

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

2-year second cycle programme, full-time

Academic year: 2022/2023

Specialization: **Theoretical Physics**

First year, semester 1

Course name/group of courses	Course code	Type of course	Option A		Option B		Verification of learning outcomes
			Number of hours	Number of ECTS points	Number of hours	Number of ECTS points	
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
		project	0	0	75		
Courses selected from the list Numerical analysis			30	3	30	3	written exam or grade
Courses selected from the list Advanced quantum mechanics		lecture	30	6	30	6	written exam
		exercises	30		30		
Courses selected from the list Topics in contemporary physics			30	3	30	3	written exam or grade
Selected specialization seminar		seminar	30	2	30	2	grade
OGUN (General University Courses)**		lectures	30	3	30	3	written exam or grade
In total (1st semester)			345	31	420	34	

*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	Option A		Option B		Verification of learning outcomes
			Number of hours	Number of ECTS points	Number of hours	Number of ECTS points	
Introduction to Philosophy	1100-IP	seminar	30	3	30	3	grade
Courses selected from the list Numerical analysis			30	3	30	3	written exam or grade
Courses selected from the list Topics in contemporary physics (Option A or Option B)			180	18	150	15	written exam or grade
Selected specialization seminar		seminar	30	2	30	2	grade
OGUN (General University Courses)*		lectures	30	3	30	3	written exam or grade
In total (2nd semester)			300	29	270	26	

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Second year, semester 3

Course name/group of courses	Course code	Type of course	Option A*		Option B		Verification of learning outcomes
			Number of hours	Number of ECTS points	Number of hours	Number of ECTS points	
Work placement	1100-WP	internship	80	4	80	4	grade
Team project**	1100-TP or 1100-ZPS2	project	75	5	0	0	grade
Courses selected from the list Topics in contemporary physics			120	12	120	12	written exam or grade
Selected specialization seminar		seminar	60	4	60	4	grade
Workshop in theoretical physics I	1100-5WTP1	workshop	120	10	120	10	pass/fail (no grade)
In total (3rd semester)			455	35	380	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 separate course or as a part of the course that requires teamwork

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
Proseminar Challenges of the modern times	1100-PCMT	seminar	20	2	grade
Proseminar Theoretical physics	1100-5sTP	seminar	30	3	grade
Workshop in theoretical physics II	1100-5WTP2	workshop	240	25	pass/fail (no grade)
In total (4th semester)			290	30	

In total	Option A		Option B	
	Number of hours	Number of ECTS points	Number of hours	Number of ECTS points
1 year	645	60	690	60
2 year	745	65	670	60
1 and 2 year	1390	125	1360	120