Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Physics as a minor in a Bachelor's degree programme (60 ECTS credits)

Responsible: Faculty of Physics and Astronomy

Examination regulations version: 2008

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:

ASPO2007

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

16-Apr-2009 (2009-30)

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 Courses (40 ECTS credits)								
Experimental Physics (16 ECTS credits)								
11-E1-072-m01	**Experimental Physics 1 (Mechanics, Thermodynamics, Waves and Oscillations)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-E2-072-m01	**Experimental Physics 2 (Electrics and Magnetism)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
Theoretical Physics (16 ECTS credits)								
11-T1-072-m01	**Theoretical Physics 1 (Theoretical Mechanics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-T2-072-m01	**Theoretical Physics 2 (Theoretical Electrostatics and Elektrodynamics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
Lab Course Physics (8 ECTS credits)								
11-PFR-072-m01	**Measurements and Data Analysis**							
	ECTS	2	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					

11-PGA-NN-072-m01	**Advanced Undergraduate Laboratory (Classical Mechanics, Thermodynamics, Basic Circuitry)**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours) Klassische Physik (Classical Physics, KLP): P (2 weekly contact hours) Elektrizitätslehre und Schaltungen (Electricity and Circuits, ELS): P (2 weekly contact hours)					
	Method of assessment		This module has the following assessment components 1. Lab course in part 1: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). 2. Lab course in part 2: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). Students must register for assessment components 1 and 2 online (registration deadline to be announced). Students will be offered one opportunity to retake element a) and/or element b). To pass an assessment component, they must pass both elements a) and b). To pass this module, students must successfully complete two out of the three courses. To pass this module, students must pass both assessment component 1 and assessment component 2.					
	other prerequisites		Recommended: 11-PFR					
11-PGB-NRN-072-m01	**Advanced Undergraduate Laboratory (Optics, Basic Semiconductor Circuits)**							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Wellenoptik (Physical Optics, WOP): P (2 weekly contact hours) Atom- und Kernphysik (Atomic and Nuclear Physics, AKP): P (2 weekly contact hours) Computer und Messtechnik (Computers and Measurement Technology, CMT): P (2 weekly contact hours)					
	Method of assessment		This module has the following assessment components • Lab course: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). Students must register for assessment online (registration deadline to be announced). Students will be offered one opportunity to retake element a) and/or element b). To pass an assessment, students must pass both elements a) and b). To pass this module, students must successfully complete one out of the three courses. To pass this module, students must pass the assessment components.					
Compulsory Electives (20 ECTS credits)								
Experimental Physics								
11-E3-072-m01	**Experimental Physics 3 (Optics, Quantum Phenomena, Introduction Atomic Physics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					

11-E6-072-m01	**Nuclear and Elementary Particle Physics**							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-E7-072-m01	**Experimental Physics 7 (Solid State Phenomena [Semiconductor, Superconductivity, Magnetism])**							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-E5-082-m01	**Experimental Physics 5 (Introduction to Solid State Physics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-E4-082-m01	**Experimental Physics 4 (Physics of Atoms and Molecules)**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
Theoretical Physics								
11-T3-072-m01	**Theoretical Physics 3 (Theoretical Quantum Mechanics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-T4-072-m01	**Theorectical Physics 4 (Theoretical Thermodynamics and Statistics)**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-MKS-082-m01	**Introduction Course Mathematics**							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
Lab Course Physics								
11-PHS-072-m01	**Main Seminar Experimental / Theoretical Physics**							
	ECTS	2	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		talk (approx. 30 to 45 minutes) with discussion					

Physics of Nanostructures								
11-N1-072-m01	**Basics of NanostructureTechnology**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes)					
11-N2-082-m01	**Basic electronics with laboratory course**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes)					
Applied Physics								
11-A1-072-m01	**Computational Physics**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
11-A3-072-m01	**Laboratory and Measurement Technology**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.					

11-A4-072-m01	**Astrophysics**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.					
11-A2-081-m01	**Electronics**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes)					