WYDZIAŁ FIZYKI UW

Field of study: *Physics (Studies in English)*

2-year second cycle programme, full-time

Academic year: 2022/2023

Specialization: **Physics of Condensed Matter and Semiconductor Nanostructures**

First year, semester 1

			Option A		Option B		
Course name/group of courses	**Course code**	**Type of course**	**Number of hours**	**Number of ECTS points**	**Number of hours**	**Number of ECTS points**	**Verification of learning outcomes**
Physics Laboratory, 2nd Level A1 or Physics Laboratory, 2nd Level A2	1100-4PLA1 or 1100-4PLA2	lab	45	5	45	5	grade
Courses selected from the list Statistical physics	1100-4SPA or 1100-4SPB	lecture	45	7	45	7	written or oral exam
		exercises	45		45		
Intellectual property and entrepreneurship or Intellectual property and entrepreneurship with team project (Option A or Option B)	1100-4IPE or 1100-4AF16	lecture	30	2	30	5	written exam or project
		team project	0	0	75		
Courses selected from the list Numerical analysis			30	3	30	3	written exam or grade
Introduction to solid state physics	1100-4ISSP	lecture	30	6	30	6	written exam
		exercises	30		30		
Selected specialization seminar		seminar	30	2	30	2	grade
OGUN (General University Courses)*			30	3	30	3	written exam or grade
In total			**315**	**28**	**390**	**31**	

*5 ECTS points should be obtained from general courses unrelated to physical sciences, i.e. humanities and social sciences

Credit with a grade means that the grade is issued on the basis of one or more written tests or one or more written works carried out in the period of the didactic classes and in accordance with the syllabus of the subject

First year, semester 2

Course name/group of courses	**Course code**	**Type of course**	**Number of hours**	**Number of ECTS points**	**Verification of learning outcomes**
Introduction to Philosophy	1100-IP	seminar	30	3	grade
Courses selected from the list Numerical analysis			30	3	written exam or grade
Low-dimensional systems	1100-4LDS	lecture	30	6	witten or oral exam
		exercises	30		
Magnetism and superconductivity	1100-4MSC	lecture	30	3	written or oral exam
Experimental methods in semiconductor physics	1100-4EMSP	lecture	30	3	written or oral exam
Physics Laboratory, 3rd Level	1100-4PL3	lab	120	12	grade
Selected specialization seminar		seminar	30	2	grade
In total			**330**	**32**	

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Second year, semester 3

			Option A*		Option B		
Course name/group of courses	**Course code**	**Type of course**	**Number of hours**	**Number of ECTS points**	**Number of hours**	**Number of ECTS points**	**Verification of learning outcomes**
Team project**	1100-TP or 1100-ZPS2	project	75	5	0	0	grade
Optical properties of semiconductors	1100-OPS	lecture	30	6	30	6	written or oral exam
		exercises	30		30		
Bose-Einstein condensation and superfluidity	1100-BECSSST	lecture	30	3	30	3	written or oral exam
Selected specialization courses			30	3	30	3	written exam or grade
Selected specialization seminar		seminar	30	2	30	2	grade
Proseminar Physics of Condensed Matter and Semiconductor Nanostructures	1100-PMSN	seminar	30	3	30	3	grade
Laboratory in condensed matter physics I	1100-LCMP1	workshop	120	10	120	10	grade
OGUN (General University Courses)***			30	3	30	3	written exam or grade
In total			**405**	**35**	**330**	**30**	

*Option A is obligatory for those students who did not complete a team project during the first year

** Team project can be taken as a seperate course or as a part of the course that requires teamwork

***5 ECTS points should be obtained from general courses unrelated to physical sciences, i.e. humanities and social sciences

Credit with a grade means that the grade is issued on the basis of one or more written tests or one or more written works carried out in the period of the didactic classes and in accordance with the syllabus of the subject

Second year, semester 4

Course name/group of courses	**Course code**	**Type of course**	**Number of hours**	**Number of ECTS points**	**Verification of learning outcomes**
Work placement	1100-WP	internship	80	4	grade
Proseminar Challenges of the modern times	1100-PCMT	seminar	20	2	grade
Diluted magnetic semiconductors	1101-4`DMS	lecture	30	3	written or oral exam
Selected specialization seminar		seminar	30	2	grade
Laboratory in condensed matter physics II	1100-LCMP2	workshop	210	19	pass/fail (no grade)
In total			**370**	**30**	

	Option A		Option B	
In total	**Number of hours**	**Number of ECTS points**	**Number of hours**	**Number of ECTS points**
1 year	645	60	720	63
2 year	775	65	700	60
1 and 2 year	**1420**	**125**	**1420**	**123**