

PLAN OF REGULAR STUDIES, FIRST DEGREE
faculty: PHYSICS

REGULAR DAILY STUDIES – enrolment 2014/2015

page 1

COMMON SUBJECTS

No.	Subject		Summary figures		Curriculum in respective semesters (hours per week)											
			Including		I		II		III		IV		V		VI	
			H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
A. GENERAL SUBJECTS																
1	English as a foreign language	Lab	120	8			2	2	2	2	2	2	2	2		
2	Computer laboratory I - information technologies	Lab	45	3	3	3										
3	Physical education	T	30	1			2	1								
4	Selective subject I*		30	1			2	1								
5	Selective subject II*		30	2										2	2	
6	Intellectual property protection, occupational safety, ergonomics	L	15	1									1	1		
B. BASIC SUBJECTS																
7	Introduction to higher physics and mathematics	T	30	0	2	0										
8	Mathematical analysis I	T	60	9	4	5										
9	Mathematical analysis I	L	60	4	4	4										
10	Mathematical analysis II	T	45	6			3	4								
11	Mathematical analysis II	L	30	6			2	2								
12	Algebraic and geometrical methods in physics I	T	45	6	3	3										
13	Algebraic and geometrical methods in physics I	L	30	6	2	3										
14	Fundamentals of physics I – Mechanics	T	45	8	3	4										
15	Fundamentals of physics I – Mechanics	L	45	8	3	4										
16	Fundamentals of physics II – Thermodynamics	T	30	4			2	2								
17	Fundamentals of physics II – Thermodynamics	L	30	4			2	2								
18	Fundamentals of physics III – Electricity and magnetism	T	45	7					3	4						
19	Fundamentals of physics III – Electricity and magnetism	L	30	7					2	3						
20	Fundamentals of physics IV – Optics, modern physics	T	45	6							3	4				
21	Fundamentals of physics IV – Optics, modern physics	L	30	6							2	2				
22	Astronomy	L	30	2	2	2										
23	Fundamentals of programming	Lab	45	6			3	4								
24	Fundamentals of programming	L	30	6			2	2								
C. FIELD SUBJECTS																
25	Metrology	T	15	2	1	2										
26	Physics laboratory I - Mechanics, thermodynamics	Lab	45	4			3	4								
27	Physics laboratory I - Electricity and magnetism	Lab	45	4					3	4						
28	Physics laboratory I - Optics, modern physics	Lab	45	4							3	4				
29	Computer laboratory II	Lab	30	2			2	2								
30	Classical and relativistic mechanics	T	30	6							2	3				
31	Classical and relativistic mechanics	L	30	6							2	3				
32	Quantum mechanics foundations	T	30	6									2	3		
33	Quantum mechanics foundations	L	30	6									2	3		
34	Electrodynamics	T	30	6										2	3	
35	Electrodynamics	L	30	6										2	3	
36	Physics of phase transitions	T	30	6									2	3		
37	Physics of phase transitions	L	30	6									2	3		
38	Mathematical methods in physics	T	30	6					2	3						
39	Mathematical methods in physics	L	30	6					2	3						
Sum:			1455	116	27	30	25	26	14	19	14	18	11	15	6	8

Legend: L - lecture, T- tutorial, Lab - laboratory, Pr - practice, S – seminar

The lecture courses are closed with an **examination**

Tutorials, laboratories and seminars — **credit and mark**

Examination is made
by a **bold and underlined figure**

H – hours per week

pt. - ECTS

Lectures: Astronomy - credit and mark, English as a foreign language — **credit and mark.**

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

Selective subject I*: Language culture /University-wide elective courses or from another field of study (min. 30 hours) - **credit without grade.**

Selective subject II*: Philosophy of nature / Natural sciences methodology / University-wide elective courses or from another field of study (min. 30 hours) - **credit without grade.**

* - Elective course, ** - elective specialty,
*** - elective courses within specialty

Plan studiów zatwierdzono na Radzie Wydziału w dniu 11 marca 2014 r.

Zmiany wprowadzono: 15 kwietnia 2014 r., 17.06.2014 r.

PLAN REGULAR STUDIES, UNDERGRADUATE PROGRAMME

faculty: PHYSICS, speciality: ENVIRONMENTAL PHYSICS**

REGULAR DAILY STUDIES – enrolment 2014/2015

page. 2

No.	Subject	Summary figures		Curriculum in respective semesters (hours per week)												
		Including		I		II		III		IV		V		VI		
		H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	
	continued from page 1	1455	116	27	30	25	26	14	19	14	18	11	15	6	8	
	D. SPECIALIZATION SUBJECTS**															
1	Thermodynamics and elements of heat engineering	T	30					2	3							
2	Thermodynamics and elements of heat engineering	L	30	5				<u>2</u>	2							
3	Elements of acoustics, noise protection	Lab	30					2	3							
4	Elements of acoustics, noise protection	L	30	6				<u>2</u>	3							
5	Measurement data analysis	Lab	30	3						2	3					
6	Foundations of astrometeorology	T	30			2	2									
7	Foundations of astrometeorology	L	15	4		<u>1</u>	2									
8	Physics and nuclear energy	T	30							2	3					
9	Physics and nuclear energy	L	30	5						<u>2</u>	2					
10	Electromagnetic radiation and health	T	30							2	2					
11	Electromagnetic radiation and health	L	15	3						1	1					
12	Spectroscopy	Lab	15	2										1	2	
13	Environmental physics I – Natural environment pollution	T	30									2	3			
14	Environmental physics I – Natural environment pollution	L	30	6								<u>2</u>	3			
15	Environmental physics II – Energy resources management	T	15											1	1	
16	Environmental physics II – Energy resources management	L	30	3										<u>2</u>	2	
17	Environmental physics laboratory	Lab	30	4								2	4			
18		Lab	30	2										2	2	
19	Environmental protection law	L	15	1						1	1					
	ELECTIVE SUBJECTS***															
20	Undergraduate seminar***	S	30	5										2	5	
21	Monographic lecture***	L	30	4										<u>2</u>	4	
22	Professional practice after the 4th semester, 3 weeks***	Pr		5									5			
23	BACHELOR THESIS***			6											6	
24	LICENTIATE EXAMINATION														E	
	Sum: D		555	64	0	0	3	4	8	11	10	12	6	15	10	22
	Sum: A + B + C + D		2010	180	27	30	28	30	22	30	24	30	17	30	16	30
	Number of examinations:				3E	4E		4E		3E		3E		3E+	1E	

Legend: L - lecture, T - Tutorials, Lab - laboratory, Pr -practice, S – seminar
 The lecture courses are closed with an **examination**
 Tutorials, laboratories and seminars — **credit and mark**

Lecture:

Electromagnetic radiation and health, Environmental protection law – **credit and mark**
 Professional practice after the 4th semester, 3 weeks – **credit in semester V**
 Bachelor thesis - **credit without grade.**

Examination is made
 by a bold and underlined figure
 H – hours per week
 pt. - ECTS

* - Elective course, ** - elective speciality,
 *** - elective courses within speciality

PLAN OF REGULAR STUDIES, UNDERGRADUAT PROGRAMME

faculty: PHYSICS, speciality: COMPUTER PHYSICS**

REGULAR DAILY STUDIES – enrolment 2014/2015

page. 3

No.	Subject	Summary figures		Curriculum in respective semesters (hours per week)											
		Including		I		II		III		IV		V		VI	
		H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
		1455	116	27	30	25	26	14	19	14	18	11	15	6	8
	D. SPECIALIZATION SUBJECTS**														
1	Computer graphics Lab	30				2	2								
2	Computer graphics L	30	4			<u>2</u>	2								
3	Numerical methods Lab	30						2	3						
4	Numerical methods L	30	5					<u>2</u>	2						
5	Object oriented programming Lab	30						2	4						
6	Object oriented programming L	30	6					<u>2</u>	2						
7	Databases Lab	30	3							2	3				
8	Measurement data analysis Lab	30								2	3				
9	Measurement data analysis L	30	5							<u>2</u>	2				
10	Data structures and algorithms Lab	30								2	2				
11	Data structures and algorithms L	30	4							2	2				
12	Python language in numerical calculations Lab	30										2	4		
13	Python language in numerical calculations L	30	7									<u>2</u>	3		
14	Advanced programming methods Lab	30	3									2	3		
15	Introduction to computer simulations Lab	45												3	4
16	Introduction to computer simulations L	30	7											2	3
	ELECTIVE SUBJECTS***														
17	Undergraduate seminar*** S	30	5												2 5
18	Monographic lecture*** L	30	4											<u>2</u>	4
19	Professional practice after the 4th semester, 3 weeks*** Pr		3										3		
20	BACHELOR THESIS***		6												6
21	LICENTIATE EXAMINATION														E
	Sum: D	555	62	0	0	4	4	8	11	10	12	6	13	9	22
	Sum: A + B + C + D	2010	178	27	30	29	30	22	30	24	30	17	28	15	30
	Number of examinations:			3E	4E	4E	4E	3E	3E	3E	3E	3E	2E+	1E	

Legend: L - lecture, T - Tutorials, Lab - laboratory, Pr -practice, S – seminar

The lecture courses are closed with an **examination**

Tutorials, laboratories and seminars — **credit and mark**

Lectures:

Data structures and algorithms, Introduction to computer simulations — **credit and mark**

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

Bachelor thesis - **credit without grade.**

Examination is made by a bold and underlined figure

H – hours per week

pt. - ECTS

*** - Elective course, ** - elective specialty, *** - elective courses within specialty**

PLAN OF REGULAR STUDIES, UNDERGRADUAT PROGRAMME

faculty: PHYSICS, speciality: COMPUTER ASTROPHYSICS**

REGULAR DAILY STUDIES – enrolment 2014/2015

page. 4

No.	Subject	figures		Curriculum in respective semesters (hours per week)											
		Including		I		II		III		IV		V		VI	
		H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
		1455	116	53	30	25	26	14	19	14	18	11	15	6	8
	D. SPECIALIZATION SUBJECTS**														
1	Astronomical instruments Lab	30	4			2	2								
2	Astronomical instruments L	30				2	2								
3	Introduction to analysis of astrophysical time series Lab	15										1	2		
4	Introduction to analysis of astrophysical time series L	15	3									1	1		
5	The physics of stars and the scattered matter Lab	30								2	4				
6	The physics of stars and the scattered matter L	30	6							2	2				
7	Scientific calculations and numerical methods Lab	45	4									3	4		
8	Observational methods and data analysis in astrophysics Lab	30								2	4				
9	Observational methods and data analysis in astrophysics L	30	6							2	2				
10	The basics of spherical astronomy and astrometry Lab	30						2	4						
11	The basics of spherical astronomy and astrometry L	30	6					2	2						
12	Introduction to celestial mechanics and solar system Lab	30						2	3						
13	Introduction to celestial mechanics and solar system L	30	5					2	2						
14	Systems of stars, the structure of the Universe and cosmology Lab	30												2	3
15	Systems of stars, the structure of the Universe and cosmology L	30	5											2	2
16	Plasma astrophysics Lab	15										1	2		
17	Plasma astrophysics L	15	3									1	1		
18	Introduction to the compact objects astrophysics Lab	30	2											2	2
	ELECTIVE SUBJECTS***														
19	Undergraduate seminar*** S	30	5											2	5
20	Monographic lecture*** L	30	4											2	4
21	Professional practice after the 4th semester, 3 weeks*** Pr		5										5		
22	BACHELOR THESIS***		6												6
23	LICENTIATE EXAMINATION														E
	Sum: D	555	64	0	0	4	4	8	11	8	12	7	15	10	22
	Sum: A + B + C + D	2010	180	27	30	29	30	22	30	22	30	18	30	16	30
	Number of examinations:			3E	4E		4E	3E		4E	4E+	1E			

Legend: L - lecture, T - Tutorials, Lab - laboratory, Pr -practice, S – seminar

The lecture courses are closed with an **examination**

Tutorials, laboratories and seminars — **credit and mark**

Lectures:

Observational Methods and Data Analysis in Astronomy - **credit and mark**

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

Bachelor thesis - **credit without grade.**

Examination is made by a bold and underlined figure

H – hours per week

pt. - ECTS

*** - Elective course, ** - elective specialty, *** - elective courses within specialty**