

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Mathematics International as a Master's with 1 major with the degree "Master of Science" (120 ECTS credits)

Responsible: Faculty of Mathematics and Computer Science

Responsible: Institute of Mathematics

Examination regulations version: 2015 Examination regulations version: 2015

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

= lecture

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

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

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

= list of modules

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

Conventions for the modules in this SFB: ditable for bonus.

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre-

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

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

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

individual assessments.

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

ASP02015

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

13-Jul-2015 (2015-17)

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

Every module will be described using the following form:

Abbreviation	Module title										
	ECTS		Duration	(in semesters)	Method of grading		Module level				
	Courses		To be spe	cified in the form X	(y) with course type ?	(abbreviated as specified abo	ve and number of we	ekly contact hours y			
	Method of as	ssessme	ent								
	Only after su completion o		l if applica	if applicable							
	Other prereq	uisites	if applica	if applicable							
	Participants on of places		cati- if applica	if applicable							
	Additional in	formation	on if applica	ble							
	Referred to in	n LPO I	if applica	ble (examination re	gulations for teachin	g-degree programmes)					

Compulsory Elect	ives (90 E	CTS cre	dits)										
Mathematics (30-	70 ECTS	credits)											
10-M=AAA-	Applie	d Analys	is										
Nin-152-m01	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es.			((4) + Ü (2) Nodule taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	o written examination (approx. 90 to 120 minutes, usually chosen) or								
10-M=AAL-	Topics	in Algeb	ora										
Gin-152-m01	ECTS	10	Duration	,	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es			V (4) + Ü (2) Module taught in: English								
	Method	Method of assessment			tten examination (ap l examination of one l examination in grou age of assessment: sment offered: In the able for bonus	emester							
10-M=ADG-	Differe	ntial Ge	ometry										
Min-152-m01	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es.		V (4) + Ü (2) Module taught in: English									
	Method of assessment a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus												

10-M=AFT-	Comple	x Analy	sis										
Hin-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (4) - Modu	+ Ü (2) le taught in: English								
	Method	of asse	essment	b) ora c) ora Langu Asses	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) anguage of assessment: English assessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=AGM-	Geomet	ric Stru	ctures										
Sin-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (4) - Modu	- Ü (2) le taught in: English								
	Method	of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				
10-M=AI-	Industri	ial Stati	stics 1					'					
STin-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (4) - Modu	+ Ü (2) le taught in: English	1							
	Method	of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				
10-M=AL-	Lie The	ory											
THin-152-mo1	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	i.		V (4) - Modu	+ Ü (2) le taught in: English	1							
	Method	of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				

10-M=ANG-	Numeric	of Larg	ge Syster	ns of E	of Equations							
Gin-152-m01	ECTS :	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses				+ Ü (2) le taught in: English							
	Method	of asse	essment	b) ora c) ora Langu Asses	Il examination of one I examination in gro Lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	minutes per candidate)		emester			
10-M=AOP-	Basics in	n Optin	nization									
Tin-152-m01	ECTS :	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses				+ Ü (2) le taught in: English							
	Method	of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester			
10-M=AR-	Control	Theory										
THin-152-m01	ECTS :	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			V (4) - Modu	+ Ü (2) le taught in: English	1						
	Method	of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	minutes per candidate)		emester			
10-M=ASM-	Stochas	tic Mod	lels of Ri	sk Mar	nagement							
Rin-152-m01	ECTS :	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses				+ Ü (2) le taught in: English							
	Method	of asse	essment	b) ora c) ora Langu Asses	Il examination of one I examination in gro Lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester			

10-M=AST-	Stochastical Processes												
Pin-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	S		V (4) - Modu	- Ü (2) le taught in: English								
	Method	l of asse	essment	b) ora c) ora Langu Asses	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) nguage of assessment: English sessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=ATO-	Topolog	gy											
Pin-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	S		V (4) - Modu	- Ü (2) le taught in: English								
	Method	l of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				
10-M=AVS-	Insurance Mathematics 1												
Min-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	S		V (4) - Modu	- Ü (2) le taught in: English								
	Method	l of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				
10-M=AZ-	Time Se	eries An	alysis 1										
RAin-152-mo1	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	S		V (4) - Modu	+ Ü (2) le taught in: English	1							
	Method	l of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				

10-M=AZTHin-152-													
mo1	ECTS	10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) + Modu	- Ü (2) le taught in: English								
				b) ora c) ora Langu Asses credit	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) nguage of assessment: English sessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=AGP-	Giovanni Prodi Lecture (Master)												
Cin-152-m01	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) 4	- Ü (1) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses) written examination (approx. 60 to 90 minutes, usually chosen) or) oral examination of one candidate each (approx. 15 minutes) or) oral examination in groups (groups of 2, approx. 10 minutes per candidate) anguage of assessment: English assessment offered: In the semester in which the course is offered and in the subsequent semester reditable for bonus								
10-M=VA-	Selected Topics in Analysis												
NAin-152-mo1	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) + Modu	- Ü (2) le taught in: English	l							
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate		emester				
10-M=VAT-		aic Topo	logy					,					
Pin-152-m01		10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) + Modu	- Ü (2) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate		emester				

10-M=VFN-	Selected Topics in Financial Mathematics												
Min-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S			+ Ü (2) le taught in: English			•					
	Method	d of asso	essment	b) ora c) ora Langu Asses	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) nguage of assessment: English sessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=VGD-	Groups	and the	eir Repres	sentati	ons								
Sin-152-m01	ECTS	10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S			+ Ü (2) le taught in: English								
	Method	d of asso	essment	b) ora c) ora Langu Asses	Il examination of one I examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	utes, usually chosen) or prox. 20 minutes) or minutes per candidate) the course is offered an		emester				
10-M=VGE-	Geome	trical M	echanics					'					
Min-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) - Modu	+ Ü (2) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	Il examination of one I examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	utes, usually chosen) or prox. 20 minutes) or minutes) or minutes per candidate) the course is offered an		emester				
10-M=VI-		ial Stat	istics 2		~								
STin-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S			+ Ü (2) le taught in: English								
	Method	d of asso	essment	b) ora c) ora Langu Asses	Il examination of one I examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	utes, usually chosen) or prox. 20 minutes) or minutes per candidate) the course is offered an		emester				

10-M=VKA-	Field Arithmetics													
Rin-152-m01	ECTS	10	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	S		V (4) - Modu	- Ü (2) le taught in: English									
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	minutes per candidate)		emester					
10-M=VN-	Numeri	c of Par	tial Diffeı	rential Equations										
PEin-152-m01	ECTS	10	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	S		V (4) - Modu	- Ü (2) le taught in: English									
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester					
10-M=VOP-	Selected Topics in Optimization													
Tin-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	S		V (4) - Modu	- Ü (2) le taught in: English	l			_					
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester					
10-M=V-	Statisti	ical Ana	lysis											
STAin-152-mo1	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	S		V (4) - Modu	- Ü (2) le taught in: English									
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro age of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester					

10-M=VVS-	Insuran	ice Mat	hematics	2					
Min-152-m01	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (4) - Modu	+ Ü (2) le taught in: English				
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	minutes per candidate		emester
10-M=VZ-	Time Se	eries An	alysis 2					'	
RAin-152-mo1	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (4) - Modu	- Ü (2) le taught in: English				
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate		emester
10-M=VDI-	Discret	e Mathe	ematics					, 	
Min-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (3) - Modu	+ Ü (1) le taught in: English	1			
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	prox. 10 minutes per ca		emester
10-M=VDSY-		ical Sys	tems						
in-152-m01		5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (3) - Modu	+ Ü (1) le taught in: English	1			
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	prox. 10 minutes per ca		emester

10-M=V-	Aspects of G	eometry										
GEOin-152-mo1	ECTS 5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses		V (3) - Modu	+ Ü (1) le taught in: English								
	Method of as	ssessment	b) ora c) ora Langu Asses	written examination (approx. 60 to 90 minutes, usually chosen) or oral examination of one candidate each (approx. 15 minutes) or oral examination in groups (groups of 2, approx. 10 minutes per candidate) inguage of assessment: English issessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=V-	Mathematical Continuum Mechanics											
KOMin-152-mo1	ECTS 5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	,	V (3) - Modu	+ Ü (1) le taught in: English								
	Method of as	ssessment	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VMB-	Mathematica	al Imaging					,					
Vin-152-m01	ECTS 5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses		V (3) - Modu	+ Ü (1) le taught in: English								
	Method of as	ssessment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	prox. 10 minutes per ca		emester				
10-M=VM-	Selected Top	oics in Math	nematio	cal Physics								
PHin-152-m01	ECTS 10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			+ Ü (2) le taught in: English								
	Method of as	ssessment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, 15 r English	ninutes per candidate)		emester				

10-M=V-	Selected Topics in Control Theory												
TRTin-152-mo1	ECTS	10	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S .		V (4) - Modu	+ Ü (2) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) anguage of assessment: English sessment offered: In the semester in which the course is offered and in the subsequent semester ditable for bonus								
10-M=VI-	Inverse	Proble	ms	•									
PRin-152-m01	ECTS	5	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + Modu	- Ü (1) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	prox. 10 minutes per ca	ndidate) nd in the subsequent se	emester				
10-M=VMT-	Module	e Theory	,	,				'					
Hin-152-mo1	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	·S		V (3) +	+ Ü (1) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	orox. 10 minutes per ca		emester				
10-M=VNA-		ear Ana											
Nin-152-mo1		5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	·S		V (3) + Modu	+ Ü (1) le taught in: English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	l examination of one l examination in gro lage of assessment:	e candidate each (ap ups (groups of 2, app English	prox. 10 minutes per ca	ndidate) nd in the subsequent se	emester				

10-M=VO-	Optima	al Contr	ol										
STin-152-mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es		V (3) - Modu	+ Ü (1) le taught in: Englis	sh							
	Metho	d of ass	essment	b) ora c) ora Langu Asses	written examination (approx. 60 to 90 minutes, usually chosen) or oral examination of one candidate each (approx. 15 minutes) or oral examination in groups (groups of 2, approx. 10 minutes per candidate) nguage of assessment: English sessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus								
10-M=VVSY-	Netwo	rked Sy	stems					<u>'</u>					
in-152-m01	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es) + Ü (1) dule taught in: English								
	Metho	d of ass	essment	b) ora c) ora Langu Asses	ll examination of o l examination in gr lage of assessmen	ne candidate each (ap roups (groups of 2, ap t: English	prox. 10 minutes per ca		emester				
10-M=VK-	Complex Geometry												
GEin-152-mo1	ECTS	10	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es	`		+ Ü (2) le taught in: Englis	sh		,					
	Metho	d of ass	essment	b) ora c) ora Langu Asses	ll examination of o l examination in gr lage of assessmen	ne candidate each (ap roups (groups of 2, 15 t: English	minutes per candidate		emester				
10-M=VPD-	Partial	Differe	ntial Equa	tions	of Mathematical Ph	nysics							
Pin-152-m01	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es			+ Ü (2) lle taught in: Englis	sh							
	Metho	d of ass	essment	b) ora c) ora Langu Asses	ll examination of o l examination in gr lage of assessmen	ne candidate each (ap oups (groups of 2, 15 t: English	minutes per candidate		emester				

10-M=V-	Pseudo	Riemar	nian and	Riema	annian Geometry						
PRGin-152-mo1	ECTS	10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Courses	5			V (4) + Ü (2) Module taught in: English						
	Method	of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						
10-M=AFA-	Function	nal Ana	lysis								
Nin-152-mo1	ECTS	10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Courses	5		V (4) - Modu	- Ü (2) le taught in: English	l					
	Method	of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						
10-M=VAD-	Applied Differential Geometry										
Gin-152-m01	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate		
	Courses	5		V (4) + Ü (2) Module taught in: English							
	Method	of asse	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
10-M=VG-	Giovann	ni Prodi	Lecture S	Selecte	ed Topics (Master)						
PSin-152-m01	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate		
	Courses	5		V (4) - Modu	+ Ü (2) le taught in: English	l					
	Method	of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						

10-M=VG-	Giovan	ni Prod	i Lecture	Advand	ed Topics (Master)						
PAin-152-mo1	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			V (4) + Ü (2) Module taught in: English						
				b) ora c) ora Langu Asses credit	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						
10-	Giovan	ni Prod	i Lecture	Moder	n Topics (Master)						
M=VGPMin-152-	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
m01	Course	S			+ Ü (2) ıle taught in: English	l					
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
Research in Group					dits)						
10-M=GAL-			roups - Al								
Gin-152-m01	ECTS	10	Duratio	,	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S		V (2) + S (2) Module taught in: English							
	Method	d of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=GDI-	Resear	ch in G	roups - Di	screte	Mathematics						
Min-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S		V (2) + S (2) Module taught in: English							
	Method	d of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

10-M=GDS-	Resear	rch in Gr	oups - Dy	namic	al Systems and Cont	trol Theory		"				
Cin-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	es			+ S (2)							
					le taught in: English							
	Metho	d of ass	essment		60 to 120 minutes)	En altab						
					lage of assessment:		the course is offered and in	the subsequent s	emester			
10-M=G-	Resear	rch in Gr	oups - Co		ssessment offered: In the semester in which the course is offered and in the subsequent semester plex Analysis							
COAin-152-mo1	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course				+ S (2) le taught in: English		<u> </u>		10			
	Metho	d of ass	essment	talk (d Langu	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=GGM-	Resear	rch in Gr	oups - Ge	ometr	metry and Topology							
Tin-152-m01	ECTS 10 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (2) + S (2) Module taught in: English								
	Metho	d of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GMC-	Research in Groups - Mathematics in Context											
Xin-152-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			V (2) + S (2) Module taught in: English								
	Metho	d of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GMS-	Resear	rch in Gr	oups - Ma	athema	atics in the Sciences	;		,				
Cin-152-m01	ECTS 10 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es			V (2) + S (2) Module taught in: English							
	Method of assessment			talk (d Langu	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

10-M=GMAI-	Rese	earch in G	roups - Mo	easure	and Integral								
in-152-m01	ECTS	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses			V (2) + S (2) Module taught in: English								
	Metl	nod of ass	essment	Langi	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GN-	Rese	Research in Groups - Numerical Mathematics and Applied Analysis											
MAin-152-m01	ECT5	6 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses			+ S (2) lle taught in: English								
	Metl	nod of ass	essment	Langi	Calk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GRO-	Rese	earch in Gi	roups - Ro	botics	potics, Optimization and Control Theory								
Cin-152-m01	ECTS	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses		V (2) + S (2) Module taught in: English									
	Metl	nod of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
10-M=GT-	Research in Groups - Time Series Analysis												
SAin-152-m01	ECT5	6 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (2) + S (2) Module taught in: English									
	Metl	nod of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
10-M=G-	Rese	earch in Gi	oups - St	atistic	5			,					
STAin-152-mo1	ECTS	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Coui	rses			V (2) + S (2) Module taught in: English								
	Method of assessment			Langi	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								

10-M=GNTHin-152-	Rese	earch in G	roups - Nu	mber '	Theory			1	-				
mo1	ECTS	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses			V (2) + S (2) Module taught in: English								
	Metl	hod of ass	essment	Langi	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GCQ-	Rese	Research in Groups - Control Theory of Quantum Mechanical Systems											
Sin-152-m01	ECTS	5 10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses			+ S (2) le taught in: English								
	Metl	hod of ass	essment	Langi	alk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GD-	Rese	earch in G	roups - Di	fferent	erential Geometry								
GEin-152-mo1	ECTS	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses		V (2) + S (2) Module taught in: English									
	Metl	hod of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
10-M=GDF-	Research in Groups - Deformation Quantization												
Qin-152-m01	ECT5	5 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (2) + S (2) Module taught in: English									
	Metl	hod of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
10-M=GN-	Rese	earch in G	roups - No	n-line	ar Analysis								
LAin-152-m01	ECTS 10 Duratio			n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Cou	rses	,		V (2) + S (2) Module taught in: English								
	Metl	hod of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									

10-M=GO-	Resear	ch in G	roups - O	erato	Algebras	'						
PAin-152-mo1	ECTS	10	Duratio	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			V (2) + S (2) Module taught in: English							
	Method	of ass	essment		talk (60 to 120 minutes)							
					Language of assessment: English							
10-M=SAD-	Somina	rin An	plied Diff		Assessment offered: In the semester in which the course is offered and in the subsequent semester ential Geometry							
Gin-152-mo1		5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course		Duratio	S (2)	1 Selliestei	Method of grading	ilullielical grade	Modulitevel	graduate			
	Course.	3			Module taught in: English							
	Method	l of ass	essment	talk (Langı	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=SAL-	Semina	r in Als	zebra	Asses	ssment offered: in tr	ie semester in wnich	the course is offered	and in the subsequent se	emester			
Gin-152-m01		5	Duratio	<u> </u>	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			S (2) Module taught in: English								
	Method	l of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=SDS-	Seminar in Dynamical Systems and Control											
Cin-152-m01	ECTS 5 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			S (2) Module taught in: English								
	Method	l of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=S-	Semina	r in Co	mplex An	alysis				'				
COAin-152-mo1	ECTS 5 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		S (2) Modu	S (2) Module taught in: English							
	Method of assessment			talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								

10-M=SFI-	Semi	nar in Fir	ancial an	d Insur	Insurance Mathematics							
Min-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			S (2) Modu	S (2) Module taught in: English							
	Meth	od of ass	essment	talk (60 to 120 minutes)							
					Language of assessment: English							
A M CCTO	Comi	i- C-			Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=SGTO- in-152-m01	ECTS		Duration		1	Method of grading	numarical grada	Modul level	graduata			
1,201			Duratio	S (2)	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Cours	ses			le taught in: English							
	Meth	od of ass	sessment	Langu	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=SGP-	Giova	anni Proc	i Seminar	(Mast	·							
Cin-152-m01	ECTS 5 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			S (2) Module taught in: English								
	Meth	od of ass	sessment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=SID-	Interdisciplinary Seminar											
Cin-152-m01	ECTS	5	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			S (2) Module taught in: English								
	Meth	od of ass	sessment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=SMS-	Semi	nar Math	ematics i	n the Sciences								
Cin-152-m01	ECTS 5 Duratio		Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Cours	ses		S (2) Modu	S (2) Module taught in: English							
	Meth	od of ass	sessment	talk (d Langu	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

10-M=SN-	Semina	ar in Nu	merical M	athem	atics and Applied	ied Analysis						
MAin-152-mo1	ECTS	5	Duratio	n	1 semester	Method of grading r	umerical grade	Modul level	graduate			
	Course	S		S (2)				•				
					Module taught in: English							
	Metho	d of ass	essment		60 to 120 minutes							
					Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=SOP-	Semina	ar in Op	timizatio		assessment shortest in the semester in which the course is offered and in the subsequent semester							
Tin-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading r	iumerical grade	Modul level	graduate			
	Course	S		S (2) Modu	le taught in: Engli	sh						
	Metho	d of ass	essment	Langi	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
10-M=S-	Semina	ar in Sta	tistics	17.0000				sazssquees				
STAin-152-m01	ECTS 5 Duratio		n	1 semester	Method of grading r	umerical grade	Modul level	graduate				
	Courses			S (2) Module taught in: English								
	Method of assessment			talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=SN-	Semina	ar in No	n-linear A	nalysi	ysis							
LAin-152-mo1	ECTS	5	Duratio	n	1 semester	Method of grading r	iumerical grade	Modul level	graduate			
	Courses			S (2) Module taught in: English								
	Metho	d of ass	essment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
Thesis (30 ECTS c	redits)											
10-M=MA-	Master	Thesis	Mathema	atics In	ternational							
MI-152-m01	ECTS	30	Duratio	n	1 semester Method of grading numerical grade Mo				graduate			
	Course	:S		No co	urses assigned to	module						
	Method of assessment			Master's thesis (750 to 900 hours total) Registration and assignment of topic in consultation with supervisor. Language of assessment: English								
	Additional Information			Time	to complete: 6 mo	nths						