

No.	SUBJECT	Number of teaching hours	ECTS	Form of receiving a credit	Semester 1						Semester 2						Semester 3						Semester 4						Semester 5						Semester 6					
					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	Form of instruction				Form of receiving a credit	ECTS						
					L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S		
1	<b>A. GENERAL SUBJECTS</b>	0	0																																					
2	Foreign language	120	8	c/mc/mc/mE									30	c/m	2				30	c/m	2							30	E	2										
3	Computer laboratory I - information technologies	45	3	c/m									45	c/m	3																									
4	Physical education	60	0	cc	30				c	0	30			c	0																									
5	Selective subject in the field of humanities*	30	3	c/m						30				c/m	3																									
6	Selective social science subject*	15	2	c/m																		15						c/m	2											
7	<b>B. BASIC SUBJECTS</b>	0	0																																					
8	Introduction to higher physics and mathematics	30	0	c	30				c	0																														
9	Mathematical analysis I	120	9	E c/m	60	60			E c/m	9																														
10	Mathematical analysis II	75	5	E c/m						30	45			E c/m	5																									
11	Algebraic and geometrical methods in physics	75	6	E c/m	30	45			E c/m	6																														
12	Fundamentals of physics I – Mechanics	90	8	E c/m	45	45			E c/m	8																														
13	Fundamentals of physics II – Thermodynamics	60	5	E c/m						30	30			E c/m	5																									
14	Fundamentals of physics III – Electricity and magnetism	75	7	E c/m													30	45		E c/m	7																			
15	Fundamentals of physics IV – Optics, modern physics	75	6	E c/m													30	45		E c/m	6																			
16	Astronomy	30	2	c/m						30				c/m	2																									
17	Fundamentals of programming	75	5	E c/m	15			60	E c/m	5																														
18	<b>C. FIELD SUBJECTS</b>	0	0																																					
19	Metrology	15	2	c/m	15				c/m	2																														
20	Physics laboratory I - Mechanics, thermodynamics	45	4	c/m									45	c/m	4																									
21	Physics laboratory I - Electricity and magnetism	45	4	c/m													45	c/m	4																					
22	Physics laboratory I - Optics, modern physics	45	4	c/m																																				
23	Computer data acquisition and processing	30	2	c/m									30	c/m	2																									
24	Classical and relativistic mechanics	60	6	E c/m													30	30		E c/m	6																			
25	Quantum mechanics foundations	60	6	E c/m																			30	30					E c/m	6										
26	Electrodynamics	60	6	E c/m																			30	30					E c/m	6										
27	Constitution of matter	60	6	E c/m																			30	30					E c/m	6										
28	Mathematical methods in physics	60	6	E c/m						30	30			E c/m	6																									
29	Fundamentals of geophysics	45	3	c/m c/m																			30		15	c/m c/m	3													
30	<b>ELECTIVE SUBJECTS</b>	0	0																																					
31	Undergraduate seminar***	30	5	c/m																									30	c/m	5									
32	Monographic lecture***	30	4	E																			30						E	4										
33	Professional practice after the 4th semester, 3 weeks***	0	5	c																									c	5										
34	BACHELOR THESIS***	0	8																												8									
35	LICENTIATE EXAMINATION	0	0	E																											E									
1	<b>COMPUTER PHYSICS</b>	60	4	E c/m						30			30	E c/m	4																									
2	Numerical methods	60	4	E c/m													15		45	E c/m	6																			
3	Object oriented programming	60	6	E c/m													15		45	c/m c/m	5																			
4	Data structures and algorithms	60	5	c/m c/m																																				
5	Computer measuring systems	30	2	c/m																						30	c/m	2												
6	Measurement data analysis	60	5	E c/m													30		30	E c/m	5																			
7	Modeling phenomena in nature	60	5	E c/m													30		30	E c/m	5																			
8	Signal analysis	60	6	E c/m																			30		30	E c/m	6													
8	Introduction to computer simulations	75	7	c/m c/m																			30		45	c/m c/m	7													

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					L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S			L	T	D	L/S		
1	Astronomical instruments	60	4	E c/m					30	30			E c/m	4																										
2	Introduction to analysis of astrophysical time series	30	3	c/m c/m																	15	15			c/m c/m	3														
3	The physics of stars and the scattered matter	60	6	E c/m													30	30			E c/m	6																		
4	Scientific calculations and numerical methods	45	3	c/m																	45				c/m	3														
5	Observational methods and data analysis in astrophysics	60	6	c/m c/m													30	30			c/m c/m	6																		
6	The basics of spherical astronomy and astrometry	60	6	E c/m									30	30			E c/m	6																						
7	Introduction to celestial mechanics and solar system	60	5	E c/m									30	30			E c/m	5																						
8	Systems of stars and structure of the Universe	60	5	E c/m																									30	30			E c/m	5						
9	Introduction to the compact objects astrophysics	30	2	c/m																									30				c/m	2						
1	Algebraic and geometrical methods in physics II	45	4	E c/m					15	30			E c/m	4																										
2	Differential equations in physics	60	5	E c/m									30	30			E c/m	5																						
3	General chemistry	30	3	E									30				E	3																						
4	Vibrations and waves	30	3	c/m									30				c/m	3																						
5	Introduction to electronics	45	4	E c/m																	30	15			E c/m	4														
6	Elements of modern physics	30	3	c/m																	30				c/m	3														
7	Physics of nature	60	5	E c/m																	30	30			E c/m	5														
8	Physics laboratory	60	6	c/m																			60		c/m	6														
9	History of physics	30	2	c/m																									30				c/m	2						
10	Measurement data analysis	60	5	E c/m																									30		30		E c/m	5						

Common subjects	1560	135
Speciality 1: COMPUTER PHYSICS	465	40
Speciality 2: COMPUTER ASTROPHYSICS	465	40
Speciality 3: GENERAL PHYSICS	450	40
Practice	60	5
<b>SumCOMPUTER PHYSICS</b>	<b>2085</b>	<b>180</b>
<b>SumCOMPUTER ASTROPHYSICS</b>	<b>2085</b>	<b>180</b>
<b>SumGENERAL PHYSICS</b>	<b>2070</b>	<b>180</b>
<b>Sum without Practice</b>		
COMPUTER PHYSIC	2025	175
COMPUTER ASTROPHYSIC	2025	175
GENERAL PHYSICS	2010	175

435
0
0
0

30	375
0	60
0	60
0	45

26	210
4	120
4	120
4	120

19	210
11	150
11	120
11	135

18	210
12	60
12	75
12	60

24	120
6	75
6	90
6	90

23
7
7
7

435
435
435

30	435
30	435
30	420

30	330
30	330
30	330

30	360
30	330
30	345

30	270
30	285
30	270

30	195
30	210
30	210

30
30
30

Plan studiów został zatwierdzony na Radzie Wydziału dnia 26 marca 2019 roku

Blue color: all selective courses, \* - common selective courses, \*\*\* - common selective courses within speciality

Lectures: Astronomy, Fundamentals of geophysics - credit and mark

English as a foreign language - Semesters 2-4- credit and mark.

Introduction to higher physics and mathematics, Physical education- credit without grade.

Selective subject in the field of humanities\*: Language culture / Humanistic subject from another faculty (30 hours, 3 ECTS)- credit and mark.

Selective social science subject\*: Intellectual property protection, occupational safety, ergonomics / Social subject from another faculty (15 hours, 2 ECTS)- credit and mark.

Lecture Introduction to computer simulations- credit and mark

Lecture Observational methods and data analysis in astrophysics- credit and marks

Lecture Vibrations and waves- credit and mark

Professional practice after the 4th semester, 3 weeks, credit in semester V

Bachelor thesis- credit without grade.