



Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Quantum Technology as a Bachelor's with 1 major with the degree "Bachelor of Science" (180 ECTS credits)

Responsible: Faculty of Physics and Astronomy Examination regulations version: 2021 Abbreviations used: Course types: $\mathbf{E} = \text{field trip}$, $\mathbf{K} = \text{colloquium}$, $\mathbf{O} = \text{conversatorium}$, $\mathbf{P} = \text{placement/lab course}$, $\mathbf{R} = \text{project}$, $\mathbf{S} = \text{seminar}$, $\mathbf{T} = \text{tutorial}$, $\mathbf{\ddot{U}} = \text{exercise}$, \mathbf{V} = lecture Term: **SS** = summer semester, **WS** = winter semester Methods of grading: NUM = numerical grade, B/NB = (not) successfully completed Regulations: (L)ASPO = general academic and examination regulations (for teaching-degree programmes), FSB = subject-specific provisions, SFB = list of modules Other: A =thesis, LV =course(s), PL =assessment(s), TN =participants, VL =prerequisite(s) Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre-Conventions for the modules in this SFB: ditable for bonus. Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the me-Information on 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 assessment procedures: 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:

ASPO2015

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

28-Apr-2021 (2021-54)

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	To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y							
	Method of as	ssessme	ent								
	Only after su completion of		Il if applica	if applicable							
	Other prereq	uisites	if applica	if applicable							
	Participants and allocati- on of places		ocati- if applica	if applicable							
	Additional information		on if applica	if applicable							
	Referred to in	n LPO I	if applica	ble (examination re	gulations for teaching	g-degree programmes)					

Quantum Technolo	gy (27 EC	TS cre	dits)									
11-N-EIN-212-m01	Introduction to Quantum Technology											
	ECTS				2 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses			V (2) - Modu	S (2) le taught in: Germ	an or English	- -		-			
	Method	of ass	essment			s) with discussion and nt: German and/or Eng	l b) written examination (app slish	prox. 120 minutes)				
	other pr	erequi	sites	Admis	Admission prerequisite to assessment: regular attendance (minimum 85% of sessions).							
	Additional Information			consid neral the qu stude for an sessm	Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.							
11-N-IP-212-m01	Industrial Internship Quantum Technology											
	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses			P (o) -	- S (1)							
	Method	of ass	essment	a) report on practical course (approx. 15 pages) and b) presentation/talk (approx. 45 minutes). Weighted: 1:4 Language of assessment: German and/or English								
	Additional Information			Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
o8-AC-Ex-	Experim	ental (Chemistry									
Chem-152-m01	ECTS 5 Duratio			n V (4)	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
			essment	writte		prox. 90 minutes) ht: German and/or Eng	lish					

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08-ACP-NF-152-	General and Analytical Chemistry for students of natural sciences (lab)											
m01	ECTS	2	Duration	ı	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Course	S		P (4)	P (4)							
	Method of assessment			Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Assessment offered: Once a year, summer semester Language of assessment: German and/or English								
	Module comple		essfully	08-A0	C-ExChem							
08-0C-NF-152-m01	Organic Chemistry for students of medicine, biomedicine, dental medicine and natural sciences											
	ECTS	3	Duration	1	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (2)								
	Method	d of ass	essment	written examination (approx. 60 minutes) Language of assessment: German and/or English								
Classical Physics (a	6 ECTS	credits)										
11-E-M-152-m01	Classical Physics 1 (Mechanics)											
	ECTS 8 Duratio			ı	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses			V (4) + Ü (2) Module taught in: Ü: German or English								
	Method	d of ass	essment	written examination (approx. 120 minutes) Language of assessment: German and/or English								
	other prerequisites			Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.								
	Additional Information			Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
	Referre	d to in l	LPO I		Nr. 1 a) Nr. 1 a)							

11-E-E-152-m01	Classical Physics 2 (Heat and Electromagnetism)												
	ECTS	8	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses	5			V (4) + Ü (2) Module taught in: Ü: German or English								
	Method	ofass	essment	written examination (approx. 120 minutes) Language of assessment: German and/or English									
	other pr	other prerequisites			Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.								
	Addition	nal Info	ormation	consi neral the q stude for ar sessr	Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
	Referred to in LPO I			§ 53 Nr. 1 a) § 77 Nr. 1 a)									
Optics and Quantu	m Physic	:s I (6 E	CTS cred	its)									
11-E-OAV-152-m01	Optics and Quantum Physics												
	ECTS	6	Duratio	n	2 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses	5		V (4)	+ V (4)								
	Method	of ass	essment	oral examination of one candidate each (approx. 30 minutes) Language of assessment: German and/or English									
Optics and Quantu	m Physic	:s II (10	ECTS cre	dits)									
11-E-OA-152-m01	Optics a	and Wa	ves - Exe	rcises									
	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses			Ü (2) Module taught in: Ü: German or English									
	Method	ofass	essment		written examination (approx. 120 minutes) Language of assessment: German and/or English								
	Referred	d to in I	LPO I		§ 53 Nr. 1 a) § 77 Nr. 1 a)								

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11-E-AA-202-m01	Atoms and Mo	lecules -	Exercis	es								
	ECTS 5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses	_	Ü (2)									
				le taught in: Germa	-							
	Method of ass	essment	writte	n examination (ap	prox. 120 minutes) t. Cormon and (or Engli)	- h						
Calld Chata Dhuain		-)	Language of assessment: German and/or English									
Solid State Physics				•								
11-E-F-152-m01	Introduction to											
	ECTS 8	Duration		1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses		V (4) ⊣ Modu	- U (2) le taught in: Ü: Gei	man or English							
	Method of ass	essment			prox. 120 minutes) t: German and/or Englis	sh						
Image: Theoretical Physics I (6 ECTS credits) Language of assessment: German and/or English												
11-T-QS-152-m01	Quantum Mec	hanics an	d Stati	Statistical Physics								
	ECTS 6	Duratio	n	2 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses		V (4) +	V (4) + V (4)								
	Method of ass	essment	oral examination of one candidate each (approx. 30 minutes) Language of assessment: German and/or English									
Theoretical Physics	s II (10 ECTS cre	dits)										
11-T-QA-152-m01	Quantum Mechanics - Exercises											
	ECTS 5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses		Ü (2) Module taught in: Ü: German or English									
	Method of ass	essment	written examination (approx. 120 minutes) Language of assessment: German and/or English									
	other prerequi	sites	Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.									
	Additional Info	ormation	Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.									

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11-T-SA-152-m01	Statistical Phy	/sics - Exe	ercises								
	ECTS 5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses		Ü (2) Module taught in: Ü: German or English								
	Method of assessment		written examination (approx. 120 minutes) Language of assessment: German and/or English								
Mathematics (24 E	CTS credits)										
10-M-PHY1-212-	Mathematics 1 for Students of Physics and Quantum Technology										
m01	ECTS 8	Duratio	n	1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses			/ (5) + Ü (2) Excercises in: German or English							
	Method of ass	essment	a) written examination (Usually chosen, approx. 90 to 120 minutes) 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: German and/or English creditable for bonus								
10-M-PHY2-212-	Mathematics 2 for Students of Physics and Quantum Technology										
m01	ECTS 8	Duratio	n	1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses		V (5) + Ü (2) Excercises in: German or English								
	Method of ass	essment	a) written examination (Usually chosen, approx. 90 to 120 minutes) 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: German and/or English creditable for bonus								
11-M-D-152-m01	Mathematics	3 for Stud	ents of Physics and related Disciplines (Differential Equations)								
	ECTS 8 Duration		n	1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses		V (4) + Ü (2) Module taught in: Ü: German or English								
	Method of ass	essment	written examination (approx. 120 minutes) Language of assessment: German and/or English								

Laboratory Course	Physics	(11 ECT	S credits)								
11-P-PA-152-m01	Labora	tory Co	urse Phys	ics A (Mechanics, Heat, El	Electromagnetism)					
	ECTS	3	Duratio	า	1 semester	Method of grading (not) successfully completed Modul level undergraduate					
	Course	S		P (2)							
	Methoo	d of ass	essment	Prepa pleted comp sics-r	practical assignment with talk (approx. 30 minutes) Preparing, performing and evaluating (record of readings or lab report) the experiments will be considered successfully com- pleted if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the phy- sics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.						
11-P-NB-212-m01	Labora	tory Co	urse Quar	tum T	echnology B (Classi	sical Physics, Electricity, Circuits)					
	ECTS	4	Duratio	า	1 semester	Method of grading (not) successfully completed Modul level undergraduate					
	Courses			P (2)	•						
	Method of assessment			Practical assignment with talk (approx. 30 minutes) Preparing, performing and evaluating (record of readings or lab report) the experiments will be considered successfully com- pleted if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the phy- sics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.							
	other prerequisites			Students are highly recommended to complete modules 11-P-PA and 11-P-FR1 prior to completing module 11-P-NB.							
11-P-NC-212-m01	Advanced Laboratory Course Quantum Technology C (Modern Physics, Computer Aided Experiments)										
	ECTS	4	Duratio	า	1 semester	Method of grading (not) successfully completed Modul level undergraduate					
	Course	S		P (2)							
	Method	d of ass	essment	practical assignment with talk (approx. 30 minutes) Preparing, performing and evaluating (record of readings or lab report) the experiments will be considered successfully com- pleted if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the phy- sics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.							
	other p	rerequi	sites	Stude	ents are highly recon	ommended to complete module 11-P-NB prior to completing module 11-P-NC.					

Compulsory Electi	ves (32 E	CTS cre	dits)									
Semiconductor Ele	ectronics	(min. 6	ECTS cre	dits)								
11-EL-152-m01	Electro	nic Circ	uits									
	ECTS	ECTS 6 Duratio			1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses	5			V (3) + R (1) Module taught in: German or English							
			essment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English								
11-SPD-152-m01			niconduct		ices							
	ECTS	6	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses	5		V (3) + R (1) Module taught in: German or English								
	Method	l of asso	essment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English								
11-HLF-152-m01	Semico	nducto	r Lasers a	nd Pho	otonics							
	ECTS	6	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses	5		V (3) + R (1) Module taught in: German or English								
	Method of assessment			written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English								

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11-HLP-152-m01	Fundan	nentals	of Semic	onduct	or Physics			,				
ĺ	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S	-	V (3) - Modu	+ R (1) lle taught in: Germ	ian or English						
				amina on/ta If a wi form o the le Asses Langu	ation in groups (gr lk (approx. 30 min ritten examination of an oral examina cturer must inform ssment offered: Or uage of assessmer	oups of 2, approx. 30 n nutes). 1 was chosen as methoo ation of one candidate o	ninutes per candidate) d of assessment, this m each or an oral examina y four weeks prior to th nester	or project report (appro nay be changed and ass	approx. 30 minutes) or oral ex- x. 8 to 10 pages) or presentati- essment may instead take the ethod of assessment is changed, late at the latest.			
11-KDS-152-m01			, thin Lay	/ers an	d Lithography							
	ECTS	6	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S			V (3) + R (1) Module taught in: German or English written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex-							
				amina on/ta If a wi form o the le Asses Langu	ation in groups (gr lk (approx. 30 min ritten examination of an oral examina cturer must inform ssment offered: Or uage of assessmer	oups of 2, approx. 30 n nutes). was chosen as methoo ation of one candidate e	ninutes per candidate) d of assessment, this m each or an oral examina y four weeks prior to th ster	or project report (appro: nay be changed and ass	x. 8 to 10 pages) or presentati- essment may instead take the ethod of assessment is changed,			
11-BXN6A-152-m01	Current	t Topics	in Semic	onduct	tor Electronics							
	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	unknown			
	Course	S		V (3) -	+ R (1)							
				written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German or English								
	other p	rerequis	sites	Appro	oval by examinatio	on committee required.						

Materials Science	T										
11-NAN-152-m01	Nanoar		_								
	ECTS	6	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			V (3) + R (1) Module taught in: German or English						
11-FK2B-202-m01	Method of assessment Solid State Physics 2			writte amin on/ta If a w form the le Asses	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, winter semester Language of assessment: German and/or English						
11-FK2B-202-m01	Solid S	tate Ph	ysics 2								
	ECTS 8 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S	_		V (4) + R (2) Module taught in: German or English						
				on/ta If a w form the le Lang Asse	c) oral examination in groups (groups of 2, approx. 30 minutes) or d) project report (approx. 8 to 10 pages) on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may form of an oral examination of one candidate each or an oral examination in groups. If the method of asses the lecturer must inform students about this by four weeks prior to the original examination date at the late Language of assessment: German and/or English Assessment offered: in semester of module and following semester						
11-ENT-152-m01	Principles of Energy Technologies										
	ECTS	6	Duratio	n 1 semester Method of grading numerical grade Modul level grad					graduate		
	Course	S		V (3) + R (1) Module taught in: German or English							
	Method of assessment			a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, winter semester Language of assessment: German and/or English							
	Referre	d to in	LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)							

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11-NTE-152-m01	Nanotechnol	ogy in Ener	gy Res	earch							
	ECTS 6	Duratio	ก	1 semester	Method of grading	numerical grade		Modul level	graduate		
	Courses			V (3) + R (1) Module taught in: German or English							
	Method of as	sessment	amina on/ta If a wr form o the le Asses	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English							
11-PPT-212-m01	Laboratory C	ourse Phys	ical Te	chnology of Materi	al Synthesis						
	ECTS 5	Duratio	ก	1 semester	Method of grading	(not) successfully co	ompleted	Modul level	undergraduate		
	Courses		P (5) Modu								
	Method of as		Preparation of the experiment will be considered successfully completed if a pre-experiment oral test (approx. 15 r passed. Performing and evaluating the experiments will be considered successfully completed if a if a Testat (exact sed. An experiment log (approx. 8 pages) must be prepared. Each component of the assessment can be repeated respective semester. Only if both components of the assessment have been successfully completed in the same s the module component be considered successfully completed. Assessment offered: Once a year, winter semester Language of assessment: German and/or English						ed if a if a Testat (exam) is pas- nent can be repeated once in the npleted in the same semester will		
	other prerequ		Students of Funktionswerkstoffe (Functional Materials, Bachelor's) are recommended to take module 11-P-FR1.								
11-BVG-202-m01	Coating Technologies based on Vapour Deposition										
	ECTS 5	Duration	n 1 semester Method of grading numerical grade Modul level undergraduate						undergraduate		
	Courses		V (3) + R (1) Module taught in: German or English								
	Method of as	sessment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. creditable for bonus Language of assessment: German and/or English								

o8-FU-Mo-	Molecu	ılar Mat	terials (Le	cture)								
MaV-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (3)	+ S (1)	•		•				
	Metho	d of ass	essment	exam (appr	[a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)] as well as talk (approx. 30 minutes), weighted 3:1 Language of assessment: German and/or English							
08-FU-NT-152-m01	Chemically and bio-inspired Nanotechnology for Material Synthesis											
	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
08-PCM2-161-m01	Course	S		V (4)								
	Method of assessment			exam (appr) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral xamination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation approx. 30 minutes) anguage of assessment: German and/or English							
08-PCM3-161-m01	Nanos	cale Ma	-i									
	ECTS 5 Duration			1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses				+ Ü (1) ıle taught in: Germa	in or English						
	Method of assessment			prox. Langı	a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus							
o8-FU-Ma-	Materi	al Sciences 1 (Basic introduction)										
Wi1-212-m01	ECTS	5	Duratio	n	2 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	s		V (2)	+ Ü (1) + V (2)							
	Method of assessment			exam (appr	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentatio (approx. 30 minutes) Language of assessment: German and/or English							
o8-FU-Ma-	Materi	al Scien	ice 2 (The	Mater	ial Groups)							
Wi2-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses		V (3)	+ Ü (1)			*					
	Metho	d of ass	essment	exam (appr	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) (approx. 30 minutes) Language of assessment: German and/or English							

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08-FU-NT-AA-152-	Chemi	cal Nanc	technolo	gy: An	alytics and Applicati	ions						
m01	ECTS	5	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (4)	V (4)							
	Metho	d of asso	essment	exam (appr	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English							
11-ZMB-152-m01	Metho	ds of No	n-Destru	ctive M	ve Material Testing							
	ECTS 4 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	Courses			V (2) + R (1) Module taught in: German or English							
	Metho	d of ass	essment	amina on/ta If a wi form o the le Asses	ation in groups (grou lk (approx. 30 minut itten examination w of an oral examinatio	ps of 2, approx. 30 r es). as chosen as metho on of one candidate e tudents about this b e a year, winter seme	ninutes per candidate) or proje d of assessment, this may be c each or an oral examination in y four weeks prior to the origina ester	ct report (appro hanged and ass groups. If the m	essment may instead take the ethod of assessment is changed,			

Life Sciences										
07-4BF-	Membrane	ebiology of Pl	ants for Advanced Stu	dents						
PS2-152-m01	ECTS 5	Duratio		Method of grading numerical grade	Modul level	undergraduate				
	Courses		V (1) + Ü (5)							
			a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) pre- sentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary accor- ding to subject area but will not exceed a maximum of 4 hours). Students will be informed about the method and length of the assessment prior to the course. creditable for bonus							
	Participant cation of p	ts and allo- laces	Students of the Bach Should the module b chelor's degree subjects Com cation-oriented subjects Com cation-oriented subjects Com cation-oriented subjects available in one quot quota. Should there b form regulation for th concerned will be all least one other modu A waiting list will be all least one other modu A waiting list will be all selection process grow ments. For this purpor rage grade of all assec cluding Chemie (Che lows: First, applicant dits (qualitative rank applicants' position in ding to this third rank king or otherwise by Selection process grow number of ECTS cred the same number of sters of the respectiv lot. Quota 3 (25 % of Should the module b	oup 2 (5%): Places will be allocated according to its already achieved in modules/module compon ECTS credits achieved, places will be allocated by e applicant; among applicants with the same nu	ECTS credits will be given s: 95% of places will be 5% of places (a minimu y) with 60 ECTS credits ematics), each with 180 other 'importing' subject ing places will be alloct ses with a restricted nur- e, places on all courses applicants who alread given preferential consider me available. (cording to the applican umber of ECTS credits the fulle components in the tics)) at the time of app ge grade weighted accord per of ECTS credits achies f these two rankings, ar laces will be allocated the following quotas: Contents of the Faculty of E y lot. Quota 2 (25% of mber of subject semest	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- tts). Should the number of places tated to applicants from the other mber of places, there will be a uni- s of a module component that are y have successfully completed at deration. ts' previous academic achieve- hey have achieved and their ave- subject of Biologie (Biology) (ex- dication. This will be done as fol- rding to the number of ECTS cre- eved (quantitative ranking). The nd places will be allocated accor- according to the qualitative ran- Quota 1 (50 % of places): total Biology; among applicants with places): number of subject seme- ters, places will be allocated by				

07-4S1AM-	Method	Methods in Biotechnology											
B-152-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	S		V (2) + S (2)									
	Method	d of ass	essment	written examination (approx. 30 to 60 minutes) creditable for bonus									
		pants ar		Stude Shoul chelo locate degre catior availa quota form r conce least A wait Select ments rage g cludir lows: dits (d applid ding t king c Select numb the sa sters lot. Qi	Id the number of ap ents of the Bachelor Id the module be us r's degree subject B ed to students of the es subjects Computa h-oriented subject B able in one quota ex a. Should there be, v regulation for the co erned will be allocat one other module ca ting list will be main tion process group a s. For this purpose, a grade of all assessm ng Chemie (Chemist First, applicants wil qualitative ranking) cants' position in a t to this third ranking. or otherwise by lot. tion process group a to the respective ap uota 3 (25 % of plac Id the module be us	T's degree subject Biol sed in other subjects, Biologie (Biology) with e Bachelor's degree si ational Mathematics a Biology (as well as pot cceed the number of a within one module cor- burses of one module ted in the same proce- component of the resp ntained and places re- 1 (95%): Places will per applicants will be ran nents taken during the try), Physik (Physics), Il be ranked, firstly, ac and, secondly, accord third ranking will be c s. Among applicants w 2 (5%): Places will be already achieved in mo S credits achieved, pla oplicant; among applic ces): lottery.	a 180 ECTS credits and 5% of pl. ubject Biologie (Biology) with 6 and Mathematik (Mathematics) pentially to students of other 'in upplications, the remaining place monent, several courses with component. In this case, place dure. In this procedure, applicate edure. In this procedure, applicate edure as they become avait rimarily be allocated according ked according to the number of eir studies or of all module com Mathematik (Mathematics)) at coording to their average grade ding to their total number of EC alculated as the sum of these to ith the same ranking, places w allocated according to the follo odules/module components of aces will be allocated by lot. Que cants with the same number of or's degree subject Biologie (B	redits will be giv of places will be aces (a minimu to ECTS credits aces will be alloc a restricted nur es on all courses ants who alread eferential consider to the applican of ECTS credits the the time of app weighted accoust two rankings, and ill be allocated owing quotas: C the Faculty of E uota 2 (25 % of subject semest	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- its). Should the number of places ated to applicants from the other nber of places, there will be a uni- of a module component that are y have successfully completed at deration. ts' previous academic achieve- ney have achieved and their ave- subject of Biologie (Biology) (ex- lication. This will be done as fol- rding to the number of ECTS cre- eved (quantitative ranking). The nd places will be allocated accor- according to the qualitative ran-				

07-4S1MOLB-152- Asp	pects	of Molecular Bi	otechno	ology	1						
mo1 ECT	TS 5	5 Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
Cou	urses		V (2) +	V (2) + S (2) written examination (approx. 30 to 60 minutes) creditable for bonus							
Met	thod o	of assessment									
Dart	ticina	nts and allo									
		nts and allo- places	Studer Should chelor locate- degree cation availal quota. form re concer least of A waiti Select ments rage g cludin lows: f dits (q applic. ding to king of Select numbe the sa sters of lot. Qu Should	d the number of app nts of the Bachelor's d the module be use 's degree subject Bi d to students of the e subjects Computa -oriented subject Bi ble in one quota exe . Should there be, w egulation for the courned will be allocate one other module co ing list will be allocate one other module co ing list will be main ion process group 1 . For this purpose, a rade of all assessm g Chemie (Chemistr First, applicants will jualitative ranking) a ants' position in a t o this third ranking. r otherwise by lot. ion process group 2 er of ECTS credits al me number of ECTS of the respective app uota 3 (25 % of place d the module be use	s degree subject Biol ed in other subjects, iologie (Biology) with Bachelor's degree s tional Mathematics a iology (as well as pot ceed the number of a vithin one module co- urses of one module ed in the same proce- omponent of the resp tained and places re- (95%): Places will be ranked, firstly, ac and, secondly, accord hird ranking will be co- hird ranking will be co- Among applicants will e (5%): Places will be ready achieved in mo- credits achieved, pla- plicant; among appli-	there will be two quotas: 95 180 ECTS credits and 5% of ubject Biologie (Biology) with and Mathematik (Mathemati entially to students of other pplications, the remaining p mponent, several courses w component. In this case, pla dure. In this procedure, app ective module will be given allocated as they become a rimarily be allocated accord ked according to the number of alculated as the sum of the ith the same ranking, places allocated according to the f bodules/module components aces will be allocated by lot. cants with the same number or's degree subject Biologie	S credits will be given % of places will be f places (a minimu th 60 ECTS credits ics), each with 180 oblaces will be alloc ith a restricted nur aces on all courses licants who alread preferential considered vailable. ing to the applican er of ECTS credits the of ECTS credits achies se two rankings, ar s will be allocated following quotas: C s of the Faculty of E Quota 2 (25 % of r of subject semest	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- its). Should the number of places ated to applicants from the other nber of places, there will be a uni- s of a module component that are y have successfully completed at			

07-4S1M-	Special Bioinformatics 1 ECTS 5 Duration 1 semester Method of grading numerical grade Modul level undergraduate												
Z6-152-m01	ECTS	5	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	es		V (1) +	V (1) + Ü (5)								
	Metho	d of ass	essment	Log (approx. 10 to 20 pages) Language of assessment: German or English creditable for bonus									
		pants ar	25	Stude Shoul chelo locate degre catior availa quota form r conce least of A wait Select ments rage g cludir lows: dits (c applic ding t king o Select numb the sa sters o lot. Qu Shoul	ents of the Bachelor' Id the module be use or's degree subject Bi ed to students of the ee subjects Computa n-oriented subject Bi able in one quota exe a. Should there be, w regulation for the co- erned will be allocate one other module co- ting list will be main the process group 1 s. For this purpose, a grade of all assessm ng Chemie (Chemistri First, applicants will qualitative ranking) a cants' position in a t to this third ranking. or otherwise by lot. this third ranking. or otherwise by lot. the respective applicants al ame number of ECTS of the respective applicants al ame number of group a buota 3 (25 % of place Id the module be use	s degree subject Biol ed in other subjects, iologie (Biology) with Bachelor's degree su ational Mathematics a iology (as well as pote ceed the number of a vithin one module cor urses of one module ed in the same process omponent of the resp tained and places re- to (95%): Places will pr applicants will be ran tents taken during the ry), Physik (Physics), f l be ranked, firstly, ac and, secondly, accord third ranking will be con- third ranking will b	there will be two quotas: 95% 180 ECTS credits and 5% of pl ubject Biologie (Biology) with 6 and Mathematik (Mathematics) entially to students of other 'in pplications, the remaining pla mponent, several courses with component. In this case, place dure. In this procedure, applicate ective module will be given pro- allocated as they become avai- rimarily be allocated according ked according to the number of eir studies or of all module com Mathematik (Mathematics)) at coording to their average grade ding to their total number of EC alculated as the sum of these ith the same ranking, places w allocated according to the foll odules/module components of aces will be allocated by lot. Qu cants with the same number of or's degree subject Biologie (B	redits will be giv of places will be laces (a minimum 60 ECTS credits a), each with 180 mporting' subject ces will be alloct a restricted nur es on all courses ants who alread eferential consid- ilable. g to the applican of ECTS credits the mponents in the t the time of app e weighted accord CTS credits achies two rankings, ar vill be allocated cowing quotas: C f the Faculty of B uota 2 (25 % of p f subject semest	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- cts). Should the number of places cated to applicants from the other mber of places, there will be a uni- s of a module component that are y have successfully completed at deration. Ats' previous academic achieve- hey have achieved and their ave- subject of Biologie (Biology) (ex- plication. This will be done as fol- rding to the number of ECTS cre- eved (quantitative ranking). The nd places will be allocated accor- according to the qualitative ran-				

07-4S1M-	Basics	in Light	t- and Eleo	ctron-M	Nicroscopy						
Z1-152-m01	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Course	S		V (1) + Ü (5)							
	Metho	d of ass	essment	written examination (approx. 30 to 60 minutes) creditable for bonus							
		pants ar		Stude Shoul chelo locate degre catior availa quota form i conce least A wai Selec ments rage g cludir lows: dits (d applid ding t king c Selec numb the sa sters lot. Q Shoul	Id the number of ap ents of the Bachelor Id the module be us r's degree subject B ed to students of the es subjects Computa h-oriented subject B able in one quota ex h. Should there be, v regulation for the co erned will be allocat one other module co ting list will be main tion process group a s. For this purpose, a grade of all assessm ng Chemie (Chemist First, applicants will qualitative ranking) cants' position in a t to this third ranking. or otherwise by lot. tion process group a to the respective ap uota 3 (25 % of place Id the module be us	s degree subject Biol ed in other subjects, biologie (Biology) with e Bachelor's degree s ational Mathematics a biology (as well as pot ceed the number of a within one module co burses of one module ed in the same proce omponent of the resp nationed and places re 1 (95%): Places will p applicants will be ran hents taken during the ry), Physik (Physics), Il be ranked, firstly, a and, secondly, accord third ranking will be co third ranking will be co cordits achieved in mo o credits achieved in mo o credits achieved, pla plicant; among applicants iso): lottery.	there will be two quotas: 95% 180 ECTS credits and 5% of p ubject Biologie (Biology) with and Mathematik (Mathematics centially to students of other 'i upplications, the remaining pla mponent, several courses with component. In this case, plac dure. In this procedure, applic pective module will be given pu- allocated as they become ava- rimarily be allocated according ked according to the number eir studies or of all module cor Mathematik (Mathematics)) a ccording to their average grade ding to their total number of E alculated as the sum of these ith the same ranking, places v allocated according to the fol podules/module components o aces will be allocated by lot. Q cants with the same number of	credits will be given of places will be dealers (a minimu 60 ECTS credits so), each with 180 mporting' subject aces will be alloct a restricted numes on all courses ants who alread referential considered for the applicant of ECTS credits to the applicant of ECTS credits achied two rankings, and will be allocated lowing quotas: C of the Faculty of E Quota 2 (25 % of f subject semes	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- cts). Should the number of places cated to applicants from the other mber of places, there will be a uni- s of a module component that are y have successfully completed at		

07-5S2M-	Specific Biot	echnology	2							
Z4-152-m01	ECTS 10	Duratio	n 1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses		Ü (7) + S (1) Module taught in: Ger	Ü (7) + S (1) Module taught in: German and/or English						
	Method of as	sessment	a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) pre- sentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary accor- ding to subject area but will not exceed a maximum of 4 hours). Students will be informed about the method and length of the assessment prior to the course. Language of assessment: German and/or English creditable for bonus							
	Participants cation of pla		Students of the Bache Should the module be chelor's degree subject located to students of degree subjects Comp cation-oriented subject available in one quota quota. Should there b form regulation for the concerned will be allo least one other modul A waiting list will be m Selection process grou ments. For this purpos rage grade of all asses cluding Chemie (Chem lows: First, applicants dits (qualitative rankin applicants' position in ding to this third rankin king or otherwise by lo Selection process grou number of ECTS credit the same number of E sters of the respective lot. Quota 3 (25 % of p Should the module be	up 2 (5%): Places will be allocated according to th is already achieved in modules/module componen CTS credits achieved, places will be allocated by l e applicant; among applicants with the same numl	CTS credits will be giv 95% of places will be 6 of places (a minimu with 60 ECTS credits natics), each with 180 her 'importing' subject of places will be alloct swith a restricted nur places on all courses opplicants who alread ren preferential consider e available. Ording to the applicant nber of ECTS credits the components in the cs)) at the time of app grade weighted accou- r of ECTS credits achie hese two rankings, and the following quotas: Courts of the Faculty of E lot. Quota 2 (25% of ber of subject semesite	ven preferential consideration. e allocated to students of the Ba- m of one place in total) will be al- and to students of the Bachelor's ECTS credits, as part of the appli- cts). Should the number of places cated to applicants from the other mber of places, there will be a uni- s of a module component that are ly have successfully completed at deration. tts' previous academic achieve- hey have achieved and their ave- subject of Biologie (Biology) (ex- plication. This will be done as fol- rding to the number of ECTS cre- eved (quantitative ranking). The nd places will be allocated accor- according to the qualitative ran- Quota 1 (50 % of places): total Biology; among applicants with places): number of subject seme- ters, places will be allocated by				

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11-LMB-152-m01	Laboratory and Measur	rement Technology in B	liophysics							
	ECTS 6 Duratio	n 1 semester	Method of grading n	umerical grade	Modul level	graduate				
	Courses	V (3) + R (1) Module taught in: Ge	Module taught in: German or English							
	Method of assessment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English								
	ory and Computer Aided									
11-QUI-202-m01	Introduction to Quantu									
	ECTS 6 Duratio		Method of grading n	umerical grade	Modul level	undergraduate				
	Courses	V (3) + R (1) Module taught in: Ge	rman or English							
	Method of assessment	oral examination in g presentation/talk (ap If a written examination form of an oral examination the lecturer must infor Language of assessmit	roups (groups of 2, approx. prox. 30 minutes). on was chosen as method (. 30 minutes per candida of assessment, this may ch or an oral examinatio four weeks prior to the o h	ate) or d) project repo / be changed and ass on in groups. If the m original examination o					
11-RRF-202-m01	Introduction to Relativi	stic Physics and Classi	ical Field Theory							
	ECTS 6 Duratio	n 1 semester	Method of grading n	umerical grade	Modul level	undergraduate				
	Courses	V (3) + R (1) Module taught in: Ge	rman or English							
	Method of assessment	oral examination in g presentation/talk (ap If a written examination form of an oral examination the lecturer must infor Language of assessm	roups (groups of 2, approx. prox. 30 minutes). on was chosen as method (30 minutes per candidates of assessment, this may ch or an oral examination four weeks prior to the o h	ate) or d) project repo / be changed and ass on in groups. If the m	each (approx. 30 minutes) or c) ort (approx. 8 to 10 pages) or e) sessment may instead take the ethod of assessment is changed, date at the latest.				

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11-SDC-152-m01	Statistics, Data Analysis and Computer Physics												
	ECTS 4	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Courses		V (2) +										
				le taught in: Germar				-					
	Method of ass	essment		written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati-									
			on/talk (approx. 30 minutes).										
			lf a wr	If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the									
			form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.										
				Assessment offered: Once a year, winter semester									
				anguage of assessment: German and/or English									
10-M-NUM1af-152-	Numerical Mat	thematics	1 for s	tudents of other sul	bjects								
m01	ECTS 10	Duration		1 semester	Method of grading	numerical grade	Modul level	undergraduate					
	Courses		V (4) +										
	Method of ass	essment) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 mi-									
				nutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English									
				able for bonus		1511							
10-M-NUM2af-152-	Numerical Mat	hematics	2 for s	tudents of other su	bjects								
m01	ECTS 10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate					
	Courses		V (4) +	- Ü (2)			<u>^</u>						
	Method of ass	essment						one candidate each (15 to 30 mi-					
			nutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English										
			creditable for bonus										
10-M-PRG-152-m01	Programming	course fo	r stude	nts of Mathematics	and other subjects								
	ECTS 3	Duration	n	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate					
	Courses		P (2)		-								
	Method of ass	essment	project in the form of programming exercises (approx. 20 to 25 hours)										
			Assessment offered: Once a year, summer semester										
	Referred to in I		Language of assessment: German and/or English										
10-M-COM-152-	Computationa		§ 22 Nr. 3 f)										
mo1	ECTS 4	Duration		1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate					
	Courses	Duration	V (1) +		Internou of Studing	(not) successfully completed	modulievel	undergraduate					
	Method of ass	essment	.,		gramming exercises (approx. 20 to 25 hours)							
			Asses	sment offered: Once	e a year, winter seme	ster							
					German and/or Eng	ish							
	Referred to in I	LPO I	§ 22	Nr. 3 f)									
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11-M-F-152-m01	Mathe	matics	4 for Stud	ents o	Physics and relate	ed Disciplines (Compl	ex Analysis)					
	ECTS	8	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (4) Modu	V (4) + Ü (2) Module taught in: Ü: German or English							
	Metho	d of ass	essment	writte Langı	written examination (approx. 120 minutes) Language of assessment: German and/or English							
11-T-M-152-m01	Theore	tical M	echanics									
	ECTS	8	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S			(4) + Ü (2) odule taught in: Ü: German or English							
	Metho	d of ass	essment		written examination (approx. 120 minutes) Language of assessment: German and/or English							
	other p	rerequi	sites	Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.								
	Additic	onal Info	ormation	consi neral the q stude for ar sessr	dered a declaration academic and examu ualification for adments that meet the r assessment or wh	n of will to seek admis mination regulations). nission to assessment espective prerequisite lose registration for ar	sion to assessment pu If the module coordina , they will put the stude es can successfully reginals assessment was not p	rsuant to Section 20 Su ators subsequently find ent's registration for ass ster for an assessment. but into effect will not be	on to assessment, this will be bsection 3 Sentence 4 ASPO (ge- that the student has obtained sessment into effect. Only those Students who did not register e admitted to the respective as- de achieved in this assessment			
11-T-E-152-m01	Electro	dynami	ics		n							
	ECTS 8 Duratio			n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	Courses			V (4) + Ü (2) Module taught in: Ü: German or English							
	Method of assessment				written examination (approx. 120 minutes) Language of assessment: German and/or English							

Applied Physics													
11-ZDR-152-m01	Princip	oles of '	Two- and T	hree-[Dimensional Rönt	gen Imaging							
	ECTS	6	Duratio	ı	1 semester	Method of gra	ding numerical	grade	Modul level	graduate			
	Course	es			V (3) + R (1) Module taught in: German or English								
		1 - 6			_	-							
	Method of assessment			written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English									
11-BMS-152-m01	Imagin	ng Meth	nods at the	Sync	hroton								
	ECTS	6	Duratio	า	1 semester	Method of gra	ding numerical	grade	Modul level	undergraduate			
	Course	es			+ R (1) Ile taught in: Gerr	nan or English							
	Metho	d of as	sessment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English									
11-ASI-152-m01	Imagin	ng Sens	ors in Infr	ared									
	ECTS	3	Duratio	า	1 semester	Method of gra	ding numerical	grade	Modul level	undergraduate			
	Course	es		V (2) Modi	ıle taught in: Gerr	nan or English							
	Metho	d of as:	sessment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English									

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11-EBV-152-m01	Princip	les of li	mage Pro	cessin	g			,			
	ECTS	3	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Course	S		V (2) Modu	lle taught in: Germ	an or English					
	Method	l of ass	essment	amina on/ta If a w form the le Asses	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, winter semester Language of assessment: German and/or English						
11-LMT-152-m01		tory an	d Measur	ement	Technology						
	ECTS	6	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Course	S			+ R (1) Ile taught in: Germ	an or English					
	Method	1 01 055	essment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, winter semester Language of assessment: German and/or English							
11-LVW-152-m01	Introdu	ction to	b Labview								
	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			+ R (3) Ile taught in: Germ	an or English					
	Methoo	l of ass	essment	amina on/ta If a w form the le Asses	ation in groups (gr lk (approx. 30 min ritten examination of an oral examina cturer must inform ssment offered: On	oups of 2, approx. 30 n utes). was chosen as method tion of one candidate e	ninutes per candidate d of assessment, this each or an oral examir y four weeks prior to t ster) or project report (appro may be changed and ass	approx. 30 minutes) or oral ex- x. 8 to 10 pages) or presentati- essment may instead take the ethod of assessment is changed, date at the latest.		

08-FU-EEW-152-	Electro	chemic	al Energy	Storag	e and Conversion							
m01	ECTS	5	Duratio	n	1 semester	Method of grading nu	ımerical grade	Modul level	undergraduate			
	Course	S		V (2) ·	V(2) + P(1) + E(1)							
	Methoo	d of ass	essment	prox. Asses	a) assessment and b) Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations), weighted 7:3 Assessment offered: Once a year, summer semester Language of assessment: German and/or English							
Current Topics in C	uantum	Techno	logy									
11-BXN5-212-m01	Current	t Topics	in Quant	um Te	chnology							
	ECTS 5 Duratio			1	1 semester	Method of grading nu	umerical grade	Modul level	undergraduate			
	Course	s		V (2) + R (2)								
				amination in groups (groups of 2, 30 minutes per candidate) or report on practical course (approx. 8 to 10 pages) or presenta- tion/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and as- sessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the me thod of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
					Approval from examination committee required.							
11-BXN6-212-m01	Current Topics in Quantum Technology											
	ECTS Course	6	Duration									
	Method of assessment			amination in groups (groups of 2, 30 minutes per candidate) or report on practical course (approx. 8 to 10 pages) or presenta- tion/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and as- sessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the me- thod of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
	Additio	nal Info	rmation	Appro	val from examinati	on committee required.						

11-BXN8-212-m01	Current	t Topics	in Quant	um Teo	chnology							
	ECTS	8	Duratior	ו	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (4) -	/ (4) + R (2)							
	Methoo	d of ass	essment	amina tion/t If a wi form o the le	Written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, 30 minutes per candidate) or report on practical course (approx. 8 to 10 pages) or presenta- tion/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
	Additio	nal Info	ormation	Appro	proval from examination committee required.							
11-BXP8-152-m01	Current	t Topics	in Physic	S								
	ECTS	8	Duratior	ו	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (4) -	+ R (2)	•			•			
				amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
	other p			Approval from examination committee required.								
11-BXP6-152-m01		<u> </u>	in Physic			-						
	ECTS	6	Duratior		1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course			V (3) -								
			essment	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
	other p	rerequi	sites	Appro	oval from examinati	on committee require	d.					

11-BXP5-152-m01	Current Topics Physics												
	ECTS	5	Duratior	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses	5		V (2) +	V(2) + R(2)								
	Method	of asse	essment	amina on/tall If a wri form o the lec	tion in groups (gro k (approx. 30 minu tten examination v f an oral examinat turer must inform	ups of 2, approx. 30 n ites). was chosen as metho ion of one candidate e	ninutes per candidate) o d of assessment, this ma each or an oral examinat y four weeks prior to the	or project report (appro: ay be changed and ass tion in groups. If the me	approx. 30 minutes) or oral ex- x. 8 to 10 pages) or presentati- essment may instead take the ethod of assessment is changed, date at the latest.				
	other pi	rerequis	sites	Approv	proval from examination committee required.								
11-CSN6-212-m01	Selecte	d Topic	s in Quan	tum Te	chnology								
	ECTS	6	Duratior	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Courses	5		V (3) +	R (1)				•				
				amination in groups (groups of 2, 30 minutes per candidate) or report on practical course (approx. 8 to 10 pages) or presenta- tion/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English									
								e original examination o					
	Additio	nal Info	rmation	Langua	age of assessment		İsh	e original examination o					
11-CSF6-152-m01	Selecte	d Topic	rmation s in Solid	Langua Approv	age of assessment val from examinati	t: German and/or Engl on committee require	ish d.						
11-CSF6-152-m01	Selecte ECTS	d Topic 6		Langua Approv State I	age of assessment /al from examinati Physics 1 semester	: German and/or Engl	ish d.	Modul level					
11-CSF6-152-m01	Selecte ECTS Courses	ed Topic 6 s	s in Solid Duratior	Langua Approv State I n V (3) +	age of assessment val from examinati Physics 1 semester R (1)	t: German and/or Engl on committee require Method of grading	ish d. numerical grade	Modul level	date at the latest.				
11-CSF6-152-m01	Selecte ECTS Courses	ed Topic 6 s	s in Solid Duratior	Langua Approv State I V (3) + writter amina on/tall If a wri form o the lect	age of assessment val from examinati Physics 1 semester R (1) n examination (app tion in groups (gro k (approx. 30 minu tten examination v f an oral examinat turer must inform	t: German and/or Engl on committee require Method of grading prox. 90 to 120 minute ups of 2, approx. 30 m utes). was chosen as metho- ion of one candidate of	ish d. numerical grade es) or oral examination o ninutes per candidate) o d of assessment, this ma each or an oral examinat y four weeks prior to the	Modul level of one candidate each (a or project report (appros ay be changed and ass tion in groups. If the me	date at the latest. undergraduate approx. 30 minutes) or oral ex- x. 8 to 10 pages) or presentati- essment may instead take the ethod of assessment is changed,				

11-CSEM6-152-mo	1 Selected Top	ics in Ener	gy and	Material Science	9						
	ECTS 6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses		V (3) ·	+ R (1)			,	_			
	Method of as	sessment	amina on/ta If a w form o the le	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
	other prerequ	uisites	Appro	oval from examin	ation committee require	ed.					
11-NTP-152-m01	Novel Transp	ort Phenor	mena								
	ECTS 6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses		V (3) + R (1) Module taught in: German or English								
			amination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
(2 Skills Area	o ECTS credits)										
General Key Skills n addition to the			dents r	may also take mo	odules offered by JMU as	s part of the pool of ger	neral transferable skills	(ASQ).			
General Key Skills	s (subject-speci	ific)									
1-P-VKM-202-mo	1 MINT Prepara	atory Cours	se Matl	nematical Metho	ds of Physics						
	ECTS 3	Duratio		1 semester	Method of grading	(not) successfully cor	npleted Modul level	undergraduate			
	Courses			⊦ Ü (2) Ile taught in: Ger							
	Method of as	sessment	a) exe Asses	ercises (successf ssment offered: (ul completion of approx Ince a year, winter seme	. 50% of approx. 6 exe ester	rcise sheets) or b) talk (approx. 15 minutes)			
	Referred to ir	I LPO I	§ 22 Nr. 1 h) § 22 Nr. 2 f) § 22 Nr. 3 f)								

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11-FFI-202-m01	Fit for Ir	ndustry	y								
	ECTS 3 Duration		n	1 semester	Method of grading	(not) successfully	completed	Modul level	undergraduate		
	Courses			V (1) + R (1) Module taught in: German or English							
	Method of assessment			a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or d) project report (approx. 8 to 10 pages) or e) presentati- on/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: Once a year, summer semester							
11-PMP-152-m01	Project Management in Practice										
	ECTS 3 Duratio		Duratio	n	1 semester	Method of grading	(not) successfully	completed	Modul level	graduate	
	Courses			V (1) + R (1) Module taught in: German or English							
	Method of assessment			amina on/ta If a wi form o the le Asses	ation in groups (gro lk (approx. 30 min ritten examination of an oral examinat cturer must inform sment offered: In 1	oups of 2, approx. 30 r utes). was chosen as metho	ninutes per candic d of assessment, t each or an oral exa y four weeks prior the course is offer	late) or proje his may be c mination in to the origin	ect report (appro hanged and as: groups. If the m al examination	(approx. 30 minutes) or oral ex- ox. 8 to 10 pages) or presentati- sessment may instead take the nethod of assessment is changed, date at the latest. emester	

07-SQF-BGA-152- m01	Biotechnology and Social Acceptance												
	ECTS	3	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	S			V (1) + S (2) Module taught in: German and/or English term paper or preparing educational materials (approx. 5 to 10 pages) Language of assessment: German and/or English creditable for bonus								
	Metho	d of asse	essment	Langu									
		pants an of place		20 pla Shoul Stude Shoul cheloi locate degre cation availa quota form r conce least of A wait Select ments rage g cludin lows: dits (c applic ding t king o Select numb the sa sters o lot. Qu	aces. Id the number of a ents of the Bachel Id the module be r's degree subject ed to students of t es subjects Compu- n-oriented subject able in one quota a. Should there be regulation for the erned will be alloc one other module ting list will be ma tion process grou s. For this purpose grade of all assess ing Chemie (Chemi First, applicants v qualitative ranking cants' position in to this third ranking cants position in to the third ranking cante number of EC of the respective a uota 3 (25 % of pl Id the module be	lor's degree subject Biolo used in other subjects, it t Biologie (Biology) with the Bachelor's degree su utational Mathematics a t Biology (as well as pote exceed the number of a e, within one module cor courses of one module of cated in the same proced e component of the resp aintained and places re- p 1 (95%): Places will pr e, applicants will be ran sments taken during the istry), Physik (Physics), I will be ranked, firstly, ac g) and, secondly, accord a third ranking will be ca ng. Among applicants wi t. p 2 (5%): Places will be salready achieved in mo CTS credits achieved, pla applicant; among applicants laces): lottery.	there will be two quotas: 95% 180 ECTS credits and 5% of p ubject Biologie (Biology) with and Mathematik (Mathematic centially to students of other 'i upplications, the remaining pl mponent, several courses wit component. In this case, place dure. In this procedure, appli- pective module will be given p -allocated as they become av- rimarily be allocated accordin ked according to the number eir studies or of all module co Mathematik (Mathematics)) a ccording to their total number of E alculated as the sum of these ith the same ranking, places of allocated according to the fo odules/module components of acces will be allocated by lot. O cants with the same number of or's degree subject Biologie (credits will be giv 6 of places will be places (a minimu 6 oe ECTS credits ss), each with 180 importing' subject laces will be alloc the a restricted num ces on all courses cants who alread preferential consider allable. Ing to the applicant of ECTS credits to pomponents in the at the time of apple weighted accont ECTS credits achies two rankings, and will be allocated sollowing quotas: Co of the Faculty of E Quota 2 (25 % of of subject semes	ven preferential consideration. e allocated to students of the Ba- im of one place in total) will be al- and to students of the Bachelor's o ECTS credits, as part of the appli- cts). Should the number of places cated to applicants from the other mber of places, there will be a uni- s of a module component that are dy have successfully completed at				

11-NASQ5-212-m01	Genera	al Comp	etences fo	or Stud	lents of Quantum	Fechnology		16				
	ECTS	5	Duratior	l	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	!S		V (2) ·	+ R (2)			•				
	Metho	d of ass		amina tion/t If a wr form o the le	Written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral ex- amination in groups (groups of 2, 30 minutes per candidate) or report on practical course (approx. 8 to 10 pages) or presenta- tion/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
	Additic	onal Info	ormation	Appro	oval from examinat	ion committee require	d.					
Subject-specific K	ey Skills	(15 ECT	S credits)									
11-M-MR-202-m01												
	ECTS	6	Duratior	۱	2 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Course			V (2) + Ü (2) + V (2) + Ü (2) Module taught in: German or English								
	Metho	d of ass	essment	Exercises (successful completion of approx. 50% of approx. 13 exercise sheets) or Talk (approx. 15 minutes)								
	Referre	ed to in l		§ 53 Nr. 1 a) § 77 Nr. 1 a)								
11-N-HS-212-m01	Seminar Quantum Technology											
	ECTS	5	Duratior	l	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses			S (2) Module taught in: German or English								
	Metho	d of ass		a) talk (30 to 45 minutes) with discussion and b) written examination (approx. 120 minutes) Language of assessment: German and/or English								
	other p	rerequi	sites	Admission prerequisite to assessment: regular attendance (minimum 85% of sessions).								
	Additional Information			Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								

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11-P-FR1-152-m01	Data and Error Analysis											
	ECTS	2	Duration	n	1 semester	Method of grading	(not) successfully complete	d Modul level	undergraduate			
	Courses			V (1) + Modu	- Ü (1) le taught in: Ü: Gern	nan or English						
	Method of assessment			written examination (approx. 120 minutes) Language of assessment: German and/or English								
	other pi	rerequis	sites	Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.								
	Additio	nal Info	rmation	Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
	Referred to in LPO I		§ 53 Nr. 1 c) § 77 Nr. 1 d)									
11-P-FR2-152-m01	Advanced and Computational Data Analysis											
	ECTS 2 Duratio			n	1 semester	Method of grading	(not) successfully complete	d Modul level	undergraduate			
	Courses	S		V (1) +	- Ü (1)							
	Method of assessment			Exercises (successful completion of approx. 50% of approx. 10 exercise sheets) Assessment offered: Once a year, summer semester								
	other prerequisites			Students are highly recommended to complete module 11-P-FR1 prior to completing module 11-P-FR2.								
Thesis (10 ECTS cro	edits)											
11-BA-N-212-m01	Bachelo	or Thesi	is Quantu	ım Technology								
	ECTS	10	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Courses			No courses assigned to module								
	Method of assessment				elor's thesis (approx lage of assessment:							
	Additional Information			Time	to complete: 12 wee	ks						

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