

PLAN OF REGULAR STUDIES

Enrollment **2026/2027**

Subject area of studies: **PHYSICS**

duration: **4 semesters**

University of Zielona Góra
FACULTY OF PHYSICS AND ASTRONOMY

Type of studies: **REGULAR DAILY SECOND DEGREE**

No.		SUBJECT	Number of teaching hours	ECTS	Form of receiving a credit
1	General subjects module (basic and directional)	A. GENERAL SUBJECTS			
2		English	30	2	E
3		Humanities course: Philosophy of Nature / Humanities course: Science Fiction for Physicists	15	2	c/m
4		Social science course: Fundamentals of Economics / Social science course: Fundamentals of Business	30	3	c/m
5		B BASIC SUBJECTS	0	0	
6		Physics laboratory II	120	10	c/mc/m
7		C. FIELD SUBJECTS			
8		Topics in Theoretical Physics	60	4	E c/m
9		Physics of condensed matter	60	6	E c/m
10		Quantum Mechanics	60	5	E c/m
11		Nuclear and High-Energy Physics	60	6	E c/m
12		Applied Statistical Physics	60	5	c/m c/m
13		Python Programming and AI in Scientific Computing	30	2	c/m
14		Introduction to atomic and molecular physics	60	4	E c/m
15		Introduction to Quantum Information and Quantum Computing	45	4	c/m c/m
16		Groundbreaking experiments in physics	30	2	c/m
17		Laser Physics and Nonlinear Optics	60	6	E c/m
18		The Standard Model and Beyond	30	3	c/m
19		Cosmological Structure Models	30	3	c/m
20		Popularization of the Natural Sciences	30	3	c/m
21		ELECTIVE SUBJECTS***			
22		Master's Seminar	30	3	c/m
23		Current Problems in Physics	30	2	c/m
24		Monographic lecture I / Monographic lecture II*	30	3	c/m
25		MASTER'S THESIS	0	12	c
26		Master's Degree Examination	0	0	E
1	COMPUTER PHYSICS	Scientific computing with C++	60	4	E c/m
2		Modeling and simulations of physical systems	60	5	E c/m
3		Physics of computer games	30	2	c/m
4		Dynamics of nonlinear systems	30	2	E
5		Web Application Programming	45	4	E c/m
6		Introduction to machine learning	60	4	E c/m
7		Monte Carlo methods	45	3	z/o z/o
8		Simulations of Quantum Systems	60	6	E c/m
1	THEORETICAL PHYSICS	Advanced mathematical methods in physics	60	4	E c/m
2		Symbolic Computation Packages	30	3	c/m
3		Computer simulations	45	5	E c/m
4		Elements of Special and General Relativity	60	5	E c/m
5		Elements of Classical and Quantum Field Theory	60	4	E c/m
6		Symmetries and Group Theory in Physics	45	4	c/m c/m

Semester 1						Semester 2						Semester 3						Semester 4					
Form of instruction				Form of receiving a credit	ECTS	Form of instruction				Form of receiving a credit	ECTS	Form of instruction				Form of receiving a credit	ECTS	Form of instruction				Form of receiving a credit	ECTS
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