2. Prereq	uisites										
obligatory	/	non	е								
recomme			istics, Econometrics, Impact Evaluatio ource Economics, Google Earth Engine		undations o	of A	gricultural	, Enviro	nment	al, ar	nd
Maximum of studen		16 s	tudents								
3. Study	program a	alloc	ation								
Study pro	gram						Compulse	ory/ Ele	ctive	Se	mester
M.Sc. Agri	cultural an	d Fo	od Economics					Е			3.
4. Teachi	ng and lea	arni	ng methodes								
Type of	Interval		Торіс		Language	of	Group	SWS	W	orklo	ad [h]
course					instruction		size		Conta tim		Self- study
L	during the semester	č	Lecture Satellite Data		English		16	1,5	23,	0	47,0
Т	during the semester	ò	Lecture Satellite Data		English		16	0,5	8,0	)	12,0
L	during the semester	č	Lecture Analysis and Modelling		English		16	1,5	23,	0	47,0
Т	during the semester	ġ	Lecture Analysis and Modelling		English		16	0,5	8,0	)	12,0
5. Course	e cycle			6. Worklo	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
WS				180			1		6,0		
9. Requir	ements fo	or th	ne rewarding of credits (ECTS)								
Types of A	ssessment	t Pr	erequisites for admission to the Asse	ssment		-	aded s/no	Langu (exam	-	We fact	ighting :or
Written ex min] [78076432						gra	aded	Englis	h	100	%
Academic	Achievem	ents								1	
10. Modu	ule coordi	nati	on								
Module c	oordinator										
Prof. Dr. D	avid Wüpp	ber									
Teaching	-										
https://ba	sis.uni-bor	nn.de	the current semester can be found in b e/	basis:							
Institute/	Departme	nt									
Agrar-, Fo	rst- und Eri	nähr	ungswissenschaften								
11. Furth	er inform	atio	n								



1. Conte	nt and int	end	ed learning outcomes							
Learning			earn how to effectively prepare							
content:	types of a	data v	visualization in particular differ	ent kinds of plott	ing methods v	vill be shown	and ap	plied ir	ı exei	rcises.
			phasis will be given to spatial da							
	-		ojections, different spatial data							
			to combine them in spatial an					-		
			e this free and open source too					s. Stud	ents	will app
loorning	the meth outcomes	ods t	o visualize data of their own ch	oice and present	their results	during the co	ourse.			
		mnle	etion of the course, the student	5						
		-	rities of different data formats		with them					
	and the ba				with them.					
			fferent data in R.							
- are able	to visualiz	e diff	erent data in R.							
- conduct	spatial and	alyse	s with data of different formats	5.						
	•		ckages and methods learned to		studies.					
<u>- are ab</u> le	to conduc	t the	ir own analyses and to visualize	e publication-rea	idy maps.					
2. Prere	quisites									
obligator	y									
recomme	nded	Exp	erience with R (programming) i	s recommended						
Maximur	n number	25 s	tudents							
of studer	ts									
3. Study	program	allo	ation							
Study pro	gram					Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agr	icultural a	nd Fo	od Economics				E			2.
4. Teach	ing and le	arni	ng methodes					I.		
Type of	Interval		Торіс		Language	of Group	SWS	W	orklo	ad [h]
course			•		instruction	-		Conta		Self-
								tim	e	study
L	during th	e	Data Wrangling, Visualization	and GIS Data	English	25	2,0	30,0	C	60,0
	semester		Analysis with R							
Т	during th	e	Solving Exercises Together		English	25	2,0	30,0	C	60,0
	semester									
5. Cours	e cycle			6. Work	oad [h]	7. Durati	ion	8. Cre	dits	(ECTS)
SS				180		1		6,0		
9. Requi	rements f	or th	ne rewarding of credits (ECT	S)						
Types of	Assessmer	t Pr	erequisites for admission to the	ne Assessment		Graded	Langu	-		ghting
<u> </u>						yes/no	(exan		fact	
Report [7807642	79]					graded	Englis	n	50%	)
Presentat	ion	Su	Ibmission of all reports			graded	Englis	h	50%	, )
[7807642			·			-				
							1		1 I	



Module Title: Data Wrangling, Visualization and GIS Data Analysis with R
Module ID/Code: ENV-270 [780764270]
10. Module coordination
Module coordinator
JunProf. Dr. Lisa Biber-Freudenberger
Teaching person
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



Module	Title: F	Rese	earch Seminar in Resource and	Environme	ental Eco	no	mics				
Module II	D <b>/Code</b> : E	NV-3	330 [780764330]								
1. Conter	nt and int	end	ed learning outcomes								
Learning content:		field	dies, preparation of a research concep which is close to the research questic r.								
Learning o	outcomes										
After a su	ccessful co	mple	etion of the course, the students								
			c state of the art in a self-selected field								
	•		framework in social science / environ	mental econ	omics.						
-	and preser n scientific		research proposal.								
2. Prereq		ueb	ates.								
obligatory	-	48 F	ECTS-CP								
recomme						L					
			ironmental Economics and Policy, Eco		ustamabilit	Ly					
Maximum of studen		15 s	students								
	program a	allo	cation								
Study pro							Compulso	ory/ Ele	ective	Se	mester
	A.Sc. Agricultural and Food Economics						-	or ENV			3.
-			ng methodes				L				
Type of	Interval		Topic		Language	nguage of Group		SWS	W	Workload [h]	
course					instruction		size		Cont	act	Self-
									tim		
S*	during the semester			English		15	2,0	30,0		30,0	
S*	during the semester	е	Own research, writing term paper		English		15	0,0 0,0		,0 120,0	
5. Course			I	6. Worklo	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
9. Requir	ements f	or tł	ne rewarding of credits (ECTS)								
Types of A	Assessmen	t Pr	rerequisites for admission to the Asse	essment			Graded Lang yes/no (exa		-		ighting tor
Term pape [78076433			egular participation to learn from othe blearn				aded Englis				
Presentati [78076433			egular participation to learn from othe b learn	arn from others and enable others g			raded Englis		h 40%		
Academic	Achievem	ents	3			I		1		1	
10. Modı	ule coord	inati	ion								
	oordinator										
Prof. Dr. Ja	an Börner										
Teaching	person										
			the current semester can be found in l	basis:							
-	isis.uni-boi		e/								
	Departme		ungouiceoncel after								
-			rungswissenschaften								
11. Furth	er inform	natio	on								



# Major or Minor Market and Consumer Research (MAC)

## Requirements for the Major Specification: - Modules accounting for a minimum of 30 ECTS-CP in the Major Specification - The Research Seminar is in the Major Specification The Master Thesis is in the Major Specification

- The Master Thesis is in the Major Specification

## Requirements for the Minor Specification: - Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



Module	Title: G	obal Agricultural and Food	d Marke	ets					
		AC-130 [780765130]							
1. Conter	nt and inte	nded learning outcomes							
Learning content:	<ul> <li>Supply, d</li> <li>Interdepe</li> <li>Legal fran</li> <li>Private ve</li> <li>Relevance</li> <li>Relevant</li> <li>Spatial ar</li> </ul>	emand, trade of major food mark endencies between agricultural a nework for international markets ersus public standards in agricultu e and evaluation of Non-Tariff Tr actors on agricultural and food n ad enterprise concentration in th modelling agricultural markets	and food s ural and ade Barr narkets	markets food market iers in agicul	s tural and food				
Learning o	outcomes								
<ul> <li>can desc</li> <li>can expla</li> <li>are able</li> <li>can desc</li> <li>can expla</li> <li>are able</li> <li>can expla</li> <li>can expla</li> <li>can expla</li> <li>can expla</li> <li>can expla</li> </ul>	ribe key Eur ain the impa to analyse o ribe the bas ain the relev to evaluate end the diff ain and stru ain the nee uate results to combine uisites nded number	npletion of the course, the stude opean and global agricultural an act of interdependencies betwee developments on agricultural and ic framework for international tr vance, the international framewor the welfare effects of NTB under ference between private and put cture relevant actors of internati d for coordination within food va of agricultural models. insights generated in class to a s	nd food m en agricul d food ma rade prov ork of NT r differer blic stanc ional agri alue chain	tural and foo arkets based vided by the B in agriculto at assumptio dards in worl icultural and ns depending	l on economic WTO. ural and food ns. d agricultural food markets g on product a	markets. and food m and value cl			s.
3. Study	program a	llocation							
Study pro						Compulso	ory/ Ele	ective S	emester
M.Sc. Agri	cultural and	Food Economics					Е		1.
M.Ed. Agr	icultural Sci	ence (Teacher's Training)					Е		1.
M.Ed. Agr	icultural Sci	ence (Teacher's Training)					Е		1.
4. Teachi	ng and lea	rning methodes							
Type of course	Interval	Торіс			Language of instruction	Group size	SWS	Workl Contact time	oad [h] Self- study
L	during the semester	Knowledge wrt and tools to Food Market and Systems			English	25	2,0	30,0	45,0
S	during the semester	Combine insights generated case	in class t	to a specific	English	25	1,0	15,0	45,0
Т	during the semester	Analyse/evaluate intervention markets	on and si	tuation in	English	25	1,0	15,0	30,0
5. Course	cycle			6. Worklo	ad [h]	7. Durati	on	8. Credit	s (ECTS)
WS				180		1		6,0	



Module Title: Gl	obal Agricultural and Food Markets			
Module ID/Code: MA	AC-130 [780765130]			
9. Requirements for	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Written exam [780765139]		graded	English	60%
Presentation [780765138]		graded	English	40%
Academic Achieveme				-
Module coordinator				
Dr. Johannes Simons				
Teaching person				
The teaching persons https://basis.uni-bonr Institute/ Departmen				
	ährungswissenschaften			
11. Further informa	uon			



1. Conte	nt and int	end	ed learning outcomes							
Learning content:	Marketing influence sourcing	g Cor s), ne coop	ncept: Gain insights into the impact of euromarketing, the role of the compe- erations, competition, buyer power, w tion and promotion) with specific focu	titive enviror vertical integ	nment (inform ration), the m	nation tech	nology,	concer	ntrati	on,
	competiti	ve ei	nagement: Apply marketing stragegie nvironment using an interactive simul es for the development of marketing	lation game,	-			-		
Learning	outcomes			U						
- can desc - have an - know the - explain t - can anal - are able - able to d - are able	ribe releva overview c e marketin he differer yse consur to analyse levelop and to analyze	nt pa n co g fiel ner r deve d imp and	etion of the course, the students sychological and sociological construct mpetitive conditions in food markets lds of action and opportunities to app in the impact of marketing strategies eactions based on psychological and s elopments in food value chains. olement marketing strategies at firm I interpret market information based of	with a focus ly instrumen depending o sociological c level in a high on research s	on German for ts in the com- on the market constructs. hly competitive studies.	ood market petitive sur environme	roundir nt (e.g.	-		
		, disc	cuss and defend marketing strategies	implemente	d.					
2. Prerec	-									
		1/								
obligatory recomme Maximum of studen	nded n number		wlege about the food sector tudents							
recomme Maximum of studen 3. Study	nded n number ts program	20 s	tudents							
recomme Maximum of studen 3. Study Study pro	nded n number ts program a gram	20 s	tudents			Compuls	-	ective		
recomme Maximum of studen <b>3. Study</b> Study pro M.Sc. Agri	nded n number ts program gram icultural ar	20 s alloc d Fo	tudents cation			Compuls	ory/ Ele E	ective		<b>mester</b> 1./3.
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi	nded n number ts program gram icultural ar	20 s alloc d Fo	tudents cation od Economics ng methodes				E			1./3.
recomme Maximum of studen 3. Study Study pro M.Sc. Agri	nded n number ts program gram icultural ar	20 s alloc d Fo	tudents cation		Language of instruction		-	W Cont	orklo act	1./3. ad [h] Self-
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of	nded n number ts program gram icultural ar ing and le Interval during the	20 s alloc d Fo arni	tudents cation od Economics ng methodes			Group	E	w	orklo act e	1./3. ad [h] Self- study
recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course	nded n number ts program gram icultural ar ing and le Interval	20 s alloc d Fo arni	tudents cation od Economics ng methodes Topic		instruction	Group size	E SWS	W Cont tim	orklo act e 0	1./3. ad [h] Self- study 50,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course	nded number ts program icultural ar ing and le Interval during the semester during the	20 s alloc d Fo arni	tudents cation od Economics ng methodes Topic Marketing	6. Worklo	instruction English English	Group size 20	E SWS 2,0 2,0	W Cont. tim 30, 30,	orklo act e 0	
recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course	nded number ts program cultural ar ing and le Interval during the semester during the semester	20 s alloc d Fo arni	tudents cation od Economics ng methodes Topic Marketing Marktstrat Simulation Game	6. Worklos 180	instruction English English	Group size 20 20	E SWS 2,0 2,0	W Cont. tim 30, 30,	orklo act e 0	1./3. ad [h] Self- study 50,0 70,0
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course	nded number ts program icultural ar ing and le Interval during the semester during the semester e cycle	20 s alloc d Fo arni e e e	tudents cation cod Economics ng methodes Topic Marketing Marktstrat Simulation Game ne rewarding of credits (ECTS)	180	instruction English English ad [h]	Group size 20 20 7. Durati 1	E SWS 2,0 2,0 2,0	W           Cont.           tim           30,           30,           6,0	orklo act 0 0 edits	1./3. ad [h] Self- study 50,0 70,0 (ECTS)
recomme Maximum of studen 3. Study Study pro M.Sc. Agri M.Sc. Agri 4. Teachi Type of course 5. Course 5. Course 9. Requir Types of A	nded number ts program cultural ar ing and le Interval during the semester during the semester cycle	20 s alloc d Fo arni e e e	tudents cation od Economics ng methodes Topic Marketing Marktstrat Simulation Game	180	instruction English English ad [h] Gi	Group size 20 20 7. Durati 1 raded es/no	E SWS 2,0 2,0 Con Langu (exam	W Cont. tim 30, 30, 8. Cre 6,0	orklo act 0 0 edits	1./3. ad [h] Self- study 50,0 70,0 (ECTS) ighting cor
recomme Maximum of studen 3. Study Study pro M.Sc. Agri 4. Teachi Type of course 5. Course WS 9. Requir	nded number ts program cultural ar ing and le Interval during the semester during the semester e cycle	20 s alloc d Fo arni e e e	tudents cation cod Economics ng methodes Topic Marketing Marktstrat Simulation Game ne rewarding of credits (ECTS)	180	instruction English English ad [h] Gi	Group size 20 20 7. Durati 1	E SWS 2,0 2,0 ion	W Cont. tim 30, 30, 8. Cre 6,0	orklo act 0 0 edits	1./3. ad [h] Self- study 50,0 70,0 (ECTS) ighting cor



# Module Title: Food Marketing Module ID/Code: MAC-100 [780765100] 10. Module coordination Module coordinator Jeanette Klink-Lehmann Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



Module	Title: Fo	ood Industrial Economic	S					
Module ID	<b>)/Code:</b> M	AC-110 [780765110]						
1. Conter	nt and inte	ended learning outcomes						
Learning content: Learning o	The modu economic markets. If - Structure - Competit - Structure - Market s - Business monopolit - Market p - Real-wor	e provides students with an performance and welfare and covers topics related to and characteristics of the Eu ion (competition concepts, c Conduct Performance frame tructure (barriers to entry/ex conduct (cooperative and no istic competition, advertisem erformance (level and persist Id cases dealing with Structur	d for the rationale of go uropean food sector ompetition policy in Eu ework; it; monopoly/monospo on-cooperative strategio nent, information policy tence). ral Economic issues and	overnment inter irope) ony power, domi es, price discrim y)	inant firm, ination, pro	imperfo oligopo oduct d	ect comp bly) ifferentia	oetitive ation and
- are able t - can expla - can apply - can analy - can analy - are able t - can expla - are able t discuss po	to describe ain the inte y concepts yse interact yse the imp to critically ain and give to relate pr licy implica	npletion of the course, the st main characteristics of the E rdependencies between marl used in industrial economics. ions between firms using gar act of different market struct evaluate the effects of busin e examples for the role of eco esented theories to real worl tions.	uropean food sector. ket structure, conduct me theory. tures and firms' strateg ess strategies on firms' pnomic policy in imperf	ies. ' performance ai ect competitive	nd consum markets.			
2. Prereq	uisites							
obligatory	,							
recommer	nded	BAS-130 or equivalent knowl	edge					
Maximum of student	ts	20 students						
	program a	llocation						
Study prog	-				Compulso	ory/ Ele	ective	Semester
		d Food Economics				E		2.
4. Teachi	ng and lea	rning methodes						
Type of course	Interval	Торіс		Language of instruction	Group size	SWS	Wor Contae time	
	during the semester	Food Industrial Economi	CS	English	20	2,5	30,0	
	during the semester	Economics		English	20	1,0	15,0 8,0	
PS	during the Case studies of IE with relevan		elevance for the food	ce for the food English		20 0,5		57,0
	semester	sector.						
		sector.	6. Workl	load [h]	7. Durati	on	8. Crec	lits (ECTS)



Module Title: Food Industrial Economics			
Module ID/Code: MAC-110 [780765110]			
9. Requirements for the rewarding of credits (ECTS)			
Types of Assessment Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Written exam [780765119]	graded	English	70%
Project work [780765118]	graded	English	30%
Academic Achievements			
10. Module coordination			
Module coordinator			
Prof. Dr. Monika Hartmann			
Teaching person			
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/			
Institute/ Department			
Agrar-, Forst- und Ernährungswissenschaften			
11. Further information			



semester     6. Workload [h]     7. Duration     8. Credits (ECTS)	Module		ehavioral Economics	s in Agri-Food	markets							
Learning quo bias, heuristics and cognitive errors, nudging, libertarian paternalism, experimental economics, altruism, fairness and reciprotivy, introduction to cognitive neuroscience.         Learning outcomes         After a successful completion of the course, the students can outline the concept of rational choice in neoclassical economics and it's shortcomings in explaining real world human behaviour.         explain key concepts in behavioral economics like bounded rationality, framing, anchoring and endowment effects, status quo bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity.         - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question.         - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question.         - can comprehend, present and discuss experimental scientific papers.         - explain different methods of cognitive neuroscience.         2. Prerequisites         boligatory         recommended         Maximum number of students         3. Study program         Compulsory/ Elective       Semester         M. Sc. Agricultural and Food Economics         4. during the semester       Behavioral Economics         1       foi.         2. during the semester       Behavioral Economics         5       during the semester       Behavioral Economics		•	<u> </u>									
content:       quo bias, heuristics and cognitive errors, nudging, libertarian paternalism, experimental economics, altruism, farmess and reciprocity, introduction to cognitive neuroscience.         Learning outcomes         After a successful completion of the course, the students         - can outline the concept of rational choice in neoclassical economics and it's shortcomings in explaining real world human behaviour.         - explain key concepts in behavioral economics like bounded rationality, framing, anchoring and endowment effects, status quo bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity.         - can describe how experiments are conducted in behavioral economics and to behavioral economics, focusing in particular on nudging and libertarian paternalism.         - can comprehend, present and discuss experimental scientific papers.         - explain different methods of cognitive neuroscience.         2. Prerequisites         of students         3. Study program allocation         Study program allocation         Study rogram allocation         Storester         Study rogram         Quring the senseter         S during the senseter         Gauring the senseter         S during the senseter         S function         Study program allocation         Study program allocation         Study ingring the senseter         Gauring the senseter		1										
fairness and reciprocity, introduction to cognitive neuroscience.         Learning outcomes         After a successful completion of the course, the students         - can outline the concept of rational choice in neoclassical economics and it's shortcomings in explaining real world human behaviour.         - explain key concepts in behavioral economics like bounded rationality, framing, anchoring and endowment effects, status quo bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity.         - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question.         - can describe how experimental discuss experimental scientific papers.         - explain different methods of cognitive neuroscience.         2. Prerequisites         - of students         - Study program         Compulsory/ Elective       Semester         Ms.c. Agricultural and Food Economics       English       20       3,0       45,0       60,0         Semester       Instruction       faines       Sudy       Set/       Sudy       Set/       Sudy       Set/       Sudy       6,0       0,0       5       2,0       3,0       45,0       60,0       6,0       6,0       5       Sudy       Set/       Sudy       Set/       Sudy       Set/       Sudy       Set/       Sudy       Set/ <td>-</td> <td></td>	-											
Learning outcomes         After a successful completion of the course, the students         can outline the concept of rational choice in neoclassical economics and it's shortcomings in explaining real world human behaviour.         -explain key concepts in behavioral economics like bounded rationality, framing, anchoring and endowment effects, status quo bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity.         - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question.         - discuss ethics in behavioral economics, focusing in particular on nudging and libertarian paternalism.         - can outgretent methods of cognitive neuroscience.         2. Prerequisites         obigatory         recommended         Maximum number of study program       Compulsory/ Elective       Semester         3. Study program allocation         Study program allocation       English       20       3,0       45,0       60,0         semester       English       20       3,0       45,0       60,0       6,0         semester       English       20       1,0       15,0       60,0       5         180       1       6,0       5       6,0       5       6,0       6,0       6,0       6,0       6,0       5       6,0       6,0	content:		_		-	ternansin, e	experimental	econon	iics, ait	ruisii	1,	
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behaviour. - explain key concepts in behavioral economics like bounded rationality, framing, anchoring and endowment effects, statu quo bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity. - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question. - darcus ethics in behavioral economics, focusing in particular on nudging and libertarian paternalism. - can comprehend, present and discuss experimental scientific papers. - explain different methods of cognitive neuroscience. 2. Prerequisites obligatory recommended Maximum number of students 3. Study program 3. Study program allocation Study program A. Ecaching and learning methodes Type of Interval L during the semester S. during the s					nomics and it	t's shortcor	nings in expla	ining re	al worl	d hui	man	
bias, heuristics and cognitive errors, nudging, altruism, fairness and reciprocity. - can describe how experiments are conducted in behavioral economics and construct an experimental setup for a given research question. - discuss ethics in behavioral economics, focusing in particular on nudging and libertarian paternalism. - can comprehend, present and discuss experimental scientific papers. - explain different methods of cognitive neuroscience. <b>2. Prerequisites</b> <b>bilgatory</b> <b>recommended</b> <b>Maximum number</b> of students <b>3. Study program allocation</b> <b>Study program allocation</b> <b>Study program allocation</b> <b>4. Teaching and learning methods</b> <b>Type of</b> <b>Interval Topic</b> <b>Interval Topic</b> <b>Interval Conomics</b> <b>5.</b> during the semester <b>5.</b> Course <b>v</b>   <b>e</b> <b>5.</b> during the semester <b>5.</b> during the semeste							0	0				
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research question. - discuss ethics in behavioral economics, focusing in particular on nudging and libertarian paternalism. - can comprehend, present and discuss experimental scientific papers. - explain different methods of cognitive neuroscience. 2. Prerequisites obligatory recommended Maximum number of students 3. Study program allocation Study program between the semester A. Teaching and learning methodes Type of Interval L during the Behavioral Economics S during the Behavioral Economi	bias, heur	ristics and co	ognitive errors, nudging,	altruism, fairnes	s and recipro	city.						
- discuss ethics in behavioral economics, focusing in particular on nudging and libertarian paternalism. - can comprehend, present and discuss experimental scientific papers. - explain different methods of cognitive neuroscience. 2. Prerequisites obligatory recommended Maximum number of students 3. Study program allocation Study program allocatin Study program allocatin			periments are conducte	ed in behavioral e	conomics an	d construct	an experime	ntal set	up for a	a give	en	
- can comprehend, present and discuss experimental scientific papers. - explain different methods of cognitive neuroscience. 2. Prerequisites obligatory recommended Maximum number of students 3. Study program M.Sc. Agricultural and Food Economics 4. Creaching and learning methodes Type of linterval discuss experiments for decomming technology L during the semester 5. Course cycle 5. Course cycle 6. Course cycle 6. Course 6. Course 6. Course 7. Course cycle 7.		-										
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2. Prerequisites         obligatory         recommended         Maximum number         of students         Study program allocation         Compulsory/ Elective Semester         Study program allocation         Compulsory/ Elective Semester         Source of all during the semester       Semester       Source of all conomics       English       20       3,0       45,0       6. Workload [h]       7. Duration       8. Credits (ECTS)         Source cycle       Source cycle       Source cycle cycle       Source cycle			-		papers.							
obligatory         recommended         Maximum number of students         Study program allocation         Compulsory/ Elective       Semester         Study program allocation         Study program allocation         Study program allocation         Study program allocation         Compulsory/ Elective       Semester         A reaching and learning methodes         Type of course instruction instruction isstruction issue of during the semester       Behavioral Economics       English       SO       Morkload [h]         S during the semester       Behavioral Economics       English       20       1,0       15,0       6,0,0       S         S during the semester       Behavioral Economics       English       20       1,0       15,0       6,0,0       S         S. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         S Requirements for the rewarding of credits (ECTS)       S	-		ethods of cognitive neuro	oscience.								
recommended         Maximum number of students       Graded and learning methodes       Compulsory / Elective       Semester         3. Study program       For       E       2.         4. Teaching and learning methodes       Topic       Language of instruction       Group semester       SWS       Workload [h]         1       Contact       Self- time       Study study         2       4. Teaching and learning methodes       English       2.0       3,0       45,0       60,0         2       during the semester       Behavioral Economics       English       2.0       3,0       45,0       60,0         5. Course crycle       Behavioral Economics       English       2.0       1,0       15,0       60,0         5. Sourse crycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         7. Segestrem       180       1       6,0         9. Requirements for the rewarding of credits (ECTS)       1       6,0         9. Requirements for minj       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)       Weighting factor         9. Written exam [60 minj       [780765129]       graded       English       30%		•										
Maximum number of students       A       Compulsory/Elective       Semester         3. Study program       Compulsory/Elective       Semester         M.Sc. Agricultural and Food Economics       E       2.         4. Teaching and learning methodes       Interval       Topic       Language of instruction       Group size       SWS       Worklow (h)         L       during the semester       Behavioral Economics       English       20       3,0       45,0       60,0         S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         S. Course cycle       Behavioral Economics       Iter       1       6,0       6,0       6,0         S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         S. Course cycle       Behavioral Economics       Iter       1       6,0       5       6,0       6		-										
of students         Study program allocation         Study program       Compulsory/ Elective       Semester         A. Teaching and learning methodes         Type of course       Topic       Language of instruction instruction       Struction       Struction       Struction       Struction       Struction       Group Sum allocation       Struction       Struction <th colspan<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td>											
Study program       Compulsory/ Elective       Semester         Study program       Compulsory/ Elective       Semester         M.Sc. Agricultural and Food Economics       E       2.         4. Teaching and learning methodes         Type of course       Interval       Topic       Language of instruction       Group size       SWS       Workload [h]       Contact       Self-time       study         L       during the semester       Behavioral Economics       English       20       3,0       45,0       60,0         S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         S. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         S       180       1       6,0       9.       9. Requirements for the rewarding of credits (ECTS)       1       6,0         Srypes of Assessment       Prerequisites for admission to the Assessment       Graded yes/no       English       70%         Written exam [60       min]       [780765128]       English       30%       70%												
Compulsory/ Elective       Semester         Study program       Compulsory/ Elective       Semester         M.Sc. Agricultural and Food Economics       E       Interval       Semester         Type of course       Topic       Language of instruction       SWS       Worklad [h]       Contact Self-time         Language of semester       Group size       SWS       Worklad [h]       Contact Self-time         Language of semester       SUSS       Quark Self-time       Susset Self-time         So during the semester       Behavioral Economics       English       20       3,0       45.0       6,00       S         So during the semester       So dehavioral Economics       English       20       1,0       1,0       Colspan="4">Good         S. Course cycle       So dehavioral Economics       So dehavi			llocation									
M.Sc. Agricultural and Food Economics E 2. 4. Teaching and learning methodes Type of course Interval Topic Language of instruction Size Group SWS Workload [h] L during the semester Behavioral Economics English 20 3,0 45,0 60,0 S during the semester Behavioral Economics English 20 1,0 15,0 60,0 5. Course cycle 6. Workload [h] 7. Duration 8. Credits (ECTS) S 180 1 6,0 9. Requirements for the rewarding of credits (ECTS) Types of Assessment Prerequisites for admission to the Assessment Graded yes/no graded English 70% Written exam [60 min] [780765128] Presentation [780765128] Graded English 30%							Compulse	orv/ Fle	ective	Se	mester	
A. Teaching and learning methodes         Type of course       Interval       Topic       Language of instruction       Group size       SWS       Workload [h]         L       during the semester       Behavioral Economics       English       20       3,0       45,0       60,0         S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         S. Ourse cycle       5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         SS       180       1       6,0       9.       6raded yes/no       (exam)       factor         Written exam [60 min]       [780765129]       Freequisites for admission to the Assessment       graded       English       70%         Presentation [780765128]       [780765128]       graded       English       30%		-	d Food Economics				company					
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L         during the semester         Behavioral Economics         English         20         3,0         45,0         60,0           S         during the semester         Behavioral Economics         English         20         1,0         15,0         60,0           S.         during the semester         Behavioral Economics         English         20         1,0         15,0         60,0           S.         Course cycle         6.         Workload [h]         7.         Duration         8.         Credits (ECTS)           S.         S         180         1         6,0         6,0         6,0         6,0         7.         Second Seco												
S       during the semester       Behavioral Economics       English       20       1,0       15,0       60,0         5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         SS       180       1       6,0         9. Requirements for the rewarding of credits (ECTS)         Types of Assessment       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)       Weighting factor         Written exam [60 min]       [780765129]       Image: Set on the factor on the factor on the factor       graded       English       70%         Presentation       [780765128]       Image: Set on the factor on the f	L	during the	Behavioral Economi	ics		English	20	3,0				
semester       6. Workload [h]       7. Duration       8. Credits (ECTS)         SS       180       1       6,0         9. Requirements for the rewarding of credits (ECTS)         Types of Assessment       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)       Weighting factor         Written exam [60 min] [780765129]       graded       English       70%         Presentation [780765128]       graded       English       30%		semester										
5. Course cycle       6. Workload [h]       7. Duration       8. Credits (ECTS)         SS       180       1       6,0         9. Requirements for the rewarding of credits (ECTS)       Image: Credits (ECTS)       Weighting factor         Types of Assessment       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)       Weighting factor         Written exam [60 min] [780765129]       [780765128]       Image: Credits (ECTS)       Image: Credi	S	during the	Behavioral Economi	ics		English	20	1,0	15,0	)	60,0	
SS     180     1     6,0       9. Requirements for the rewarding of credits (ECTS)       Types of Assessment     Prerequisites for admission to the Assessment     Graded yes/no     Language (exam)     Weighting factor       Written exam [60 min]     [780765129]     graded     English     70%       Presentation     [780765128]     graded     English     30%					•							
9. Requirements for the rewarding of credits (ECTS)         Types of Assessment       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)       Weighting factor         Written exam [60 min]       [780765129]       graded       English       70%         Presentation       [780765128]       graded       English       30%	5. Course	e cycle			6. Workloa	ad [h]	7. Durati	on	8. Cre	dits	(ECTS)	
Types of AssessmentPrerequisites for admission to the AssessmentGraded yes/noLanguage (exam)Weighting factorWritten exam [60 min] [780765129]gradedEnglish70%Presentation [780765128]gradedEnglish30%	SS				180		1		6,0			
yes/no(exam)factorWritten exam [60 min] [780765129]gradedEnglish70%Presentation [780765128]gradedEnglish30%	•							_				
Written exam [60 min] [780765129]English70%Presentation [780765128]gradedEnglish30%	Types of A	Assessment	Prerequisites for admi	ission to the Asse	essment			-	-			
min] [780765129] Presentation [780765128] Resentation [780765128]							-	-	-			
[780765129]gradedEnglish30%[780765128]gradedEnglish30%		xam [60					graded	Englis	h	70%	, D	
Presentation     graded     English     30%       [780765128]	-	201										
[780765128]	[7807651	29]										
[780765128]	Presentat	ion					graded	Englis	lish 20		, )	
Academic Achievements		-										
	Academic	c Achieveme	ents									



Module Title: Behavioral Economics in Agri-Food markets
Module ID/Code: MAC-120 [780765120]
10. Module coordination
Module coordinator
Jeanette Klink-Lehmann
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



1 Canada	-		210 [780765210]								
	1		ed learning outcomes	<u> </u>							
Learning			ovides insights into theories and m								
content:		•	eptions, evaluations, and preferen	-	•	-	-			•	
	-	n mo	dels, factor analysis, structural equ	ation modell	ing, cluster an	alysis, and (c	liscrete	) choice	e exp	eriment	
	outcomes										
			tion of the course, the students								
			for a subsequent statistical analys								
	-		othesis testing using parametric an								
	-	-	pirical research applying the metho								
			analytic results obtained from the								
	-		opriate research methods for a res								
			espective methods from a theoret								
	-	and	reflect results obtained from empirion	ncai analysis.							
2. Prere	-										
obligator	У										
recomme	ended	Mod	lule BAS-110								
Maximur	n number	20 st	tudents								
of studer	nts										
3. Study	program	alloc	ation								
Study pro	ogram					Compuls	ory/ Ele	ective	Se	mester	
M.Sc. Ag	icultural ar	nd Fo	od Economics				E			2.	
			ng methodes								
Type of	Interval		Торіс		Language o	of Group	SWS	W	orklo	orkload [h]	
course					instruction	size		Contact time		Self-	
										study	
L	during th	e	Theories and methods of empirica	l research	English	20	2,0	30,	0	70,0	
	semester								, , , , , , , , , , , , , , , , , , ,		
Г	during th	e	Conduct empirical research		English	20	2,0	30,	0	50,0	
	semester										
5. Cours	e cycle			6. Work	load [h]	7. Durati	on	8. Cre	edits	(ECTS)	
SS				180		1		6,0			
🥘. Requi	rements f	or th	e rewarding of credits (ECTS)								
Types of	Assessmen	t Pr	erequisites for admission to the A	ssessment	(	Graded	Langu	iage	We	ighting	
			-		y	/es/no	(exan	า)	fact	tor	
Written e	exam				£	graded	Englis	h	60%	6	
[7807652	19]										
Project w	ork				£	graded	Englis	h	40%	6	
7807652	18]								1		
									1		
	c Achieven										



Module Title: Advanced Methods of Market and Consumer Research	
Module ID/Code: MAC-210 [780765210]	
10. Module coordination	
Module coordinator	
Jeanette Klink-Lehmann	
Teaching person	
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/	
Institute/ Department	
Agrar-, Forst- und Ernährungswissenschaften	
11. Further information	



Module	Title: 0	Comr	munication in the Food Sector							
Module II	D/Code: N	/IAC-2	220 [780765220]							
1. Conte	nt and int	ende	ed learning outcomes							
Learning	- Informa	tion E	conomics							
content:	- Commu	nicati	on Theory and Communication Mode	els						
	- Media R	esear	rch (e.g. Uses and Gratification Appro	ach, Agenda	-Setting, Kno	owledge Gap	, Cultiv	ation T	heory	′);
	- Percepti	on ar	nd Communication (e.g. Narrative Par	adigm, Disso	onance Theo	ry, Attitude	Change	);		
	- Marketi	ng; A	dvertising and commercials in the foc	od sector; Lab	pelling polici	es				
Learning	outcomes									
After a su	ccessful co	mple	tion of the course, the students							
- define a	nd describe	e imp	ortant conceptualizations of commur	nication rese	arch.					
- are able	to identify	and	distinguish different models of comm	unication an	nd to give exa	amples.				
- are able	to explain	differ	rent approaches and theories related	to (mass) m	edia researc	h.				
- can iden	tify differe	nt ma	arketing and advertising strategies in	the food sec	tor and are a	able to give e	example	es.		
		-	otual knowledge of communication ar	nd perception	n theories a	nd relate the	m to m	arketin	g issu	ies in th
-			utrition education policies.							
		te, or	ganize and present their results.							
2. Prerec										
obligatory	/									
recommended										
Maximum	n number									
of studen	ts									
3. Study	program	alloc	ation							
Study pro	gram					Compulse	ory/ Ele	ective	Sei	mester
M.Sc. Agr	icultural ar	nd Foo	od Economics				E			2.
4. Teachi	ing and le	arnir	ng methodes							
Type of	Interval		Торіс		Language o	of Group	SWS	W	orkloa	ad [h]
course					instruction	size		Contact		Self-
								tim	e	study
L	during th	e			English	20	3,0	45,0	)	75,0
	semester							<u> </u>		
S	during th	e			English	20	1,0	15,0	)	45,0
	semester									
5. Course	e cycle			6. Workloa	ad [h]	7. Durati	on	8. Credits (ECTS)		
SS				180		1		6,0		
			e rewarding of credits (ECTS)				1		r	
Types of Assessment Prerequisites for admission to the As		erequisites for admission to the Asse	essment		Graded ves/no	Langu (exan	-	Wei facto	ghting or	
Written e	xam	1			-	graded	Englis	-	70%	
[7807652]					c c	,				
Presentat	ion					graded	Englis	h	30%	
[7807652]					E	Juneu			5070	
		1					1			
Acadama'a	Achievem	0.04-0								



# Module Title: Communication in the Food Sector Module ID/Code: MAC-220 [780765220] 10. Module coordination Module coordinator Dr. Johannes Simons Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information Institute/ Information



Module Title: Ethics in Food Consumption and Production										
Module ID/Code: MAC-230 [780765230]										
1. Content and intended learning outcomes										
Learning	- Introduct	ion to ethics: ethical theories	, ethical argu	uments						
content:	<ul> <li>Application of ethical reasoning to food topics (e. g., global hunger, food biotechnology, livestock welfare/ani rights).</li> </ul>									
	- Ethics and consumer choice: determinants of (non-)ethical consumption (behavioural consumer models); influencing consumer choice (e.g. food labelling policies; nudges).									
	- Ethics and businesses (in the food sector): Role of businesses in society, Corporate Social Responsibility (CSR) related concepts, effects of CSR (empirical evidence), CSR communication.									
		ies regarding ethical consum	erism and CS	SR in the foo	d sector.					
Learning o		pletion of the course, the stu								
<ul> <li>are able to describe ethical theories and theories and concepts related to responsible firm conduct.</li> <li>can explain ethical arguments and different views regarding the role of businesses in society.</li> <li>summarise relevant empirical studies investigating responsible/ ethical behaviour.</li> <li>can apply relevant theories and concepts to ethical issues in the food sector.</li> <li>can critically assess ethical cases with relevance to the food sector.</li> <li>are able to conduct their own evaluation of a specific case linked to the food sector.</li> <li>are able to discuss and reflect on own findings and on research of others.</li> <li>have developed skills in producing a scientific presentation.</li> </ul> 2. Prerequisites   obligatory   recommended   Maximum number   of students										
	program a	llocation				[				
Study pro	-					Compulso	-	ective	Semester	
_		Food Economics					E _		1.	
		ence (Teacher's Training)					E		1.	
-		ence (Teacher's Training)					E		1.	
	-	rning methodes								
Type of course	Interval	Торіс	Language of Group SV instruction size		SWS	Work Contact time	load [h] Self- study			
L	during the semester	Ethics in Food Consumpt	Ethics in Food Consumption and Production English		English	20	2,4	36,0	50,0	
Т	during the semester				English	20 0,8 12,0		12,0	20,0	
PS	during the semester	Case studies regarding et	hics in the f		English	20 0,8 12,		12,0	50,0	
5. Course	e cycle			6. Workloa	ad [h]	7. Durati	on	8. Credi	ts (ECTS)	
WS				180		1		6,0		



	hics in Food Consumption and Production			
Module ID/Code: MA	AC-230 [780765230]			
9. Requirements for	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Project work [780765239]		graded	English	60%
Assignment [780765238]		graded	English	40%
Academic Achieveme				
Module coordinator				
Prof. Dr. Monika Hartr	nann			
Teaching person				
The teaching persons https://basis.uni-bonn Institute/ Departmen				
	۲ ährungswissenschaften			
11. Further informa	tion			



Module Title: Seminar Markets and Consumers											
Module ID/Code: MAC-300 [780765300]											
1. Content and intended learning outcomes											
Learning content:	Knowledg (structurin	epth insights into a topical issue linked to agricultural and food markets, food marketing or consumer behavior. wledge with respect to research techniques (e.g. literature search, gathering and analysing data), paper writing ucturing research papers, technical writing guidelines) and presentation and discussion of own results as well as deration of discussions.									
Learning outcomes											
After a successful completion of the course, the students											
- recall relevant results of the current state of research into the selected topic.											
- are able to identify and and explain theories and methods from the fields of microeconomics, industrial economics marketing										arketing	
			omics relevant to the selected topic.							-	
- are able	to autonor	nous	sly apply theories and methods from t	he fields of n	nicroecono	mics, industri	al econ	omics r	nark	eting	
and/ or be	havioral e	cono	mics relevant to the selected topic.								
- are able	to derive to	estal	ble hypotheses or research questions	from relevar	nt theoretic	al models and	l from a	a reviev	v of t	he	
relevant li											
-	-	-	thering primary data or identifying su			nd in analysin	g the d	ata.			
			reflect on own findings and on researc	ch of others.							
			ntific paper.								
	to create a to modera		ntific presentation.								
2. Prereq		lea	session.								
obligatory											
recomme			-110; MAC-210 or APO-220								
Maximum		12 s	tudents								
of student											
3. Study		alloc	cation								
Study pro	-					Compulso		ective	Se	mester	
			od Economics				E			3.	
	-	arni	ng methodes				r				
<i>·</i> ·	Interval		Торіс		Language	-	SWS			ad [h]	
course					instructior	i size		Conta		Self-	
<b>C</b> *						- 12	1.0	tim		study	
S*	during the semester	2	Marketing and Market Analysis		English	12	4,0	60,0	J	120,0	
5. Course				6. Workloa	ad (h)	7. Durati	. Duration		8. Credits (ECTS)		
WS				180		1	-	6,0		<u> </u>	
	ements fo	or th	ne rewarding of credits (ECTS)	I		I		, <u>,</u>			
Types of A	ssessmen	t Pr	erequisites for admission to the Asse	essment		Graded	Language		Weighting		
				yes/no	(exan	-	factor				
Term paper		Re	egular participation			graded	Englis	h	70%	0	
[780765309]											
Presentation			egular participation		graded	ded Engli		h 30%			
[780765308]						Braaca	English		30%		
Academic	Achievem	ents			•						
					-						



# Module Title: Seminar Markets and Consumers Module ID/Code: MAC-300 [780765300] 10. Module coordination Module coordinator Prof. Dr. Monika Hartmann Prof. Dr. Monika Hartmann Teaching person The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/ Institute/ Department Agrar-, Forst- und Ernährungswissenschaften 11. Further information



### Module Title: Special Project in Market and Consumer Research

Module ID/Code: MAC-310 [780765310]

### 1. Content and intended learning outcomes

**Learning** Topic from the field of Market and Consumer Research. On the topic and form of deliverable(s) (e.g. term paper, **content:** poster) student and coordinator of the module have to agree.

Learning outcomes

After a successful completion of the course, the students...

- can research topic in the field of market and consumer research.

- are able to identify and explain theory/ies and method(s) relevant for their research project.

- can apply (an) appropriate theory/ies and method(s) for their research project.

- identify and select appropriate methods in data analysis.

- are able to select (an) appropriate theory/ies and method(s) for their research project and evaluate own research results.

- can reflect their own research results against the state of the art in the field of their research project.

- can refle	ct their ow	n research results	against the state of the	e art in the fie	eld of their	research pro	ject.			
2. Prereq	uisites									
obligatory	bligatory Two MAC modules have to be completed with the simple average at or below 1.3									
recommended MAC-210 or APO-220										
Maximum number 3 students										
of student										
		allocation						<b>.</b>		
Study pro	-					Compuls	sory/ Ele	ective	Se	mester
M.Sc. Agri	cultural an	d Food Economics					E			2./3.
4. Teachi	ng and lea	arning methodes								
Type of	Interval	Торіс			Language	of Group	SWS	Wo	Workload [h]	
course					instructio	n size		Conta	ct	Self-
								time		study
PS	during the semester	5			English	3	2,0	30,0	)	150,0
5. Course				6. Workloa	ad [b]	7. Durat	rion	8 Cre	edits (ECTS)	
WS/SS				180	ua [11]	1		6,0	ants	[[[[]]]
· · · · · · · · · · · · · · · · · · ·	ements fo	or the rewarding	of credits (ECTS)	100				0,0		
			r admission to the Asse	essment		Graded	Langu	Jage	Wei	ghting
//****						yes/no	(exan	-	factor	
Project wo	ork					graded	Englis	h		
[78076532	19]									
Academic	Achievem	ents								
10 14	1									
	ule coordi									
	oordinator									
	/Ionika Har	tmann								
Teaching										
	ing person: isis.uni-bor		nester can be found in	Dasis:						
	Departme									
		nährungswissensch	naften							
-	er inform	-								
11. Furth	erintorm	auon								



Module Title: Advanced Applied Econometrics											
Module ID/Code: APO-230 [780763230]											
1. Content and intended learning outcomes											
-	<ul> <li>Endogenous regressors (instrumental variable estimation, Generalised Method of Moments, identification strategies)</li> <li>Panel data analysis</li> <li>Maximum Likelihood Estimation</li> </ul>										
- Limited dependent variable models											
After a sur - are able - are able - are capa - select ap	Learning outcomes         After a successful completion of the course, the students         - are able to correctly interpret excerpts from econometric textbooks and articles.         - are able to apply matrix algebra in the context of statistics.         - are capable of applying econometric methods to estimate quantitative economic models derived from economic theory.         - select appropriate econometric methods based on the analysis of the data situation and research question.         - correctly use and interpret outputs from econometric software packages.										
2. Prerec	luisites										
obligatory	/	Pass	sed exam in module BAS-110								
recomme	nded										
Maximum of studen											
3. Study	program a	alloc	ation								
Study pro	gram						Compulso	ory/ Ele	ctive	Sei	mester
M.Sc. Agri	icultural an	d Fo	od Economics					E			2.
4. Teachi	ing and lea	arni	ng methodes								
Type of	Interval		Торіс		Language		Group	SWS	Wo	orkload [h]	
course				instructi		n	size		Conta		Self-
L			Advanced Applied Econometrics		English		120	3,0	<b>time</b> 45,0		<b>study</b> 40,0
Т			Advanced Applied Econometrics		English		20	1,0 15,			80,0
5. Course	e cvcle			6. Worklo	-		7. Duratio		8. Credits (ECTS)		
SS	<b>,</b>			180			1		6,0		
	ements fo	or th	ne rewarding of credits (ECTS)						- / -		
Types of A	Assessment	t Pr	erequisites for admission to the Asse	essment			aded s/no	Langu (exam	-	Wei facto	ghting or
Assignmer [78076323						gra	aded	Englis	h		
Academic	Achievem	ents									
10. Module coordination											
Module coordinator											
Prof. Dr. Thomas Heckelei											
Teaching person											
The teaching persons in the current semester can be found in basis:											
https://basis.uni-bonn.de/ Institute/ Department											
monute/	Schartine										
11. Further information											



I. Conter	nt and inte	ended learning outcomes						
Learning content:	tradeoffs l quality, ar between a perspectiv evaluate s include to	vill learn to look at agriculture a between human health and pla d the triple burden of malnutri griculture, biodiversity, climate e and with empirical examples pecific food systems topics fror bics such as organic farming, Gl tet revolution, among others.	netary health goals. Co tion, as well as related change, diets, nutritio from low-, middle-, and n a comprehensive sus	ncepts and n policy interv n, and healtl d high-incom tainable deve	neasuremer entions, will h will be ana le countries elopment pe	nt of foo I be disc alyzed f . Case s erspect	od securi cussed. L rom a glo tudies w ive. Case	ty, dietary inks obal ill be used t studies will
Learning	outcomes							
- are able - can expla - can iden - can evalu	to define k ain how foc tify policy r uate the arg	npletion of the course, the stuc ey terms related to food securit d systems relate to the various eeds and analyze the sustainab guments in the public debate ar se dietary surveys and nutritior	y and sustainable diets sustainable developm ility implications of spe ound sustainable agric	ent goals (SD ecific interve	ntions.			
2. Prerec								
obligatory	-							
recomme	nded							
Maximum of studen								
	program a	llocation			1	<u> </u>		
Study pro					Compuls	-	ective	Semester
		d Food Economics ence and Resource Manageme	nt in the Tropics and Su	ubtropics		E		3. 3.
. ,	rition Scien	ce				E		3.
M.Sc. Mol	lecular Foo	l Technology				E		3.
4. Teachi	ing and lea	rning methodes						
Type of course	Interval	Торіс		Language or instruction	f Group size			ct Self-
L	during the semester			English	120	4,0	56,0	-
5. Course			ad [h]	7. Durati	on	8. Credits (ECTS)		
WS			180		1		6,0	
9 Requir		r the rewarding of credits (I						
-	Assessment	Prerequisites for admission t	o the Assessment	-	iraded es/no	Langu (exan	0	Weighting factor
-					raded	Englis		



Module Title: Food security and sustainable food systems
Module ID/Code: APO-260 [780763260]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



benefits. By discussing the unique characteristics of the cases presented in class, students will not only g         understanding of the underlying policy theories but will also be tasked with developing practical approar         solving the problems that combine health and food debates.         Drawing on the concepts of Utopia/Dystopia, foodscapes/health scares, culture, and diet-related diseas         will go beyond mere case analysis and generate innovative solutions with an open-minded approach         To facilitate this process, students will be organized into small subgroups for hands-on training and prov         limited introductory lectures. The majority of their learning experience will involve working in diverse gr         receiving guidance through tutoring sessions that support the development of their final written and ora         presentations.         Learning outcomes         After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.         - Explain how food systems relate to health system.         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.         - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandir         complexity and improve science communication.         - Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific intervention	quired to nendations. nong other iin an										
Learning       Through Problem-based learning (PBL), this course aims to challenge students to develop critical thinking content.         systems approach to policy-making problems. In a dynamic and creative environment, students will be rapply nexus thinking to understand problematics, reflect on potential solutions, and create policy recom         PBL is an active learning methodology that can enhance knowledge retention and increase motivation, a benefits. By discussing the unique characteristics of the cases presented in class, students will not only gunderstanding of the underlying policy theories but will also be tasked with developing practical approars solving the problems that combine health and food debates.         Drawing on the concepts of Utopia/Dystopia, foodscapes/health scares, culture, and diet-related disease will go beyond mere case analysis and generate innovative solutions with an open-minded approach         To facilitate this process, students will be organized into small subgroups for hands-on training and prove limited introductory lectures. The majority of their learning experience will involve working in diverse griereceiving guidance through tutoring sessions that support the development of their final written and or presentations.         Learning outcomes       After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.       - Explain how food systems relate to health system.         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.       - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.	quired to nendations. nong other iin an										
content:       systems approach to policy-making problems. In a dynamic and creative environment, students will be r         apply nexus thinking to understand problematics, reflect on potential solutions, and create policy recom         PBL is an active learning methodology that can enhance knowledge retention and increase motivation, a benefits. By discussing the unique characteristics of the cases presented in class, students will not only g understanding of the underlying policy theories but will also be tasked with developing practical approas solving the problems that combine health and food debates.         Drawing on the concepts of Utopia/Dystopia, foodscapes/health scares, culture, and diet-related disease will go beyond mere case analysis and generate innovative solutions with an open-minded approach         To facilitate this process, students will be organized into small subgroups for hands-on training and prov limited introductory lectures. The majority of their learning experience will involve working in diverse gr receiving guidance through tutoring sessions that support the development of their final written and ora presentations.         Learning outcomes       After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.       -         - Explain how food systems relate to health system.       -         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.       -         - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandir complexity and improve science communication.       -	quired to nendations. nong other iin an										
benefits. By discussing the unique characteristics of the cases presented in class, students will not only g         understanding of the underlying policy theories but will also be tasked with developing practical approars         solving the problems that combine health and food debates.         Drawing on the concepts of Utopia/Dystopia, foodscapes/health scares, culture, and diet-related diseass         will go beyond mere case analysis and generate innovative solutions with an open-minded approach         To facilitate this process, students will be organized into small subgroups for hands-on training and prov         limited introductory lectures. The majority of their learning experience will involve working in diverse gr         receiving guidance through tutoring sessions that support the development of their final written and ora         presentations.         Learning outcomes         After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.         - Explain how food systems relate to health system.         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.         - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandir         complexity and improve science communication.         - Critically evaluate and synthesise food policies, interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventi	ain an										
will go beyond mere case analysis and generate innovative solutions with an open-minded approach         To facilitate this process, students will be organized into small subgroups for hands-on training and prov limited introductory lectures. The majority of their learning experience will involve working in diverse gr receiving guidance through tutoring sessions that support the development of their final written and ora presentations.         Learning outcomes         After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.         - Explain how food systems relate to health system.         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.         - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.         - Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.         - Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, he society.         - Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to act effective science communication.         2. Prerequisites         obligatory       none         recommended       - Ernährungspolitik (BSC.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track.         <	PBL is an active learning methodology that can enhance knowledge retention and increase motivation, among other benefits. By discussing the unique characteristics of the cases presented in class, students will not only gain an understanding of the underlying policy theories but will also be tasked with developing practical approaches to solving the problems that combine health and food debates.										
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After a successful completion of the course, the students         - Develop this interrelated multidisciplinary critical thinking.         - Explain how food systems relate to health system.         - Understand and explain social, cultural, and technical relations between food systems, health, and policies.         - Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.         - Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.         - Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, heast society.         - Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to acle effective science communication. <b>2. Prerequisites</b> obligatory       none         - From AFECO MSc: MAC and APO track.         Maximum number of students       20 students <b>3. Study program allocation Compulsory/ Elective</b> M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E											
<ul> <li>Develop this interrelated multidisciplinary critical thinking.</li> <li>Explain how food systems relate to health system.</li> <li>Understand and explain social, cultural, and technical relations between food systems, health, and policies.</li> <li>Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.</li> <li>Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.</li> <li>Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, healters or policy analysis with a sustainability approach in mind, with the objective to act effective science communication.</li> <li>Prerequisites</li> <li>Obligatory         <ul> <li>Prima AFECO MSc: MAC and APO track.</li> <li>Maximum number of students</li> <li>O students</li> <li>O students</li> <li>Study program allocation</li> </ul> </li> <li>Study program allocations</li> <li>E M.Sc. Nutrition Science</li> <li>E</li> <li>A. Teaching and learning methodes</li> </ul>											
Understand and explain social, cultural, and technical relations between food systems, health, and policies.     Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.     Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.     Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, he society.     Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to acleffective science communication. 2. Prerequisites obligatory     none recommended     Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken     From AFECO MSc: MAC and APO track. Maximum number     20 students     Study program allocation Study program allocation E M.Sc. Agricultural and Food Economics E M.Sc. Nutrition Science E 4. Teaching and learning methodes											
<ul> <li>Approach the learning of food, health and policy with critical and creative methodologies to increase undersandin complexity and improve science communication.</li> <li>Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.</li> <li>Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, he society.</li> <li>Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to act effective science communication.</li> <li>Prerequisites         <ul> <li>Prerequisites</li> <li>Obligatory</li> <li>none</li> <li>From AFECO MSc: MAC and APO track.</li> </ul> </li> <li>Maximum number of students</li> <li>Study program allocation</li> <li>Study program allocation</li> <li>E M.Sc. Agricultural and Food Economics</li> <li>E</li> <li>M.Sc. Nutrition Science</li> <li>E</li> </ul>											
complexity and improve science communication Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, he society Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to act effective science communication. 2. Prerequisites obligatory none recommended - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track. Maximum number of students 3. Study program Location Study program Ilocation K. Compulsory/ Elective M.Sc. Agricultural and Food Economics E 4. Teaching and learning methodes											
<ul> <li>Critically evaluate and synthesise food policies; interpret the problem definition, assumptions, and effects on the and health system, and comprehend the implications of specific interventions.</li> <li>Identify policies, generate arguments to develop recommendations that tackle challenges at the nexus of food, he society.</li> <li>Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to ach effective science communication.</li> <li>Prerequisites         <ul> <li>Obligatory</li> <li>none</li> <li>From AFECO MSc: MAC and APO track.</li> </ul> </li> <li>Maximum number of students         <ul> <li>Study program allocation</li> <li>Study program allocation</li> <li>Study program allocation</li> <li>E</li> <li>M.Sc. Agricultural and Food Economics</li> <li>E</li> <li>M.Sc. Nutrition Science</li> <li>E</li> <li>Teaching and learning methodes</li> </ul> </li> </ul>											
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society. - Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to ach effective science communication. 2. Prerequisites obligatory none recommended - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track. Maximum number of students 3. Study program allocation Study program food Economics M.Sc. Agricultural and Food Economics M.Sc. Nutrition Science E M.Sc. Nutrition Science E 4. Teaching and learning methodes											
- Summarize and translate results of policy analysis with a sustainability approach in mind, with the objective to ach effective science communication.  2. Prerequisites obligatory none recommended - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track.  Maximum number of students  3. Study program allocation Study program allocation Study program M.Sc. Agricultural and Food Economics  M.Sc. Nutrition Science E  4. Teaching and learning methodes	alth, and										
effective science communication.         2. Prerequisites         obligatory       none         recommended       - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track.         Maximum number of students       20 students         3. Study program allocation         Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E											
2. Prerequisites         obligatory       none         recommended       - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken         - From AFECO MSc: MAC and APO track.         Maximum number       20 students         of students       20 students         3. Study program allocation         Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes	leve										
obligatory       none         recommended       - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track.         Maximum number of students       20 students         3. Study program allocation       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes       E											
recommended       - Ernährungspolitik (BSc.) with Prof. Dr. Dominic Lemken - From AFECO MSc: MAC and APO track.         Maximum number of students       20 students         3. Study program allocation											
- From AFECO MSc: MAC and APO track.         Maximum number of students       20 students         3. Study program allocation         Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes											
Maximum number of students       20 students         3. Study program allocation       Study program         Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes       E											
of students       Compulsory/ Elective         3. Study program allocation          Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes											
3. Study program allocation         Study program       Compulsory/ Elective         M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes       E											
Study programCompulsory/ ElectiveM.Sc. Agricultural and Food EconomicsEM.Sc. Nutrition ScienceE4. Teaching and learning methodes											
M.Sc. Agricultural and Food Economics       E         M.Sc. Nutrition Science       E         4. Teaching and learning methodes       E											
M.Sc. Nutrition Science     E       4. Teaching and learning methodes	Semester										
4. Teaching and learning methodes											
	3.										
Type of Interval Topic I anguage of Group SWS Wo											
course instruction size Contac	3. 3.										
time	3. 3. (load [h]										
L during the Dystopi,Food and health system,policy analysis English 20 1,0 11,0 semester	3. 3. kload [h]										
T*during the semesterCase study, Nourishing frameEnglish201,011,0	3. 3. (load [h] : Self-										
Proj*       full-day block       Case study, Creative communication       English       0       0,0       0,0         (blocked)	3. 3. (load [h] : Self- study 8,0 26,0										
	3. 3. (load [h] : Self- study 8,0 26,0 34,0										
WS 90 1 3,0	3. 3. (load [h] : Self- study 8,0 26,0										



Module Title: Fo	od, Health and Policy: A multidisciplinary Proble	m Based Lea	rning perspe	ctive					
Module ID/Code: MA	AC-320 [780765320]								
9. Requirements for the rewarding of credits (ECTS)									
Types of AssessmentPrerequisites for admission to the AssessmentGradedLanguageWeighyes/no(exam)factor									
Report [780765329]	Regular participation. At least 75% presence (Including Hybrid sessions)	graded	English	70%					
Presentation [780765328]	Full participation	graded	English	30%					
Academic Achieveme	nts								
10. Module coordin	ation								
Module coordinator									
Prof. Dr. Dominic Lem	ken								
Teaching person									
The teaching persons https://basis.uni-bonr	in the current semester can be found in basis: n.de/								
Institute/ Departmen	t								
Agrar-, Forst- und Erna	ährungswissenschaften								
11. Further informa	tion								
We intend to take adv and some online.	vantage of the hybrid approach that can be used in teaching.	. Therefore som	e lectures will l	pe in person					



ature stu natic field eminar. mes ul completed ency in sy ect and completed derive test for an ap n a resea and comples for a es 48 MA	ded learning outcomes idies, preparation of a research concep d of Market and Consumer Research; so retion of the course, the students ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in- stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP AC-210 or APO-220 students	eld of their r es for their r is from relev n their resea	esearch pro esearch pro vant theoret	n research to	opic and	d topic	of othe	ers in	
atic field eminar. mes ul completed ency in sy ect and con- derive test ure. for an ap n a resea and con- ples for a es 48 MA	d of Market and Consumer Research; so letion of the course, the students ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	eld of their r es for their r is from relev n their resea	esearch pro esearch pro vant theoret	n research to	opic and	d topic	of othe	ers in	
eminar. mes ul compl ency in sy ect and c derive tes ire. for an ap n a resea and com ples for a es 48 MA	etion of the course, the students ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	eld of their r es for their r ns from relev n their resea	esearch pro esearch pro vant theoret arch project.	ect.					
ul complency in sylect and conditional condititate conditate conditional conditional conditional condi	ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	es for their r ns from relev n their resea	esearch pro vant theoret arch project.	ect.	nd fror	n a revi	ew of t	the	
ul complency in sylect and conditional condititate conditate conditional conditional conditional condi	ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	es for their r ns from relev n their resea	esearch pro vant theoret arch project.	ect.	nd fror	n a revi	ew of t	the	
ency in sy ect and c derive test for an ap n a resea and com ples for a es 48 MA	ynthesizing the state of the art in the fi comprehend (an) appropriate theory/in stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	es for their r ns from relev n their resea	esearch pro vant theoret arch project.	ect.	nd fron	n a revi	ew of t	the	
ect and c derive test for an ap n a reseat and comples for a es 48 MA	comprehend (an) appropriate theory/is stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP	es for their r ns from relev n their resea	esearch pro vant theoret arch project.	ect.	nd fror	n a revi	ew of t	the	
derive test for an ap n a resea and con- ples for a es 48 MA	stable hypotheses or research question propriate methodology to be applied in arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP AC-210 or APO-220	ns from relev n their resea	vant theoret		nd fron	n a revi	ew of t	the	
For an ap n a resea and com ples for a es 48 MA	arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP AC-210 or APO-220								
n a resea and com ples for a es 48 MA	arch project. duct a scientific discussion. a number of research topics in the field ECTS-CP AC-210 or APO-220								
and conc ples for a es 48 MA	duct a scientific discussion. a number of research topics in the field ECTS-CP AC-210 or APO-220	and explain	the results.						
ples for a es 48 MA	a number of research topics in the field ECTS-CP AC-210 or APO-220	and explain	the results.						
2 <b>5</b> 48 MA	ECTS-CP AC-210 or APO-220	and explain	the results.						
48 MA	AC-210 or APO-220								
MA	AC-210 or APO-220								
<b>ber</b> 10	students								
am allo	cation								
				Compulso	ory/ Ele	ctive	Sem	ester	
al and F	ood Economics			C fo	r MAC		3	3.	
val			Language o	f Group	SWS	Wo	orkload	d [h]	
	•			size					
						time			
ng the	Guidelines, Presentations, Discussion	S,	English	10	2,0	30,0		150,0	
ester	Feedback Sessions								
e		6. Workloa	ad [h]	7. Durati	on	8. Credits (ECTS		ECTS)	
		180	1		6,0		)		
nts for t	he rewarding of credits (ECTS)								
Types of Assessment Prerequisites for admission to the Ass		ssment			-	-	Weigh		
			-				factor		
Term paperRegular participation (see below)[780765339]			gı		Englis	h 67%			
R	egular participation (see below)		Ę	graded Engl		zlish 3			
	id learn val g the ester e nts for t ment P R R	Ig the Guidelines, Presentations, Discussion Easter Feedback Sessions Easter Feedback Sessions E	Ind learning methodes         val       Topic         Image the end of the sector of the sec	Id learning methodes         val       Topic       Language o instruction         ag the ester       Guidelines, Presentations, Discussions, Feedback Sessions       English         e       6. Workload [h]       180         Ints for the rewarding of credits (ECTS)       180         ment       Prerequisites for admission to the Assessment       Q         Regular participation (see below)       g       g         Regular participation (see below)       g       g	C for ad learning methodes         val       Topic       Language of instruction       Group size         ag the ster       Guidelines, Presentations, Discussions, Feedback Sessions       English       10         e       6. Workload [h]       7. Durati         180       1         nts for the rewarding of credits (ECTS)       Graded yes/no         ment       Prerequisites for admission to the Assessment       Graded yes/no         Regular participation (see below)       graded       graded	C for MAC         C for MAC         d learning methodes         val       Topic       Language of instruction       Group size       SWS         val       Guidelines, Presentations, Discussions, Feedback Sessions       English       10       2,0         e       6. Workload [h]       7. Duration       10       2,0         Iso 1         Iso 1       Ion 2,0         Iso 1       Ion 2,0         Iso 10       10       2,0         Iso 10       Iso 10         Iso 10       Iso 10	Ind learning methodes         val       Topic       Language of instruction       Group size       SWS       Wo Conta- time         og the seter       Guidelines, Presentations, Discussions, Feedback Sessions       English       10       2,0       30,0         e       6. Workload [h]       7. Duration       8. Cre 6,0         inst for the rewarding of credits (ECTS)       10       2,0       30,0         ment       Prerequisites for admission to the Assessment       Graded yes/no       Language (exam)         Regular participation (see below)       graded       English	C for MAC         c for MAC         c for MAC         c d learning methodes         val       Group are for admission to the Assessment       Group size       SWS       Workload         val       Group size       SWS       Workload Contact time         val       Guidelines, Presentations, Discussions, Feedback Sessions       English       10       2,0       30,0         ester       Feedback Sessions       6. Workload [h]       7. Duration       8. Credits (E         graded       Inglish       10       2,0       30,0       Image of instruction       Set to the colspan="4">C for MAC         isster       Feedback Sessions       English       10       2,0       30,0       Image of instruction       Set to the rewarding of credits (ECTS)         graded       English       1       6,0         Meigl graded       English       6,0 <th co<="" td=""></th>	



## Module Title: Research Seminar in Market and Consumer Research

Module ID/Code: MAC-330 [780765330]

## 10. Module coordination

#### Module coordinator

Prof. Dr. Monika Hartmann

#### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

## Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

#### **11. Further information**

Regular participation is requested to learn from others (regarding topics, methods, presentation styles), gain experience how to moderate and discuss other topics.



# **Minor Development Economics (DEV)**

# Requirements for the Minor Specification: - Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



			lopment Economics 40 [780763240]									
			ed learning outcomes									
Learning	1		erns in economic development	t econo	mic growth	models ca		s of differe	ntial o	conomi	c gro	wth an
content:	-	-	across countries, including the		-						-	wunan
	-		of natural resources for develo					-				1
	-		empirical policy problems, spe	-				-				
			impact of high resource endo									
			eloping countries.							• •		•
earning o	outcomes											
After a su	ccessful co	mple	tion of the course, the studen	ts								
are able	to describe	e key	concepts and structure of eco	nomic g	growth mod	els and driv	vers	of socio-e	conom	ic deve	lopm	ent.
can expla	ain the role	e of ir	nstitutions, labor markets, mig	gration a	and sustaina	ble natural	res	ource man	ageme	nt for e	cond	omic
developm	ent.											
			d concepts for analysis of deve	-	-							
			or conducting research on sust		natural reso	ource mana	ager	nent topic	5.			
			xamples through case studies									
		ze le	ssons learnt from case studies	s to broa	ader develop	oment issue	es.					
2. Prerec	-											
obligatory	/											
recomme	nded	Mod	lules "Advanced Applied Econo	ometric	s", "Researc	h Seminar o	on a	agricultura	and d	evelopn	nent	policy"
and "Economics of Sustainability"								. ,				
Maximum	n number		<u>.</u>									
of studen <sup>-</sup>	ts											
3. Study	program	alloc	ation									
Study pro	gram							Compulso	ory/ Ele	ective	Se	mester
M.Sc. Agri	cultural ar	d Fo	od Economics						E			2.
M.Sc. Agri (ARTS)	cultural Sc	ience	e and Resource Management in	n the Tr	opics and Su	ubtropics			E			2.
. ,	ng and le	arnir	ng methodes									
Type of	Interval		Торіс			Language	of	Group	SWS	W	orklo	ad [h]
course			-			instructio		size		Conta	1	Self-
										tim	e	stud
L	during the semester	Ĵ	Development Economics			English		25	2,0	30,0	)	60,0
т	during the	_	Assignement			English		25	2,0	30,0	<b>)</b>	60,0
1	semester	-	Assignement			LIIGIISII		25	2,0	50,0	,	00,0
5. Course					6. Workloa	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
55					180			1	•	6,0		(2010)
	ements f	or th	e rewarding of credits (ECT	rs)	100			±		0,0		
-			erequisites for admission to the		ssment		Gra	aded	Langu	1200	W/o	ighting
iypes of P	33633111611				351110110			s/no	(exan	-	fact	
Written ex	xam						-	ided	Englis			
[78076324							0.0					
		1					1		1			
	Achievem											



Module Title: Development Economics
Module ID/Code: APO-240 [780763240]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Feaching person
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/
nstitute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



Module			act evaluation of conservation a	& develop	ment pro	ojeo	ts and e	nviron	menta	al policies
Module I	<b>D/Code:</b> E	NV-1	130 [780764130]							
1. Content and intended learning outcomes										
Learning       - Role of impact evaluation in guiding the design of development and environmental conservation initiatives         content:       - Understanding and developing a theory of change         - Overview, hands-on application, and critical assessment of quantitative evaluation methods including experimental and quasi-experimental research designs         - Evaluation case studies; advanced topics, such as impact heterogeneity and mediation analysis.										
Learning o			· · ·	•						
- know alt	ernative q	uanti	etion of the course, the students itative evaluation methods and their u		-		uation initi	ativas		
<ul> <li>- understand how different types of biases affect evaluations of development and conservation initiatives.</li> <li>- apply selected evaluation methods to real world problems.</li> <li>- critically interpret findings from evaluation studies.</li> </ul>										
2. Prereg		mun								
obligatory										
recomme	nded									
Maximum of studen		25 s	tudents							
3. Study	program	alloc	cation							
Study pro	-						Compulso	ory/ Ele	ctive	Semester
M.Sc. Agricultural and Food Economics E 2.										
		arni	ng methodes					1		
Type of	Interval		Торіс		Language		Group	SWS		orkload [h]
course					instructio	n	size		Conta time	
L	during the semester	ç	Impact Evaluation		English		25	2,0	30,0	
Т	during the	9	Exercise		English		25	2,0	30,0	) 60,0
5. Course				6. Worklo	ad [h]		7. Durati	on	8. Cre	dits (ECTS)
SS	•			180			1		6,0	
9. Requir	rements f	or th	ne rewarding of credits (ECTS)							
Types of A	Assessmen	t Pr	rerequisites for admission to the Asse	essment			aded s/no	Langu (exam	-	Weighting factor
Assignmer [78076413						gra	ded	Englis	h	
Academic	Achievem	ents								
Academic	Admeter	ciito	·							
10. Modu	ule coordi	nati	ion							
Module c	oordinator									
Prof. Dr. J	an Börner									
Teaching	-			-						
	ing person asis.uni-boi		the current semester can be found in l	basis:						
	Departme		۶/							
-			ungswissenschaften							
-	er inform									



	-	PO-260 [780763260]								
1. Conte	nt and inte	ended learning outo	omes							
Learning content: Learning of After a su	Students w tradeoffs k quality, an between a perspectiv evaluate s include top supermark outcomes ccessful con	vill learn to look at ag petween human healt d the triple burden of griculture, biodiversit e and with empirical e pecific food systems t bics such as organic fa set revolution, among mpletion of the course	culture and nutritic and planetary hea malnutrition, as we c, climate change, d camples from low-, pics from a compre ming, GMOs, meat others.	Ith goals. Co Il as related iets, nutritio middle-, an chensive sus consumptio	ncepts and i policy interv on, and healt d high-incon tainable dev on, palm oil,	measuremen rentions, wil h will be and ne countries elopment p	nt of foo I be dis alyzed f . Case s erspect	od secur cussed. I rom a gl tudies w ive. Case	ity, dietai Links obal vill be use studies v	
		ey terms related to fo	-							
-		d systems relate to th eeds and analyze the								
		guments in the public								
	-	se dietary surveys and		-						
2. Prerec	•									
obligatory	/									
recomme	nded									
Maximun of studen										
3. Study	program a	llocation								
Study pro	gram					Compuls	ory/ Ele	ective	Semest	
M.Sc. Agr	icultural and	d Food Economics					Е		3.	
M.Sc. Agri (ARTS)	icultural Sci	ence and Resource M	nagement in the Tr	ropics and Su	ubtropics		E		3.	
M.Sc. Nut	rition Scien	ce					E		3.	
M.Sc. Mo	lecular Food	l Technology					E		3.	
4. Teachi	ing and lea	rning methodes								
Type of	Interval	Торіс			Language o	f Group	SWS		/orkload [h]	
course					instruction	size		Conta		
1	during the				English	120	4,0	time 56,0		
L	semester				LIIBIISII	120	4,0	50,0	124	
5. Course	5. Course cycle 6. Workload [h] 7. Durat							8. Cree	dits (ECT	
WS				180		1		6,0		
ə. Requiı	rements fo	r the rewarding of	redits (ECTS)							
Types of A	Assessment	Prerequisites for ad	nission to the Asse	ssment		Graded ves/no	Langı (exan	-	Weightir factor	
Written e [7807632					-	raded	Englis			
[/80/032										



Module Title: Food security and sustainable food systems
Module ID/Code: APO-260 [780763260]
10. Module coordination
Module coordinator
Prof. Dr. Matin Qaim
Teaching person
The teaching persons in the current semester can be found in basis:
https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



# Minor Agroeconomic Modelling (MOD)

# Requirements for the Minor Specification: - Modules accounting to a minimum of 18 ECTS-CP in the Minor Specification

Every module can only be accounted once i.e. either for the Major or Minor Specification.



Module			lodelling o	of Agricul	tural Sy	ystems						
	-	PO-220 [78	-									
	1		rning outco									
Learning content:		irse, the stu ic chosen b	-	y develop a	an or imp	prove an exis	sting partial o	r general eq	uilibriu	ım moc	lel and	d apply
		on the top e EU Comm		e - the supe	ervisor w	ill propose to	opics based or	n contact to	institu	itions s	uch as	S OECD,
	- Decision apply	on the app	propriate typ	e of simula	ation mo	del (partial c	or general equ	ilibrium, de	tails or	n mode	l struc	cture) to
	- Acquisit	on of the n	ecessary dat	ta and para	meters							
	- Coding o	of the mode	l respective	ly the chan	ges to ar	n exisiting m	odel					
	- Mapping of the policy question into an appropriate shock definition of the equilibrium model											
- Performing and analyzing counterfactual runs												
- Documentation of the model (online, report)												
	- Preparation of a presentation (ca. 30-45 minutes) and a report (ca. 50 page) for the client											
	Students will present and disucss their findings after the end of the term in a video-conference or a meeting with the											
	client with whom they will also share their report. The students organize the work themselves (milestones and their											
	timining, labour division in groups). The supervisor will monitor and support the process when needed, especially											
	with rega	rd to techni	ical and met	hodologica	l questic	ons.						
Learning	outcomes											
After a su	ccessful co	mpletion of	f the course,	, the studer	nts							
- will have	e successfu	lly applied a	a policy relev	vant equilib	orium mo	odel.						
- will have	e analyzed	a real-world	d policy ques	stion based	l on quar	ntitative tool	s.					
- will have	e evaluated	the impact	of changes	in policies	on quan	tities, prices	and welfare b	ased on th	e appli	cation o	on the	chosen
and expar	nded equili	brium mod	el.									
- will synt	hetize thes	e impacts i	n a presenta	ition for the	e client a	nd jointly do	ocument and o	comment th	nem in	a larger	repo	rt.
2. Prerec	quisites											
obligatory	-											
recomme	nded		n partial and offered in 2.	•	•		h as "Partial a	nd General	Equilit	orium N	1odell	ing"
Maximum	n number	20 student	S									
of studen	ts											
3. Study	program	allocation										
Study pro								Compulso	ry/ Ele	ctive	Sen	nester
		d Food Fco										
M.Sc. Agr	icultural ar		nomics						E			3.
		arning me							E			3.
							Language of	Group	E SWS	We	orkloa	
4. Teachi	ing and le	arning me					Language of instruction	Group size	1	Wo		
4. Teachi Type of	ing and le	arning me						-	1		ict	d [h]
4. Teachi Type of course	ing and le	arning me Topic						-	1	Conta	et e	id [h] Self-
4. Teachi Type of	ing and le Interval	arning me Topic					instruction	size	sws	Conta time	et e	d [h] Self- study
4. Teachi Type of course	Interval during the semester	arning me Topic				6. Workloa	instruction English	size	<b>SWS</b> 4,0	Conta time	e )	id [h] Self- study 124,0



Module Title: Ap	plied Modelling of Agricultural Systems								
Module ID/Code: AP									
9. Requirements for the rewarding of credits (ECTS)									
Types of Assessment	sment Prerequisites for admission to the Assessment Graded Language Weig								
_		yes/no	(exam)	factor					
Report		graded	English	50%					
(presentation)									
[780763229]									
Report		graded	English	50%					
[780763228]									
Academic Achieveme	nts			<u> </u>					
10. Module coordin	ation								
Module coordinator									
PD Dr. Wolfgang Britz									
Teaching person									
01	in the current semester can be found in basis:								
https://basis.uni-bonr									
Institute/ Departmen	t								
Agrar-, Forst- und Erna	ährungswissenschaften								
11. Further informa	tion								
Not offered in WS 22/	23								
Presentation for client	t will be schuled after end of term, Report has to be hand	ded in 8 weeks afte	r end of term						
Students will receive a	a course license for GAMS. Examples of past clients and t	hemes: FAO (Rome	e): analysis of cli	imate change					
impacts on agri-food r	narkets in developing countries; OECD (Paris): analysis o	f the impact of the	US/China trade	ware on					

impacts on agri-food markets in developing countries; OECD (Paris): analysis of the impact of the US/China trade ware on selected agri-food markets; GIZ (Bonn): analysis of policy options to foster the self-sufficiency in Western African rice markets; World Bank (Washington D.C.): Analysis of climate change impacts on households in selected developing countries in the context of the Socio-Economic Pathway 2



Module	Title: A	dvan	ced Applied Econometrics								
Module I	<b>D/Code:</b> A	PO-23	0 [780763230]								
1. Conter	nt and inte	endec	learning outcomes								
Learning content:	<ul> <li>Model sp</li> <li>Endogen</li> <li>strategies</li> <li>Panel da</li> <li>Maximuti</li> </ul>	oecifica ous re ) ta ana m Like	lihood Estimation	choice)	-		od of Mom	ents, ic	lentifica	ation	
Learning o		aepen	dent variable models								
After a suc - are able - are able - are capa - select ap	ccessful contractly to correctly to apply m ble of apply propriate e	y inter atrix a ying ec econor	on of the course, the students pret excerpts from econometric tex lgebra in the context of statistics. conometric methods to estimate qu metric methods based on the analys et outputs from econometric softwa	antitative ec sis of the dat	onomic mo a situation					theor	ſγ.
2. Prereq	luisites										
obligatory	1	Passe	d exam in module BAS-110								
recomme	nded										
Maximum of student											
3. Study	program a	alloca	tion								
Study pro	gram						Compulso	ry/ Ele	ctive	Sem	nester
M.Sc. Agri	icultural an	d Food	d Economics					E			2.
4. Teachi	ing and lea	arning	g methodes								
Type of	Interval		opic		Language	of	Group	SWS	Wo	orkloa	d [h]
course					instructio	n	size		Conta	ct	Self-
1			dvanced Applied Econometrics		English		120	3,0	time		study
L T			dvanced Applied Econometrics		English		20	3,0 1,0	45,0 15,0		40,0 80,0
		A	availeed Applied Econometrics	C Mortdo		-		-	-		,
5. Course	e cycle			6. Workloa	ad [n]		7. Duratio	n	8. Cre	aits (I	ECISJ
	omonts fo	or tho	rewarding of credits (ECTS)	180		·	1		6,0		
-			requisites for admission to the Asse	essment		Gra yes	ded (no	Langu (exam	-	Weig facto	hting r
Assignme	nt					grad	-	Englis	-	Tacto	
[78076323						0.1			-		
Academic	Achievem	ents									
10. Modu	ule coordi	natio	n								
Module co	oordinator										
Prof. Dr. T	homas Heo	kelei									
Teaching											
The teach	ing norsons										
1			e current semester can be found in	basis:							
	isis.uni-bor	nn.de/		basis:							
		nn.de/		basis:							
Institute/	isis.uni-bor	n.de/ nt		basis:							



1. Conte	nt and int	ende	d learning outcomes								
Learning			: Why do we need simulation models	? What are	simulation	mod	dels acting	at mar	ket sca	ale?	
content:	2. Introdu		-	. What are	Sintalation			atmai	100 000	inc :	
	- Languag										
			et model in GAMS								
	-		odity models (MCMs)								
			i-market model in GAMS								
	- Introduc	ing po	olicy instruments in a MCM								
	- Armingt	on ap	proach and spatial arbitrage								
	- Presenta	tion o	of three MCMs: the Policy Evaluation	Model of th	ne OECD, th	ie A	griSpace m	nodel fo	or Norv	way a	nd CAPF
	4. Compu	table	General Equilibrium models								
	- The stru	cture	of a Social Accounting Matrix								
			ure of a CGE (production function, fir		trade repre	esen	itation)				
			on and calibrating a CGE against the S	SAM							
			(Armington, CET, Melitz model)								
		anal	ysis with CGEBox								
Learning	outcomes										
			tion of the course, the students								
			e building blocks of partial and gener		m models a	and	describe th	he inter	raction	is insi	ide and
		-	ocks as expressed in their equations.								
			uilibrium models in the software pac	-					-		
	ble to anal	yze th	e outcome of such models against th	ne backgroui	nd of micro	-ecc	onomic the	eory an	d their	knov	wledge c
			-								
-		id mo	re general of the economic system.								
- will be a	ble to eval	id mo	-	juantities, pi	rices and we	elfai	re based o	n the a	pplicat	ion c	of
- will be a equilibriu	ble to eval m models.	id mo uate t	re general of the economic system. he impact of changes in policies on q	juantities, pr	rices and we	elfai	re based o	n the a	pplicat	ion c	of
- will be a equilibriu - will be a	ble to eval m models. ble to synt	id mo uate t	re general of the economic system.	juantities, pr	rices and we	elfai	re based o	n the a	pplicat	ion c	of
- will be a equilibriu - will be a <b>2. Prerec</b>	ble to eval m models. ble to synt <b>quisites</b>	id mo uate t	re general of the economic system. he impact of changes in policies on q	juantities, pr	rices and we	elfai	re based o	n the a	pplicat	ion c	of
- will be a equilibriu - will be a <b>2. Prerec</b>	ble to eval m models. ble to synt <b>quisites</b>	id mo uate t	re general of the economic system. he impact of changes in policies on q	uantities, pr	rices and we	elfai	re based o	n the a	pplicat	ion c	of
- will be a equilibriu - will be a <b>2. Prerec</b> obligator	ble to eval m models. ble to synt <b>quisites</b> Y	id mo uate t netize	re general of the economic system. he impact of changes in policies on q								
- will be a equilibriu - will be a <b>2. Prerec</b> obligator	ble to eval m models. ble to synt <b>quisites</b> Y	id mo uate t netize A mie	ore general of the economic system. he impact of changes in policies on q e these impacts in a short report.	such as BAS	130. That c	cour	se is oblig				
- will be a equilibriu - will be a 2. Prerec obligator recomme	ble to eval m models. ble to synt <b>quisites</b> Y	id mo uate t netize A mic progi	ore general of the economic system. the impact of changes in policies on q e these impacts in a short report. croeconomics course at master level	such as BAS	130. That c	cour	se is oblig				
- will be a equilibriu - will be a 2. Prerec obligator recomme Maximun	ible to eval im models. ible to synt quisites y ended n number	id mo uate t netize A mic progi	re general of the economic system. the impact of changes in policies on q these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market	such as BAS	130. That c	cour	se is oblig				
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximun of studen	ible to eval im models. ible to synt quisites y ended n number	ad mo uate t netize A mic progi 20 st	re general of the economic system. the impact of changes in policies on q e these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents	such as BAS	130. That c	cour	se is oblig				
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study	ble to eval im models. ible to synt quisites y ended n number its program	ad mo uate t netize A mic progi 20 st	re general of the economic system. the impact of changes in policies on q e these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents	such as BAS	130. That c	cour	se is oblig helpful.	gatory in	n the A	\FECC	)
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study pro	ble to eval m models. ble to synt quisites y ended n number nts program	A mic progr 20 st	re general of the economic system. the impact of changes in policies on q e these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation	such as BAS	130. That c	cour	se is oblig	gatory in	n the A	\FECC	) emester
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro	ble to eval m models. ble to synt quisites y ended n number nts program ogram	A mic prog 20 st	ore general of the economic system. the impact of changes in policies on question the export of changes in policies on question the export. The exponent of the economics course at master level the exponent of the economics of the	such as BAS	130. That c	cour	se is oblig helpful.	gatory in	n the A	\FECC	)
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach	ble to eval m models. ble to synt quisites y ended n number nts program ficultural ar ing and le	A mic progr 20 st alloca	ore general of the economic system. the impact of changes in policies on que these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes	such as BAS	130. That c ms (BAS 14	cour 0) is	rse is oblig s helpful. Compulsc	patory in pry/ Ele E	n the A	AFECO Se	emester 2.
<ul> <li>will be a equilibriu</li> <li>will be a</li> <li>Prerectorial be a</li> <li>Maximum of studen</li> <li>Study products</li> <li>Study products</li> <li>M.Sc. Agr</li> <li>Teach</li> <li>Type of</li> </ul>	ble to eval m models. ble to synt quisites y ended n number nts program ogram	A mic progr 20 st alloca	ore general of the economic system. the impact of changes in policies on question the export of changes in policies on question the export. The exponent of the economics course at master level the exponent of the economics of the	such as BAS	130. That c ms (BAS 14	cour 0) is of	rse is oblig s helpful. Compulso Group	gatory in	n the A ective	Se orklc	emester 2. pad [h]
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of	ble to eval m models. ble to synt quisites y ended n number nts program ficultural ar ing and le	A mic progr 20 st alloca	ore general of the economic system. the impact of changes in policies on que these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes	such as BAS	130. That c ms (BAS 14	cour 0) is of	rse is oblig s helpful. Compulsc	patory in pry/ Ele E	n the A ective W Cont	Se 'orkic	emester 2. Dad [h] Self-
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course	ble to eval m models. ble to synt quisites y ended n number nts program icultural ar ing and le Interval	A mic progr 20 st alloca	ation at the conomics of the economic system. the impact of changes in policies on query these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation bd Economics ag methodes Topic	such as BAS ts and Syste	130. That c ms (BAS 14 Language instruction	cour 0) is of	compulsc Group size	atory in pry/ Ele E SWS	n the A ective W Cont tim	Se Se forkic	emester 2. Dad [h] Self- study
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr	ble to eval m models. ble to synt quisites y ended n number nts program icultural ar ing and le Interval during th	A mic progr 20 st alloca	ore general of the economic system. the impact of changes in policies on que these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes	such as BAS ts and Syste	130. That c ms (BAS 14	cour 0) is of	rse is oblig s helpful. Compulso Group	patory in pry/ Ele E	n the A ective W Cont	Se Se forkic	emester 2. Dad [h] Self- study
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course	ble to eval m models. ble to synt quisites y ended n number its program icultural ar ing and le Interval during th semester	A mic progr 20 st alloca	ation at the conomics of the economic system. the impact of changes in policies on query these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation bd Economics ag methodes Topic	such as BAS ts and Syste	130. That c ms (BAS 14) Language instruction English	cour 0) is of n	compulso Group size 20	pry/ Ele E SWS 4,0	n the A ective W Cont tim 56,	Se Sorkic cact ne 0	emester 2. Dad [h] Self- study 124,0
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Cours	ble to eval m models. ble to synt quisites y ended n number its program icultural ar ing and le Interval during th semester	A mic progr 20 st alloca	ation at the conomics of the economic system. the impact of changes in policies on query these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation bd Economics ag methodes Topic	such as BAS ts and Syste	130. That c ms (BAS 14) Language instruction English	of n	Compulso Group size 20 7. Duratio	pry/ Ele E SWS 4,0	n the A ective W Cont tim 56, 8. Cro	Se Sorkic cact ne 0	) emester 2. pad [h] Self- study
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course	ble to eval m models. ble to synt quisites y ended n number nts program ricultural ar ing and le Interval during th semester e cycle	A mic progr 20 st alloca arnin	ation at the conomics of the economic system. the impact of changes in policies on query te these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation bd Economics ag methodes Topic includes regular reading and coding a	such as BAS ts and Syste	130. That c ms (BAS 14) Language instruction English	of n	compulso Group size 20	pry/ Ele E SWS 4,0	n the A ective W Cont tim 56,	Se Sorkic cact ne 0	emester 2. Dad [h] Self- study 124,0
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Cours 55 9. Requi	ble to eval m models. ble to synt quisites y ended n number its program icultural ar ing and le Interval during th semester e cycle	A mid progr 20 st alloca arnin	ere general of the economic system. the impact of changes in policies on question of the economics of the economics of the economics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes Topic includes regular reading and coding and coding and the economics of th	such as BAS ts and Syste assigments <b>6. Worklo</b> 180	130. That c ms (BAS 14) Language instruction English	of n	Compulso Group size 20 7. Duratio	pry/ Ele E SWS 4,0	n the A ective W Cont tim 56, 8. Cro	Se Sorkic cact ne 0	emester 2. Dad [h] Self- study 124,0
<ul> <li>will be a equilibriu</li> <li>will be a</li> <li>Prerection</li> <li>obligator</li> <li>recommendation</li> <li>Maximum</li> <li>of studen</li> <li>Study produce</li> <li>M.Sc. Agr</li> <li>4. Teach</li> <li>Type of course</li> <li>L+T</li> <li>5. Course</li> <li>9. Requi</li> </ul>	ble to eval m models. ble to synt quisites y ended n number its program icultural ar ing and le Interval during th semester e cycle	A mid progr 20 st alloca arnin	ation at the conomics of the economic system. the impact of changes in policies on query te these impacts in a short report. croeconomics course at master level ram. A course on Global Food Market udents ation bd Economics ag methodes Topic includes regular reading and coding a	such as BAS ts and Syste assigments <b>6. Worklo</b> 180	130. That c ms (BAS 14 Language instruction English ad [h]	of n Gra	se is oblig helpful. Compulso Group size 20 7. Duratio 1	atory in pry/ Ele E SWS 4,0 on Langu	ective W Cont tim 56, 8. Cro 6,0	Se /orkic act ne .0	emester 2. Dad [h] Self- study 124,0
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Cours SS 9. Requi	ble to eval m models. ble to synt quisites y ended n number its program icultural ar ing and le Interval during th semester e cycle	A mid progr 20 st alloca arnin	ere general of the economic system. the impact of changes in policies on question of the economics of the economics of the economics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes Topic includes regular reading and coding and coding and the economics of th	such as BAS ts and Syste assigments <b>6. Worklo</b> 180	130. That c ms (BAS 14 Language instruction English ad [h]	of n Gra yes	Compulso Group size 20 7. Duration 1 aded 5/no	atory in ry/ Ele E SWS 4,0 on Langu (exam	ective W Cont tim 56, 8. Cro 6,0	Se /orkic act ne .0	emester 2. Self- study 124,0 s (ECTS)
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Course SS 9. Requi Types of Term pap	ble to eval m models. ble to synt quisites y ended n number nts program icultural ar ing and le Interval during th semester e cycle rements f Assessmen	A mid progr 20 st alloca arnin	ere general of the economic system. the impact of changes in policies on question of the economics of the economics of the economics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes Topic includes regular reading and coding and coding and the economics of th	such as BAS ts and Syste assigments <b>6. Worklo</b> 180	130. That c ms (BAS 14 Language instruction English ad [h]	of n Gra yes	se is oblig helpful. Compulso Group size 20 7. Duratio 1	atory in pry/ Ele E SWS 4,0 on Langu	ective W Cont tim 56, 8. Cro 6,0	Se /orklc act ne .0 we	emester 2. bad [h] Self- study 124,0 c (ECTS)
- will be a equilibriu - will be a 2. Prerect obligator recomme Maximum of studen 3. Study Study pro M.Sc. Agr 4. Teach Type of course L+T 5. Cours SS 9. Requi Types of	ble to eval m models. ble to synt quisites y ended n number nts program icultural ar ing and le Interval during th semester e cycle rements f Assessmen	A mid progr 20 st alloca arnin	ere general of the economic system. the impact of changes in policies on question of the economics of the economics of the economics course at master level ram. A course on Global Food Market udents ation od Economics ag methodes Topic includes regular reading and coding and coding and the economics of th	such as BAS ts and Syste assigments <b>6. Worklo</b> 180	130. That c ms (BAS 14 Language instruction English ad [h]	of n Gra yes	Compulso Group size 20 7. Duration 1 aded 5/no	atory in ry/ Ele E SWS 4,0 on Langu (exam	ective W Cont tim 56, 8. Cro 6,0	Se /orklc act ne .0 we	emester 2. Dad [h] Self- study 124,0 s (ECTS)



## Module Title: Partial and General Equilibrium Modelling

Module ID/Code: APO-250 [780763250]

## 10. Module coordination

#### Module coordinator

PD Dr. Wolfgang Britz

#### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

## Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

#### **11. Further information**

Students will receive a course license for GAMS. All material including the software code, slides used for teaching are made available via E-Campus. The term paper has to be handed in 8 weeks after semester end.



Module	Title: E	Bio-I	-Ec	onom	ic Mo	delling	g At Fa	arm-Sc	ale						
Module II	D <b>/Code:</b> E	NV-2	/-24	0 [7807	64240]										
1. Conte	nt and int	end	ded	d learni	ing out	tcomes	5								
Learning	1. Introdu	ictio	on:	Why do	o we ne	ed simu	ulation	models	? What are	farm-scale sin	nulation mo	odels?			
content:	2. Introdu			-											
	2.1 Assun	nptic	ions	s of Line	ear Prog	grammi	ng								
	2.2 Prima	l and	nd d	lual solu	ution	-	0								
	3. Introdu	ictio	on t	to GAM	S										
	3.1 Langu	age	e str	ructure											
	3.2 A first	sim	nple	e GAMS	5 model	of a fai	rm								
	4. Modell	ing c	cor	e bio-e	conomi	ic intera	actions	at farm	scale						
	4.1 Herd	dyna	nam	ics, req	uireme	nts and	cost m	ninimal f	feed mix						
	4.2 Crops	, rota	otati	ions, cro	opping	intensit	:y								
	4.3 Labou	ır use	se												
	4.4 Comb	ing t	; the	e eleme	nts, int	egrating	g enviro	onment	indicators						
	5. Modeli	ng Ir	Inve	estment	ts and F	inancir	ng Decis	sions							
	5.1 Maxir		-												
	5.2 Accou	Intin	ing f	for depr	reciatio	n									
	5.3 Indivis			-											
	5.4 Full fi	nanc	ncial	l plan ai	nd inco	me tax									
	6. Modeli	ng R	Risk	c and ris	sk beha	vior									
								nty, MO	TAD and Tar	get MOTAD					
	6.2 State			-			S								
	6.3 Dynar	nic s	sto	chastic	progra	mming									
Learning	outcomes														
After a su	ccessful co	mple	oleti	on of th	ne cour	se, the	studen	ts							
- will be a	ble to outli	ine tl	the	buildin	ng block	s of far	m-scale	e bio-ec	onomic mo	dels and descr	ibe the inte	eractior	ns inside	and	
between	various sub	o-sys	/ste	ms insid	de a far	m as ex	presse	d in a fo	ormal optim	ization model					
- will be a	ble to write	e sim	mpl	le or ch	ange m	ore cor	nplex fa	arm-sca	le bio-econ	omic models i	n the softw	are pao	kage GA	MS	
- will be a	ble to anal	yze t	e the	e outcor	me of s	uch a m	nodel a	gainst tl	he backgrou	ind of micro-e	conomic th	eory.			
- will be a	ble to eval	uate	e th	ne impa	ct of dr	ivers of	farm n	nanagei	ment decisio	ons such as ch	anges in in	put/out	tput pric	es o	r farm-
scale polic	cies on eco	nom	mic	and en	vironm	ental in	dicator	rs based	on the app	lication of a b	io-econom	ic mode	el.		
- will be a	ble to synt	hetiz	tize	these ir	npacts	in a sho	ort repo	ort.							
2. Prerec	-														
obligatory	/														
recomme	nded	Am	mic	roecono	omics c	ourse a	t maste	er level :	such as BAS	-130 and a co	ourse on ris	k mana	gement	such	as BAS-
		150	60. B	Both coເ	urses a	re oblig	atory i	n the Al	ECO progra	ım.					
Maximum	n number	20 s	) stu	Idents											
of studen	ts														
3. Study	program	allo	oca	tion											
Study pro	gram										Compuls	ory/ Ele	ective	Se	mester
M.Sc. Agri	icultural ar	nd Fo	-000	d Econo	mics							E			2.
4. Teachi	ing and le	arni	ning	g meth	odes										
Type of	Interval			opic						Language of	Group	SWS	Wo	rklo	ad [h]
course										instruction	size		Conta	1	Self-
												1	time		study
L+T	during the	е	ir	ncludes	regula	r readin	g and c	coding a	ssigments	English	20	4,0	56,0		124,0
	semester				0. 2		5	0.	0		-	, -	,.		/ -
5. Course			-						6. Worklo	ad [h]	7. Durati	on	8. Cred	dits	(ECTS)
SS									180		1		6,0		
55									100		1 -		0,0		



Module Title: Bi	o-Economic Modelling At Farm-Scale			
Module ID/Code: EN	V-240 [780764240]			
9. Requirements for	r the rewarding of credits (ECTS)			
Types of Assessment	Prerequisites for admission to the Assessment	Graded yes/no	Language (exam)	Weighting factor
Term paper [780764249]		graded	English	
Academic Achieveme	nts			
10. Module coordin	ation			
Module coordinator				
PD Dr. Wolfgang Britz				
Teaching person				
The teaching persons https://basis.uni-bonr	in the current semester can be found in basis:			
Institute/ Departmen				
· · · · ·	ährungswissenschaften			
11. Further informa	tion			
	course license for GAMS. All material including the soft s. The term paper has to be handed in 8 weeks after sen		ised for teachin	g are made



			anced Environmental Economic	S					
Module I	<b>D/Code:</b> E	NV-2	210 [780764210]						
1. Contei	nt and int	end	ed learning outcomes						
Learning content:	economic	s. Ex	retation and discussion of theoretical r amples from forest and biodiversity corry resource use, and international envi	onservation,	pollution a	and waste,			
Learning o					- <u>0</u> . comente				
		mnle	etion of the course, the students						
		-	etical approaches in environmental an	d resource e	conomics.				
			tions of assumptions in formal econon			ld applicati	ons.		
			rical techniques to solve common prol					mics.	
2. Prereq									
obligatory	/								
recomme	nded	Envi	ironmental Economics and Policy, Eco	nomics on Si	ustainabilit	у			
Maximum of studen		25 s	tudents						
3. Study	program	alloc	cation						
Study pro						Compu	lsory/ Ele	ective	Semester
	-	d Fo	od Economics				E		3.
4. Teachi	ng and le	arni	ng methodes						
Type of	Interval		Торіс		Language	of Grou	o SWS	W	orkload [h]
course					instructio	n size		Conta	
L	during the	۵ ۵	Advanced Environmental Economics		English	25	2,0	tim 30,0	
L	semester	-			Linghish	23	2,0	50,0	0,0
т	during the semester	Đ	Assignment		English	25	2,0	30,0	0 120,0
5. Course				6. Workloa	ad [h]	7. Dur	ation	8 Cre	dits (ECTS)
WS	. cycic			180	uu [11]	1		6,0	
	omonte f	or th	ne rewarding of credits (ECTS)	100				0,0	
-						Cueded	Lawar		Maighting
Types of A	Assessmen	t Pr	erequisites for admission to the Asse	ssment		Graded	Langu	-	Weighting factor
Oral exam	[20 min]	-				yes/no graded	(exan Englis	-	Tactor
[7807642:						graueu	Englis	11	
[7007042	19]								
Academic	Achievem	ents							
10. Modu	ule coordi	nati	on						
Module c	oordinator	•							
Prof. Dr. J	an Börner								
Teaching	person								
			he current semester can be found in b	basis:					
	isis.uni-boi		e/						
	Departme		ungswissenschaften						
	er inform								
11. T UI UI		auto							



1. Conte	nt and int	end	ed learning outcomes							
Learning	Students	will l	earn how to effectively prepa							
content:			visualization in particular diffe	•	-			•		
		-	phasis will be given to spatial ojections, different spatial da							
	-	-	to combine them in spatial a					-		
			e this free and open source t							
			o visualize data of their own							
earning	outcomes									
		-	etion of the course, the stude							
			rities of different data format	s and how to work	with them.					
	and the ba									
			ifferent data in R.							
			erent data in R. s with data of different forma							
	•		ckages and methods learned		studies					
			ir own analyses and to visual							
2. Prerec										
obligator	•									
recomme	-	Exp	erience with R (programming	) is recommended						
Maximun	n number	25 s	tudents							
of studen	ts									
3. Study	program	allo	cation							
Study pro	ogram					Compuls	ory/ Ele	ective	Ser	nester
M.Sc. Agr	icultural ar	nd Fo	od Economics				E			2.
4. Teach	ing and le	arni	ng methodes							
Type of	Interval		Торіс		Language	of Group	SWS	W	orkloa	ad [h]
course					instruction	-		Conta		Self-
								tim	e	study
L	during th	е	Data Wrangling, Visualizatio	n and GIS Data	English	25	2,0	30,	0	60,0
	semester		Analysis with R							
Т	during th		Solving Exercises Together		English	25	2,0	30,	0	60,0
	semester			C 144-11		7.0		0.0		(FOTO)
5. Cours	e cycle			6. Work	load [n]	7. Durati	ion	8. Cre	aits	(ECIS)
SS D. Danui		+ I		180		1		6,0		
-			ne rewarding of credits (EC			Cura da d			1 14/-1	
Types of A	Assessmen	it Pr	erequisites for admission to	the Assessment		Graded yes/no	Langu (exan	-	facto	ghting or
Report						graded	Englis		50%	
[7807642	79]					0	8			
Presentat	ion	¢,	Ibmission of all reports			graded	Englis	h	50%	
[7807642		50				graded	Lingins		5070	
[/00/012										



Module Title: Data Wrangling, Visualization and GIS Data Analysis with R
Module ID/Code: ENV-270 [780764270]
10. Module coordination
Module coordinator
JunProf. Dr. Lisa Biber-Freudenberger
Teaching person
The teaching persons in the current semester can be found in basis: https://basis.uni-bonn.de/
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information



# Practice-oriented Track for Major "Agribusiness"

Each of the four AFECO major tracks (Agribusiness – ABS, Agricultural and Development Policy – APO, Resource and Environmental Economics – ENV, and Consumer and Market Research – MAC) can be combined with a compulsory internship, a research seminar linking the pratice-oriented experience with the development of a research proposal, and with a Master thesis rooted in the work carried out during the internship. This amounts to the completion of a "Practiceoriented Track in [the chosen thematic major track]". Students electing to follow a practice-oriented track for their major need to combine the following elements to complete their master program:

 Compulsory modules of the practice-oriented major, in the selected track and amounting to 42 ECTS-CP (the compulsory internship (6 ECTS-CP), the practice-oriented Research Seminar (6 ECTS-CP) and the practice-oriented Master thesis (30 ECTS-CP)

- Elective modules of the selected track amounting to 30 ECTS-CP (as per elective modules listed for each of the Major tracks above)



Module	Title: In	terr	nship in Agricultural and Food I	Economic	S						
Module I	D <b>/Code:</b> ILF	-02	[780760010]								
1. Conter	nt and inte	nde	ed learning outcomes								
Learning content:	skills bette four weeks private con	r and of f npar	to apply knowledge and skills acquire d to work independently and expand full time work in a relevant field outsion nies or governmental and non-govern resentation in class.	the professi de the unive	onal netwo rsity. It can	ork. 1 n be	The interns performed	ship ind d at res	cludes a earch i	a min nstitu	imum of ites,
Learning o	outcomes										
- are able - have aqu - have the	to transfer t iired knowle ability to pr	heo dge esei	tion of the course, the students pretical knowledge into the profession and skills in a professional work envir nt experiences. eflexion capability on own expectation	ronment.							
2. Prereq											
obligatory	/										
recomme	nded										
Maximum of student											
3. Study	program a	loca	ation								
Study pro	gram						Compulso	ry/ Ele	ctive	Se	mester
M.Sc. Agri	cultural and	Foc	od Economics					С			24.
4. Teachi	ng and lea	rnin	ng methodes								
Type of	Interval	ŀ	Торіс		Language	of	Group	SWS	W	orklo	ad [h]
course					instructio	n	size		Conta	ontact Self-	
	<u> </u>								tim	-	study
I* (blocked)	full-day blo	СК			English		1	0,5	10,	0	170,0
5. Course	e cycle			6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
9. Requir	ements fo	r th	e rewarding of credits (ECTS)			-					
Types of A	ssessment	Pre	erequisites for admission to the Asses	ssment		Gra yes	ided /no	Langu (exam	-	Wei fact	ghting or
none											
Academic	Achieveme	nts									
	n of four we		of full time work in a relevant field ou esentation	itside the ur	niversity						
-	ule coordin										
Module co	oordinator		-								
Dr. Nicola:	s Gerber										
Teaching	person										
	• ·		he current semester can be found in b	asis:							
-	sis.uni-bonr		/								
	Departmen										
			ungswissenschaften								
	er informa			11 .1 .			·				
	-		arranged by the students and authoriz ted after award of the Bsc. degree car			oord	inator prid	or to th	e start	ing da	ite
-	can be Germ	-	-								



Module	Title: D	ract	tice-oriented Research Semina	r in Δørihu	siness					
			331 [780762330]		5111633					
	-		ed learning outcomes							
Learning	Literature of the stat	revi te of	iews, preparation of a research concept the art in a thematic field which is clo and topic of others in the seminar.			-				
Learning o										
- can desci - can infer - can asses - have det	ribe the pro a research ss, select an ermined ar reloped the	oble que nd co n app	etion of the course, the students om background of a chosen topic after estion or a testable hypothesis from a ompare state-of-the-art research artic proproate methodology relevant for t ncept of their Master thesis, including	problem sta cles in the re he research	tement. levant field question(s)					
obligatory		48 E	ECTS-CP							
recomme		_	-120 Methods in Management Resear	ch						
Maximum of student	number									
3. Study J	program a	alloc	cation							
Study pro	gram					Compul	sory/ Ele	ective	Se	mester
M.Sc. Agri	cultural an	d Fo	ood Economics			C	for ABS			3.
4. Teachi	ng and lea	arni	ng methodes							
Type of course	Interval		Торіс		Language instructio	-	SWS	Wo Conta tim	act	ad [h] Self- study
S*	during the semester	9	Class discussions, presentations, feec sessions	lback	English	30	2,0	60,0		20,0
S*	during the semester	j	Own research, writing a term paper		English	30	0,0	0,0	)	100,0
5. Course				6. Worklo	ad [h]	7. Dura	tion	8. Cre	dits	(ECTS)
WS/SS	, cycle			180		1		6,0		(_0.0)
	ements fo	or th	ne rewarding of credits (ECTS)					- 0/0		
		1	rerequisites for admission to the Asse	essment		Graded yes/no	Langu (exan	-	Wei fact	ghting or
Report (presentat [78076233	-					graded	Englis	h		
Academic	Achievem	ents	3							
	ule coordi		ion							
	pordinator									
	r. Daniel H	erm	ann							
https://ba		nn.de	the current semester can be found in b e/	basis:						
-			rungswissenschaften							
-	er inform									
			fo leaflet about the Master thesis pro-	cess can be f	found unde	er: https://w	ww.afeco	o.uni-bo	onn.d	e/while



Module ID			ice-oriented Masterthesis							
	D/Code: N									
			ed learning outcomes							
			vork on a research project in the							
content:			e examination regulation and exa	-	-		-			The
	-		d in the thesis must be chosen w	vith the supervise	or and them	atic links shal	l be ma	de to th	ie	
Looming		ry in	ternship ILR-02.							
Learning o										
			tion of the course, the students. and efficiently.							
		•	dback from supervisors.							
			iented research question.							
			etical and methodological frame	work.						
			tematic and verifiable manner.							
		-	nd correctly.							
- can form	ulate soun	d co	nclusions based on a comprehen	nsive discussion o	f the results					
			ive, consistent and concise thesi							
		a mir	nimum of two and a maximum of	f six months.						
2. Prereq										
obligatory	/	-	stered in either ABS-331 or ENV-		or APO-331	depending o	n the re	esearch	grou	p of the
		supe	ervisors and completed at least 6	50 CP						
recomme	nded									
Maximum of student										
3. Study	program a	alloc	ation							
Study pro	gram					Compulso	ory/ Ele	ective	Ser	nester
M.Sc. Agri	- icultural an	d Fo	od Economics				C			4.
			ng methodes							
Type of	Interval	1	Торіс		Language	of Group	SWS	Wo	orkloa	ad [h]
course					instruction	-		Conta	1	Self-
								time		study
Proj	full-day b	ock	Research project work		English	1	0,0	15,0	)	885,0
(blocked)										
5. Course	e cycle			6. Worklo	ad [h]	7. Durati	on	8. Cre	dits	(ECTS)
WS/SS				900		1		30,0		
	-									
9. Requir	ements f	or th	e rewarding of credits (ECTS)	)		-				
-			e rewarding of credits (ECTS) erequisites for admission to the			Graded	Langu	age	Wei	ghting
-						Graded yes/no	Langu (exarr	-	Weig facto	
-	Assessmen						-	າ)		
Types of A	Assessmen					yes/no	(exam	າ)		
Types of A Masterthe [8900]	<b>Assessmen</b> esis	t Pr				yes/no	(exam	າ)		
Types of A Masterthe [8900]	Assessmen	t Pr				yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu	Assessmen Esis Achievem ule coordi	t Pro ents	erequisites for admission to the			yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co	Assessmen Esis Achievem ule coordi oordinator	t Pro ents	erequisites for admission to the			yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe	Assessmen Esis Achievem ule coordi oordinator	t Pro ents	erequisites for admission to the			yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching p	Assessmen Esis Achievem ule coordi oordinator ndent teac person	t Pro	erequisites for admission to the on staff	Assessment		yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching p	Assessmen esis Achievem ule coordi oordinator ndent teac person ing person	t Protection of the sents	erequisites for admission to the on staff he current semester can be foun	Assessment		yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching J The teachi https://ba	Assessmen esis Achievem ule coordi oordinator ndent teac person ing person isis.uni-bor	t Provents	erequisites for admission to the on staff he current semester can be foun	Assessment		yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching J The teachi https://ba Institute/	Assessmen Esis Achievem ule coordi oordinator ndent teac person ing person isis.uni-bor Departme	t Proventional Provention of the second seco	erequisites for admission to the on staff he current semester can be foun	Assessment		yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching J The teachi https://ba Institute/ Agrar-, For	Assessmen esis Achievem ule coordi oordinator indent teac person ing person isis.uni-bor Departme rst- und Er	t Provensional Provension of the second seco	erequisites for admission to the on staff he current semester can be foun e/ ungswissenschaften	Assessment		yes/no	(exam	າ)		
Types of A Masterthe [8900] Academic 10. Modu Module co All indepe Teaching J The teachi https://ba Institute/ Agrar-, Foi	Assessmen Esis Achievem ule coordi oordinator ndent teac person ing person isis.uni-bor Departme	t Provensional Provension of the second seco	erequisites for admission to the on staff he current semester can be foun e/ ungswissenschaften	Assessment		yes/no	(exam	າ)		



# Practice-oriented Track for Major "Agricultural and Development Policy"

Each of the four AFECO major tracks (Agribusiness – ABS, Agricultural and Development Policy – APO, Resource and Environmental Economics – ENV, and Consumer and Market Research – MAC) can be combined with a compulsory internship, a research seminar linking the pratice-oriented experience with the development of a research proposal, and with a Master thesis rooted in the work carried out during the internship. This amounts to the completion of a "Practiceoriented Track in [the chosen thematic major track]". Students electing to follow a practice-oriented track for their major need to combine the following elements to complete their master program:

 Compulsory modules of the practice-oriented major, in the selected track and amounting to 42 ECTS-CP (the compulsory internship (6 ECTS-CP), the practice-oriented Research Seminar (6 ECTS-CP) and the practice-oriented Master thesis (30 ECTS-CP)

- Elective modules of the selected track amounting to 30 ECTS-CP (as per elective modules listed for each of the Major tracks above)



Module			nship in Agricultural and Food I	Economics	5						
	-		[780760010]								
	1		d learning outcomes								
Learning content:	skills bette four weeks private cor	r and of fi npar	to apply knowledge and skills acquire d to work independently and expand full time work in a relevant field outsion nies or governmental and non-govern resentation in class.	the profession de the unive	onal netwo rsity. It car	ork. 1 be	The intern performed	ship ind d at res	cludes a earch i	a min nstitu	imum of ites,
Learning o											
_		nplet	tion of the course, the students								
- are able † - have aqu - have the	to transfer t iired knowle ability to pi	heor dge eser	retical knowledge into the profession and skills in a professional work envi nt experiences. eflexion capability on own expectation	ronment.							
2. Prereq			······································								
obligatory											
recomme	nded										
Maximum of student											
3. Study	program a	loca	ation								
Study prop	gram						Compulso	ory/ Ele	ctive	Se	mester
M.Sc. Agri	cultural and	l Foo	od Economics					С			24.
4. Teachi	ng and lea	rnin	ng methodes								
Type of	Interval		Торіс		Language		Group	SWS	W	orklo	ad [h]
course					instructio	n	size		Conta		
*	full-day blo	ck			English		1	0,5	tim 10,0		<b>study</b> 170,0
(blocked)					Linglish		-	0,5	10,0	5	170,0
5. Course	cycle			6. Workloa	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
•			e rewarding of credits (ECTS)					T		T	
Types of A	ssessment	Pre	erequisites for admission to the Asses	ssment			aded s/no	Langu (exam	-	Wei fact	ghting or
none						-	-		•		
Academic	Achieveme	nts									
			of full time work in a relevant field ou	itside the ur	niversity						
	p report an Ile coordin										
	pordinator										
Dr. Nicolas	s Gerber										
Teaching	person										
The teachi	ing persons	in th	he current semester can be found in b	oasis:							
-	sis.uni-bonı		/								
	Departmen										
_			ungswissenschaften								
	er informa										
	-		arranged by the students and authoriz ted after award of the Bsc. degree car	-	-	oord	dinator prie	or to th	e starti	ing da	ate
-	can be Gern			n be conside	ereu -						



			tice-oriented Research Seminar 331 [780763330]	in Agricu	ltural and	d b	evelopm	ent Po	olicy		
	-		ed learning outcomes								
Learning			dies, preparation of a research concept	t and a nron	osal prese	nta	tions of the	a stata	of the	art in :	2
content:		ield	which is close to the research question								
Learning o	outcomes										
After a suc	ccessful cor	nple	etion of the course, the students								
			m background of a chosen topic after			rev	view.				
			estion or a testable hypothesis from a								
	-		ompare state-of-the-art research articl propriate methodology relevant for the				or ovaluatio	n of al	tornatio	10	
approache		ap	propriate methodology relevant for the	e research q	luestion(s)	ante		ni oi ai	lematr	ve	
		con	ncept of their Master thesis, including v	work plan ar	nd expected	d oi	utcomes.				
2. Prereq			· · ·								
obligatory	/	48 E	CTS-CP								
recomme	nded										
Maximum of student											
3. Study	program a	lloc	cation								
Study pro							Compulso	ory/ Ele	ctive	Sen	nester
	-	d Fo	od Economics				-	r APO			3.
-			ng methodes								
Type of	Interval		Торіс		Language	of	Group	SWS	W	orkloa	d [h]
course			•		instructio		size		Conta	1	Self-
									tim	e	study
S*	during the semester		Class discussions, presentations, feed sessions	back	English		15	2,0	30,0	D	30,0
S*	during the semester		Own research, writing term paper		English		15	0,0	0,0		120,0
5. Course				6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits (	ECTS)
WS/SS	•			180			1		6,0	•	
9. Requir	ements fo	or th	ne rewarding of credits (ECTS)								
Types of A	Assessment	Pr	erequisites for admission to the Asses	ssment		Gra	aded	Langu	age	Weig	ghting
						yes	s/no	(exam	n)	facto	or
Term pape [78076333		Re	egular participation to learn from othe	rs		gra	ded	Englis	h	67%	
Presentati [78076333		Re	egular participation to learn from othe	rs		gra	ided	Englis	h	33%	
Academic	Achieveme	ents									
10. Modu	ule coordii	nati	on								
	oordinator		-								
Prof. Dr. T	homas Hec	kele	ei								
Teaching											
		in t	he current semester can be found in b	oasis:							
-	sis.uni-bon		e/								
-	Departme										
			ungswissenschaften								
11. Furth	er inform	atio	n								
1											



Module			tice-oriented Masterthesis								
Module I	-										
1. Conter			ed learning outcomes								
Learning			work on a research project in the f								
content:	-		e examination regulation and exa	-	-			-			The
			ed in the thesis must be chosen wi	ith the superviso	or and them	atio	c links shall	be ma	de to ti	ne	
Loorning	-	ory in	ternship ILR-02.								
Learning o											
			etion of the course, the students								
	•		y and efficiently. edback from supervisors.								
			iented research question.								
			etical and methodological framew	vork.							
			tematic and verifiable manner.								
		-	nd correctly.								
- can form	ulate sour	nd co	nclusions based on a comprehens	sive discussion of	f the results	s.					
			sive, consistent and concise thesis								
		a mir	nimum of two and a maximum of	six months.							
2. Prereq											
obligatory	/	-	istered in either ABS-331 or ENV-3		or APO-331	1 de	epending o	n the re	esearch	n grou	up of the
		supe	ervisors and completed at least 60	О СР							
recomme	nded										
Maximum of student											
3. Study	program	alloc	ation								
Study pro	gram						Compulso	ory/ Ele	ctive	Se	mester
	-	nd Fo	od Economics				· ·	C			4.
-			ng methodes								
Type of	Interval		Торіс		Language	of	Group	SWS	W	orklo	ad [h]
course					instruction		size		Conta	T	Self-
									tim		study
Proj	full-day b	lock	Research project work		English		1	0,0			885,0
(blocked)											
5. Course	e cycle			6. Worklo	ad [h]		7. Duratio	on	8. Cre	dits	(ECTS)
WS/SS				900			1		30,0		
9. Requir	ements f	or th	ne rewarding of credits (ECTS)								
Types of A	Assessmen	t Pr	erequisites for admission to the	Assessment		Gra	aded	Langu	age	We	ighting
			-			yes	s/no	(exam	n)	fact	or
Masterthe	esis					gra	ided	Englis	h		
[8900]											
Academic	Achievem	ents									
10. Modu	ule coord	inati	on								
Module co	oordinato	r									
All indepe	ndent tead	ching	staff								
Teaching	person										
The teach	ing person	s in t	he current semester can be found	d in basis:					-		
https://ba			2/								
Institute/	Departme	ent									
Agrar-, Fo	rst- und Er	nähr	ungswissenschaften								
11. Furth	er inform	natio	n								



# Practice-oriented Track for Major "Resource and Environmental Economics"

Each of the four AFECO major tracks (Agribusiness – ABS, Agricultural and Development Policy – APO, Resource and Environmental Economics – ENV, and Consumer and Market Research – MAC) can be combined with a compulsory internship, a research seminar linking the pratice-oriented experience with the development of a research proposal, and with a Master thesis rooted in the work carried out during the internship. This amounts to the completion of a "Practiceoriented Track in [the chosen thematic major track]". Students electing to follow a practice-oriented track for their major need to combine the following elements to complete their master program:

 Compulsory modules of the practice-oriented major, in the selected track and amounting to 42 ECTS-CP (the compulsory internship (6 ECTS-CP), the practice-oriented Research Seminar (6 ECTS-CP) and the practice-oriented Master thesis (30 ECTS-CP)

- Elective modules of the selected track amounting to 30 ECTS-CP (as per elective modules listed for each of the Major tracks above)



Module			nship in Agricultural and Food I	Economic	S						
	-		[780760010]								
1. Conter	nt and inte	nde	ed learning outcomes								
Learning content:	skills better four weeks private con	r and of f npar	to apply knowledge and skills acquire d to work independently and expand full time work in a relevant field outsic nies or governmental and non-govern resentation in class.	the professi de the unive	onal netwo rsity. It car	ork. n be	The interner performed	ship ind 1 at res	cludes a earch i	a min nstitu	imum of utes,
Learning o											
		plet	tion of the course, the students								
- are able - have aqu - have the	to transfer t iired knowle ability to pr	heo dge ese	pretical knowledge into the profession e and skills in a professional work envi ent experiences. eflexion capability on own expectation	ronment.							
2. Prereq	uisites										
obligatory	/										
recomme	nded										
Maximum of student											
3. Study	program al	loca	ation								
Study pro	gram						Compulso	ry/ Ele	ctive	Se	mester
M.Sc. Agri	cultural and	Foc	od Economics					С			24.
4. Teachi	ng and lea	rnir	ng methodes								
Type of	Interval		Торіс		Language		Group	SWS	W	Workload [h	
course					instructio	n	size		Conta		Self-
*	full-day blo	ck			Englich		1	0,5	tim 10,0	-	<b>study</b> 170,0
(blocked)	Tun-uay bio	СК			English		T	0,5	10,0	0	170,0
5. Course	e cycle			6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
9. Requir	ements fo	r th	e rewarding of credits (ECTS)								
Types of A	Assessment	Pre	erequisites for admission to the Asse	ssment			aded s/no	Langu (exam	-	Wei fact	ighting or
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Academic	Achieveme	nts								1	
	n of four we		of full time work in a relevant field ou	itside the ur	niversity						
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			oriented Research Seminar	r in Resou	rce and E	nvi	ironment	tal Ecc	onomi	cs	
	D/Code: EN		-								
			arning outcomes						<b>C</b> . 1		
Learning content:		ield whic	preparation of a research concep h is close to the research questio		-						
Learning o	outcomes										
			of the course, the students								
			e of the art in a self-selected field								
			ework in social science / environr	mental econ	omics.						
-	n scientific		rch proposal.								
2. Prereq		lebates.									
obligatory		48 ECTS-0	<u>CP</u>								
recomme			nental Economics and Policy, Eco	nomics on Si	ustainabilit	v					
Maximum		15 stude				- y					
of student		15 Stude									
3. Study	program a	llocatio	n								
Study pro	gram						Compulse	ory/Ele	ctive	Sen	nester
M.Sc. Agri	cultural and	d Food Ec	conomics				C fo		3.		
4. Teachi	ng and lea	rning m	ethodes								
Type of	Interval	Торі	c		Language	of	Group	SWS	W	orkloa	d [h]
course					instructio	n	size		Conta		Self-
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S*	during the semester	sess	s discussions, presentations, feec ions	араск	English		15	2,0	30,0		30,0
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luisites										
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Dutcomes	Independent work on a research project in the field of the research groups within a given time f         specified in the examination regulation and examination organization regulation (available only topic addressed in the thesis must be chosen with the supervisor and thematic links shall be ma compulsory internship ILR-02.         putcomes         cccessful completion of the course, the students (a independently and efficiently.         w to handle feedback from supervisors.         e a practice-oriented research question.         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# Practice-oriented Track for Major "Market and Consumer Research"

Each of the four AFECO major tracks (Agribusiness – ABS, Agricultural and Development Policy – APO, Resource and Environmental Economics – ENV, and Consumer and Market Research – MAC) can be combined with a compulsory internship, a research seminar linking the pratice-oriented experience with the development of a research proposal, and with a Master thesis rooted in the work carried out during the internship. This amounts to the completion of a "Practiceoriented Track in [the chosen thematic major track]". Students electing to follow a practice-oriented track for their major need to combine the following elements to complete their master program:

 Compulsory modules of the practice-oriented major, in the selected track and amounting to 42 ECTS-CP (the compulsory internship (6 ECTS-CP), the practice-oriented Research Seminar (6 ECTS-CP) and the practice-oriented Master thesis (30 ECTS-CP)

- Elective modules of the selected track amounting to 30 ECTS-CP (as per elective modules listed for each of the Major tracks above)



Module			nship in Agricultural and Food I	Economic	S						
	-		[780760010]								
1. Conter	nt and inte	nde	ed learning outcomes								
Learning content:	skills bette four weeks private con	r and of f npar	to apply knowledge and skills acquire d to work independently and expand t full time work in a relevant field outsic nies or governmental and non-govern resentation in class.	the professi de the unive	onal netwo rsity. It car	ork. T n be	The interns performed	ship ind 1 at res	cludes a earch i	a min nstitu	imum of utes,
Learning o	-										
- are able - have aqu - have the	to transfer t iired knowle ability to pr	heo dge esei	tion of the course, the students pretical knowledge into the profession and skills in a professional work envir nt experiences. eflexion capability on own expectatior	ronment.							
2. Prereq											
obligatory	/										
recomme	nded										
Maximum of student											
3. Study	program al	loca	ation								
Study pro	gram						Compulso	ry/ Ele	ctive	Se	mester
M.Sc. Agri	cultural and	Foc	od Economics					С			24.
4. Teachi	ng and lea	rnin	ng methodes								
Type of	Interval	ŀ	Торіс		Language		Group	SWS	W	orklo	ad [h]
course					instructio	n	size		Conta		
*	full-day blo	ck			English		1	0,5	tim 10,0	-	<b>study</b> 170,0
' (blocked)		CK			LIIGIIJII		-	0,5	10,0		170,0
5. Course	e cycle			6. Workloa	ad [h]		7. Duratio	on	8. Cre	dits	(ECTS)
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-			e rewarding of credits (ECTS)								
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none											
Academic	Achieveme	nts				1				1	
			of full time work in a relevant field ou	itside the ur	niversity						
	p report an										
	ule coordin	atio	on								
	oordinator										
Dr. Nicola:											
Teaching		in th	he current semester can be found in b	acic:							
	sis.uni-bonr			/0313.							
-	Departmen										
Agrar-, Fo	rst- und Ern	ähru	ungswissenschaften								
11. Furth	er informa	tior	n								
	-		arranged by the students and authoriz	-	-	oord	linator prio	or to th	e start	ing da	ate
	-	-	ted after award of the Bsc. degree car	n be conside	ered						
language of	can be Germ	nan d	or English								



	-		331 [780765330]								
	1		ed learning outcomes								
-			lies, preparation of a research co		-						
content:			of Market and Consumer Researc	ch; scientific disc	cussion of o	wn	research t	opic an	d topic	of ot	hers in
	the semin	ar.									
	outcomes										
			tion of the course, the students								
			nthesizing the state of the art in t								
			omprehend (an) appropriate theo	-		-					<b>6</b> . 1
		etes	table hypotheses or research que	estions from rele	vant theore	etica	al models a	and fror	n a revi	ew o	of the
	iterature.										
			propriate methodology to be appl	lied in their rese	arch projec	τ.					
	-		rch project. uct a scientific discussion.								
			number of research topics in the	field and evolai	n the result	c					
2. Prerec	-	or a	number of research topics in the		i the result	J.					
	•	10 -	стѕ-ср								
obligator		-									
recomme	ended	MA	C-210 or APO-220								
Maximun	n number	10 s	tudents								
of studen											
3. Study	program	alloc	ation								
Study pro	ogram						Compulse	ory/ Ele	ctive	Se	mester
M.Sc. Agr	icultural ar	d Fo	od Economics				C fo	or MAC			3.
4. Teach	ing and le	arni	ng methodes								
Type of	Interval		Topic		Language	of	Group	SWS	W	orklo	ad [h]
course			- F -		instructio		size	Conta			
											study
S*	during the	į	Guidelines, Presentations, Discus	ssions,	English		10	2,0	30,	0	150,0
	semester		Feedback Sessions	,	Ū						
5. Cours	e cycle			6. Worklo	ad [h]		7. Durati	on	8. Cre	dits	(ECTS)
WS/SS				180			1		6,0		
9. Requi	rements f	or th	e rewarding of credits (ECTS)								
•			erequisites for admission to the			Gra	aded	Langu	age	We	ighting
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[780765339]											
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Presentat		Re	egular participation (see below)			gra	aded	Englis	n	33%	Ó
[7807653	30]										
		1				1		1		1	



## Module Title: Practice-oriented Research Seminar in Market and Consumer Research

## Module ID/Code: MAC-331 [780765330]

## 10. Module coordination

#### Module coordinator

Prof. Dr. Monika Hartmann

#### **Teaching person**

The teaching persons in the current semester can be found in basis:

https://basis.uni-bonn.de/

## Institute/ Department

Agrar-, Forst- und Ernährungswissenschaften

#### **11. Further information**

Regular participation is requested to learn from others (regarding topics, methods, presentation styles), gain experience how to moderate and discuss other topics.



	)/Code: №		cice-oriented Masterthesis									
Learning	-											
			ed learning outcomes									
content:			vork on a research project in the field									
			e examination regulation and examin	-	-			-			The	
			d in the thesis must be chosen with t	he superviso	or and them	natic	links shall	be ma	de to ti	ne		
Looming		ry in	ternship ILR-02.									
Learning o												
		-	tion of the course, the students									
	•		v and efficiently. edback from supervisors.									
			iented research question.									
	-		etical and methodological framework	r								
			tematic and verifiable manner.									
		-	nd correctly.									
-		-	nclusions based on a comprehensive	discussion of	f the results	s.						
- can write	e a comprel	hens	ive, consistent and concise thesis.									
- The editi	ng time is a	a mir	nimum of two and a maximum of six i	months.								
2. Prereq	uisites											
obligatory	/	Regi	stered in either ABS-331 or ENV-331	or MAC-331	or APO-331	1 dep	pending o	n the re	esearch	grou	p of the	
		supe	ervisors and completed at least 60 CP									
recomme	nded											
Maximum of student												
3. Study	program a	lloc	ation									
Study pro							Compulso	orv/ Ele	ctive	Sei	nester	
	-	d Fo	od Economics					C			4.	
			ng methodes					<u> </u>				
Type of	Interval	al I III	Topic		Language	of	Group	SINC	14/	arklar	od [b]	
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Proj	full-day bl	ock	Research project work		English		1	0,0	15,0		885,0	
(blocked)							-	0,0	_0)	-	000)0	
5. Course	e cvcle			6. Workloa	ad [h]	7	7. Durati	on	8. Cre	dits	(ECTS)	
WS/SS	· · <b>/</b> · · ·			900		1			30,0		(/	
	ements fo	or th	e rewarding of credits (ECTS)	500		- 1-	-		50,0			
•			erequisites for admission to the Asse	essment		Grad	ded	Langu	age	Wei	ghting	
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						yes/		(exam	-	fact		
Masterthe	esis					grad		Englis				
[8900]						Ŭ						
Acadomic	Achievem	ents										
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	ule coordi											
10. Modı	ule coordi oordinator											
10. Modu Module co	oordinator	hing	staff									
<b>10. Modu</b> Module co All indepe	oordinator ndent teac	hing	staff									
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10. Modu Module co All indepe Teaching J The teach https://ba	oordinator Indent teac person Ing persons Isis.uni-bon	s in t in.de	he current semester can be found in	basis:								
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# Free elective module

# A maximum of 12 ECTS-CP can be completed from free elective modules.





Modulti	tel: Sei	minar zur Betriebs	entwicklung in	n Organiso	chen Landba	au			
Modulnr.	/-code: NP\	N-052 [780800520]							
1. Inhalt	und Qualifi	kationsziele							
Inhalte:	Inhalte sind Umstellungs und Humusl Betriebswirt In Kleingrup bearbeitet. Die Grupper zu Tierhaltu Winterseme durch weite gesammelt. die Studiere Abbildung d Die Daten w Methode na	die Analyse des Ist-Zu sbetriebe und Erarbeit bilanz, Tierhaltung und	tung von Optimier d -fütterung, Umw n werden die Berei Naturschutz werde oen die Möglichkei er gemeinsamen V he der Studierende der Mitte des Sem pt dafür vor, wie s ie Analyse eines ge nilfenahme von val n-Bachinger 2016)	ungspotenzi elt- und Nat che Pflanzer en durch Lef t sich mit Öl 'orbesprech en, die nötig esters im Ra ie die Daten emeinsam fe idierten Me und geeign	alen hinsichtli curschutzleistu nbau, Tierhaltu nrende des Fac ko-Fachberate ung auf einer gen Daten mitt ahmen eines K im Laufe des stgelegten Op thoden (u.a. N eter Software	ch Fruchtfo Ingen sowie ung, Ökonor chgebietes A rInnen ausz gemeinsam els Betriebs olloquiums Semesters f Itimierungsp laturschutzl (z.B. Nährst	lgegest Arbeit mie un AOL bei utausc en Exku leiterIr qualita ür die o ootenzi eistung off- un	altung, N sorganisa d Naturso treut, die hen. Im ursion, ev inenbefra tiv darge quantitati als nutze gen: ÖKAR d Humus	ährstoff- tion und hutz Gruppen tl. ergänzt gung stellt, und ve n werden. BB und pilanzen:
	und Fachbe	raterInnen diskutiert.							
Qualifikat	ionsziele/ Ko	ompetenzen							
<ul> <li>multifun</li> <li>mit verse</li> <li>einen ree</li> <li>Effekte of</li> <li>Optimien</li> <li>Fachwiss</li> <li>Fragestell</li> <li>mit Betri</li> <li>autökolo</li> <li>Betriebsree</li> <li>2. Voraus</li> <li>Verpflicht</li> <li>nachzuwee</li> <li>empfohle</li> <li>Beschränl</li> <li>Teilnehme</li> </ul>	ktionale Effe chiedenen M alen landwirts rungsansätze sen aus der e ung zusamme ebsleiterInne ogische Kennt equisiten für ssetzungen send sisen n kung der 25 erzahl	en und FachberaterInr nisse ausgewählter A die Biodiversität einsc <b>für die Teilnahme a</b> 5 Studierende	er Betriebe verstel g landwirtschaftlich nit moderner Meth n auf das Agraröko if wissenschaftliche g im Masterstudiun nen kommunizieren rten- bzw. Artengr hätzen zu können.	nen und ber her Betriebe nodik erfasse system beu er Basis entv n kontextua n. uppen anwe	ennen. e umgehen. en und optimio rteilen. wickeln. lisieren und in	terdisziplina			vandten
3. Verwe	ndbarkeit d	les Moduls							
Studienga	ng/Teilstudi	engang				Pflicht/ V	Vahlpfl	licht Fa	chsemester
M.Sc. Agri	cultural and	Food Economics (AFE	CO)			f١	NP		3.
M.Sc. Nat	urschutz und	Landschaftsökologie				f١	NP		3.
M.Sc. Nut	zpflanzenwis	senschaften				WP S	P PERC		3.
	wissenschaft					f١	NP		3.
4. Lehr- u	und Lernfor	men							
LV-Art	Durch-	Thema			Unterrichts-	Gruppen-	SWS	Worl	load [h]
	führung				sprache	größe		Präsenz zeit	- Selbst- studium
S	Semester- begleitend	Datenerhebung, Bo	etriebsanalyse, Op	-	Deutsch	25	2,0	30,0	150,0
5. Häufig	keit			6. Arbeits	aufwand [h]	7. Dauer		8. ECTS	LP
WS				180		1		6,0	



Modulnr./-code:	NPW-052 [780800520]	-		
9. Voraussetzun	gen für die Vergabe von Leistungspunkten	entsprechend dem ECTS		
Prüfungsform	Zulassungsvoraussetzung	Benotet/ unbenotet	Prüfungs- sprache	Gewichtung
Präsentation [780800529]		benotet	Deutsch	33%
Bericht [780800528]		benotet	Deutsch	67%
Studienleistung(e	n)			
10. Modulorgan	isation			
Modulverantwort	liche(r)			
Prof. Dr. Thomas D	Döring			
Lehrende(r)				
	en Lehrpersonen im aktuellen Semester finden S	ie in basis:		
https://basis.uni-b				
	lisationseinheit(en)			
Agrar-, Forst- und	Ernährungswissenschaften			
11. Sonstiges				
Betriebe. 2. Auflag Küstermann, B., Cl specific nitrogen n	n-Bachinger K. (2016): Landwirtschaft für Artenv e, 208 S. www.landwirtschaft-artenvielfalt.de nristen, O., Hülsbergen, KJ., 2009: Modelling ni nanagement. Agriculture, Ecosystems and Envirc anagement: Betriebswirtschaftliche Analyse- un	trogen cycles of farming systems onment. 135, 70-80	as basis of sit	te- and farm-

agrarmanagement



Masterthesis

The masterthesis credits 30 ECTS-CP.



Module	Title: M	lasterthesis									
		-401 [8900]									
	•	ended learning outcome	s								
Learning	Independe specified in	nt work on a research proj n the examination regulation	ect in the field of								s are
_		anlation of the course the	studants								
		npletion of the course, the ently and efficiently.	students								
- know ho	w to handle	e feedback from supervisor	S.								
		h question.									
		eoretical and methodologi									
		systematic and verifiable n	nanner.								
		ly and correctly.									
		d conclusions based on a co		scussion of	the result	:S.					
		nensive, consistent and con minimum of two and a ma		onths							
2. Prereq		initiatit of two allu a llic									
obligatory	<b>/</b>	Registered in either ABS-33		MAC-330	or APO-330	0 de	pending o	n the r	esearch	grou	p of the
recomme		supervisors and completed	at least 60 CP								
Maximum											
of student											
	program a	llocation									
Study pro							Compulso	orv/ Ele	ective	Sei	mester
	-	d Food Economics						C			4.
		rning methodes						C			т.
Type of	Interval	Topic			Language	of	Group	sws	\ <b>M</b> /	arkla	ad [h]
course	interval	Topic			instructio		size	5005	Conta	1	Self-
							0.20		tim		study
Proj (blocked)	full-day blo	ock Research project work			English		1	0,0	15,0	C	885,0
5. Course	e cycle		6	. Workloa	ad [h]	·	7. Duratio	on	8. Cre	dits	(ECTS)
WS/SS			90	00			1		30,0		
9. Requir	ements fo	r the rewarding of credi	ts (ECTS)								
Types of A	Assessment	Prerequisites for admissi	on to the Assess	ment		Gra yes	ded /no	Langu (exan	-	Wei fact	ghting or
Masterthe	sis					grad		Englis	-	1400	01
[8900]						0.0		8			
Academic	Achieveme	ents				<u> </u>		<u> </u>		<u> </u>	
10 55 5											
	ule coordin	nation									
	oordinator										
All indepe	ndent teach person	ning staff									
		in the current semester ca	n be found in ba	sis:							
	isis.uni-bon										
	Departmer										
Agrar- Fo	rst- und Frn	ährungswissenschaften									
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		annungswissenscharten									
-	er informa	-									