

Annex SFB

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

Responsible: Faculty of Physics and Astronomy

Examination regulations version: 2026

Abbreviations used: Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

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

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

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

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

Conventions for the modules in this SFB: Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

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

Should 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)):

??-??-2026 (2026-??)

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 specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y				
	Method of assessment						
	Only after successful completion of		if applicable				
	Other prerequisites		if applicable				
	Participants and allocation of places		if applicable				
	Additional information		if applicable				
	Referred to in LPO I		if applicable (examination regulations for teaching-degree programmes)				

Compulsory Electives (60 ECTS credits)							
Subfield Quantum Technology (min. 55 ECTS credits)							
Advanced Laboratory Courses (min. 9 ECTS credits)							
11-P-FM1-161-m01	Advanced Laboratory Course Master Part 1						
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level graduate
	Courses	P (3)					
	Method of assessment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two experiments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English					
	other prerequisites	Preparation and safety briefing.					
11-P-FM2-161-m01	Advanced Laboratory Course Master Part 2						
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level graduate
	Courses	P (3)					
	Method of assessment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two experiments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English					
	other prerequisites	Preparation and safety briefing.					
11-P-FM3-161-m01	Advanced Laboratory Course Master Part 3						
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level graduate
	Courses	P (3)					
	Method of assessment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two experiments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English					
	other prerequisites	Preparation and safety briefing.					

11-P-FM4-161-m01	Advanced Laboratory Course Master Part 4							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	graduate
	Courses	P (3)						
	Method of assessment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two experiments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English						
other prerequisites	Preparation and safety briefing.							
Advanced Seminar (min. 5 ECTS credits)								
11-OSN-A-212-m01	Advanced Seminar Quantum Technology A							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	S (2) Module taught in: German or English						
Method of assessment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English							
11-OSN-B-212-m01	Advanced Seminar Quantum Technology B							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	S (2) Module taught in: German or English						
Method of assessment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English							
Focus Nanostructure Technology								
11-HNS-161-m01	Optical Properties of Semiconductor Nanostructures							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

11-HPH-201-m01	Semiconductor Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
11-QTR-201-m01	Quantum Transport							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
11-SPI-161-m01	Spintronics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

11-BSV-161-mo1	Image and Signal Processing in Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2) Module taught in: German or English						
11-PMM-161-mo1	Physics of Advanced Materials							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: German or English						
11-OHL-161-mo1	Organic Semiconductors							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

o8-FU-SAM-161-mo1	Sensor and Actor Materials - Functional Ceramics and Magnetic Particles							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + P (2)						
	Method of assessment	a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) Language of assessment: German and/or English Assessment offered: Once a year, summer semester P: creditable for bonus						
o8-PCM4-242-mo1	Ultrafast spectroscopy and quantum-control							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	S (2) + Ü (1) Module taught in: German or English						
	Method of assessment	a) oral examination of one candidate each (approx. 20 minutes) or b) talk (approx. 30 minutes) or c) portfolio (approx. 50 hours total) Language of assessment: German and/or English						
other prerequisites			Prior completion of modules o8-PCM1a and o8-PCM1b recommended.					
o8-FU-EEW-222-mo1	Electrochemical Energy Storage and Conversion							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + S (2) Module taught in: German or English						
	Method of assessment	a) written examination (approx. 90 minutes) or oral examination of one candidate each (approx. 30 minutes) and b) talk (approx. 30 minutes); (weighted 65:35) Language of assessment: German and/or English Assessment offered: Once a year, summer semester						
o8-FU-MW-222-mo1	Structure-Properties Correlations of Light Materials - Experiments and Numerical Simulations							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + S (2) Module taught in: German or English						
	Method of assessment	a) written examination (approx. 90 minutes) or oral examination of one candidate each (approx. 30 minutes) and b) talk (approx. 30 minutes); (weighted 60:40) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						

11-EXN5-212-m01	Current Topics in Quantum Technology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + R (2)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-EXN6-212-m01	Current Topics in Quantum Technology							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-EXN7-212-m01	Current Topics in Quantum Technology							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						

11-EXN8-212-mo1	Current Topics in Quantum Technology							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-EXN6A-212-mo1	Current Topics in Quantum Technology							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-CSFM-161-mo1	Advanced Topics in Solid State Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						

11-CSNM-212-m01	Advanced Topics in Quantum Technology							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-FK2-201-m01	Solid State Physics 2							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
	other prerequisites	Approval from examination committee required.						
11-CSPM-161-m01	Advanced Topics in Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						

11-FKS-161-mo1	Solid State Spectroscopy							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-TEFK-201-mo1	Topological Effects in Solid State Physics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-FFK-201-mo1	Field Theory in Solid State Physics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

11-NLS-252-mo1	Nano-Optics and Hybrid Light-Matter Systems							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) Module taught in: German or English						
11-AKTF-201-mo1	Selected Topics of Theoretical Solid State Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: German or English						
11-MAG-161-mo1	Magnetism							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

11-QM2-161-m01	Quantum Mechanics II							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (4) + R (2) Module taught in: German or English						
11-TQO-221-m01	Theoretical Quantum Optics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) Module taught in: German or English						
11-TFK-161-m01	Theoretical Solid State Physics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2) 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

11-PTS-201-m01	Phenomenology and Theory of Superconductivity							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: German or English						
11-QIC-201-m01	Advanced Theory of Quantum Computing and Quantum Information							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: German or English						
11-FLV-262-m01	Advanced Lithography Techniques							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

11-MRI-171-m01	Advanced Magnetic Resonance Imaging							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-SSC-172-m01	Surface Science							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1) Module taught in: 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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-SPT-211-m01	Scanning Probe Technologies							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							

11-EIM-211-mo1	Electron and Ion Microscopy							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
11-FPA-161-mo1	Visiting Research							
	ECTS	10	Duration		Method of grading	numerical grade	Modul level	graduate
	Courses	R (0)						
	Method of assessment	project report (10 to 20 pages) Language of assessment: German and/or English						
other prerequisites	Approval from examination committee required.							
11-EXP5-161-mo1	Current Topics in Physics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + R (2)						
	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. Language of assessment: German and/or English						
other prerequisites	Approval from examination committee required.							

11-EXP6-161-mo1	Current Topics in Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-EXP7-161-mo1	Current Topics in Physics							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
11-EXP8-161-mo1	Current Topics in Physics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4) + R (2)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						

11-EXP6A-161-mo1	Current Topics in Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
	other prerequisites	Approval from examination committee required.						
Subfield Non-technical Minor (0-5 ECTS credits)								
10-M-VAN-222-mo1	Advanced Analysis							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (4) + Ü (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) 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						
	other prerequisites							
10-M=V-DIM-161-mo1	Discrete Mathematics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + Ü (1) Module taught in: German and/or English						
	Method of assessment	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: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						
	other prerequisites							

10-I-PA-161-m01	Analysis and Design of Programs							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IS,ES,GE						
10-I-APR-172-m01	Advanced Programming							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Referred to in LPO I	§ 22 II Nr. 3 b)						
10-I-BS-242-m01	Operating Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Referred to in LPO I	§ 22 II Nr. 3 b), § 69 I Nr. 1 c)						

10-I=KI1-212-m01	Artificial Intelligence 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,KI,HCI						
02-EReWi-G-212-m01	Civil Law for Economics and Management							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3) + Ü (2)						
	Method of assessment	written examination (approx. 120 minutes)						
02-N-P-Wo6-242-m01	Trade Mark Law							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	a) written examination (approx. 120 minutes) or b) oral examination (approx. 15 minutes)						
02-N-P-Wo7-242-m01	Copyright Law							
	ECTS	2	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1)						
	Method of assessment	a) written examination (approx. 120 minutes) or b) oral examination (approx. 15 minutes)						
02-G&Hre-G-212-m01	Commercial and Business Law for Economics and Management							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3) + Ü (2)						
	Method of assessment	written examination (approx. 120 minutes) Assessment offered: Usually once a year, summer semester						

11-AP-152-mo1	Astrophysics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + R (2) 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. Language of assessment: German and/or English						
Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)							
11-ASM-161-mo1	Methods of Observational Astronomy							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						

11-ASP-161-m01	Introduction to Space Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
11-EXZ5-161-m01	Nontechnical Special Topics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + R (2)						
	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. Language of assessment: German and/or English						
other prerequisites	Approval from examination committee required.							
11-EXZ6-161-m01	Nontechnical Special Topics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
other prerequisites	Approval from examination committee required.							

11-EXNT6-161-m01	Nontechnical Minor Subject							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (3) + R (1)						
	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. Language of assessment: German and/or English						
other prerequisites	Approval from examination committee required.							
Thesis (60 ECTS credits)								
11-FS-N-212-m01	Professional Specialization Quantum Technology							
	ECTS	15	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	graduate
	Courses	S (4) Module taught in: German or English						
Method of assessment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English							
11-MP-N-212-m01	Scientific Methods and Project Management Quantum Technology							
	ECTS	15	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	graduate
	Courses	R (4) Module taught in: German or English						
Method of assessment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English							
11-MA-N-212-m01	Master Thesis Quantum Technology							
	ECTS	30	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	No courses assigned to module						
	Method of assessment	Master's thesis (750 to 900 hours total) Language of assessment: German and/or English						
Additional Information	Time to complete: 6 months.							