

**PLAN OF REGULAR STUDIES, GRADUATE PROGRAMME**  
**PLAN OF REGULAR STUDIES, SECOND CYCLE PROGRAMME**  
**faculty: PHYSICS**  
**COMMON SUBJECTS**

REGULAR DAILY STUDIES – enrolment 2017/2018

page 1

Subject		Summary figures		Curriculum in respective semesters (hours per week)								
		Including:		I		II		III		IV		
		H	pt.	H	pt.	H	pt.	H	pt.	H	pt.	
<b>A. GENERAL SUBJECTS</b>												
1	English	Lc	<b>30</b>	<b>2</b>	2	2						
2	Selective subject*		<b>30</b>	<b>2</b>					2	2		
3	Selective subject in the field of humanities*		<b>15</b>	<b>2</b>			1	2				
4	Selective social science subject*		<b>30</b>	<b>3</b>					2	3		
<b>B BASIC SUBJECTS</b>												
5	Physics laboratory II	Lc	<b>105</b>	<b>12</b>	7	12						
<b>C. FIELD SUBJECTS</b>												
6	Theoretical physics	C	<b>60</b>	<b>10</b>	4	5						
7	Theoretical physics	L	<b>45</b>	<b>10</b>	<b>3</b>	5						
8	Solid state physics	C	<b>45</b>	<b>7</b>					3	4		
9	Solid state physics	L	<b>30</b>	<b>7</b>					<b>2</b>	3		
10	Quantum physics	C	<b>45</b>	<b>7</b>			3	4				
11	Quantum physics	L	<b>30</b>	<b>7</b>			<b>2</b>	3				
12	Nuclear and high energy physics	C	<b>30</b>	<b>6</b>					2	3		
13	Nuclear and high energy physics	L	<b>30</b>	<b>6</b>					<b>2</b>	3		
14	Introduction to atomic and molecular physics	C	<b>30</b>	<b>6</b>			2	3				
15	Introduction to atomic and molecular physics	L	<b>30</b>	<b>6</b>			<b>2</b>	3				
<b>ELECTIVE SUBJECTS***</b>												
16	Graduate seminar I	S	<b>30</b>	<b>4</b>					2	4		
17	Graduate seminar II	S	<b>30</b>	<b>4</b>							2	4
18	General seminar	S	<b>30</b>	<b>4</b>							2	4
19	Monographic lecture I	L	<b>30</b>	<b>4</b>					<b>2</b>	4		
20	Monographic lecture II	L	<b>30</b>	<b>4</b>							<b>2</b>	4
21	<b>MASTER'S THESIS</b>			<b>12</b>								12
22	<b>MAGISTER EXAMINATION</b>										<b>E</b>	
<b>Sum:</b>			<b>735</b>	<b>89</b>	<b>16</b>	<b>24</b>	<b>10</b>	<b>15</b>	<b>17</b>	<b>26</b>	<b>6</b>	<b>24</b>
<b>NUMBER OF EXAMINATIONS</b>					<b>1E</b>		<b>2E</b>		<b>3E</b>		<b>1E+</b>	<b>E</b>

**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**

Examination is made  
 by a bold and underlined figure

H – hours per week  
 pt. - ECTS

**Subjects:**

Graduate seminar I, II, General seminar — **credit and mark.**

\* - selective subjects,  
 \*\* - specialty-related elective courses,  
 \*\*\* - elective courses within specialty

Selective subject\*: University-wide elective courses or from another field of study (30 hours, 2 ECTS) - **credit without grade.**

Selective subject in the field of humanities\*: Philosophy of nature / Humanistic subject from another faculty (15 hours, 2 ECTS) - **credit and mark.**

Selective social science subject\*: Elements of economics / Social subject from another faculty (30 hours, 3 ECTS) - **credit and mark.**

Plan studiów zatwierdzono na Radzie Wydziału w dniu 14<sup>th</sup> April 2017  
 Zmiany wprowadzono:

**PLAN OF REGULAR STUDIES, SECOND CYCLE PROGRAMME**  
**faculty: PHYSICS, speciality: COMPUTER PHYSICS**

REGULAR DAILY STUDIES – enrolment 2017/2018

page 2

Subject			Summary figures		Curriculum in respective semesters (hours per week)							
			Including:		I		II		III		IV	
			H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
z przeniesienia ze str. 1:			<b>735</b>	<b>89</b>	<b>16</b>	<b>24</b>	<b>10</b>	<b>15</b>	<b>17</b>	<b>26</b>	<b>6</b>	<b>24</b>
<b>D. SPECIALIZATION SUBJECTS**</b>												
23	Scientific programming in Python / Monte Carlo Methods	Lc	<b>30</b>	<b>6</b>	<u>2</u>	3						
24	Scientific programming in Python / Monte Carlo Methods	L	<b>30</b>		<u>2</u>	3						
25	Applications of computer simulations	Lc	<b>30</b>	<b>6</b>			2	3				
26	Applications of computer simulations	L	<b>30</b>				<u>2</u>	3				
27	Unix OS programming	Lc	<b>30</b>	<b>3</b>			2	3				
28	Symbolic programming in physical processes simulations	Lc	<b>30</b>	<b>3</b>			2	3				
29	Scripting languages in data analysis	Lc	<b>30</b>	<b>3</b>			2	3				
30	Internet applications programming	Lc	<b>30</b>						2	2		
31	Internet applications programming	L	<b>15</b>	<b>4</b>					<u>1</u>	2		
32	Quantum systems simulations	Lc	<b>30</b>								2	3
33	Quantum systems simulations	L	<b>30</b>	<b>6</b>							<u>2</u>	3
<b>Sum:</b>			<b>1050</b>	<b>120</b>	<b>20</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>10</b>	<b>30</b>
<b>NUMBER OF EXAMINATIONS</b>					<u>2E</u>		<u>3E</u>		<u>4E</u>		<u>2E+</u>	<u>E</u>

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**PLAN OF REGULAR STUDIES, SECOND CYCLE PROGRAMME**  
**faculty: PHYSICS, speciality: THEORETICAL PHYSICS**

REGULAR DAILY STUDIES – enrolment 2017/2018

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			H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
z przeniesienia ze str. 1:			<b>735</b>	<b>89</b>	<b>16</b>	<b>24</b>	<b>10</b>	<b>15</b>	<b>17</b>	<b>26</b>	<b>6</b>	<b>24</b>
<b>D. SPECIALIZATION SUBJECTS*</b>												
23	Mathematical methods in physics	Lc	<b>30</b>	<b>6</b>	2	4						
24	Mathematical methods in physics	L	<b>15</b>		<u>1</u>	2						
25	Packages for symbolic computations	Lc	<b>30</b>	<b>3</b>			2	3				
26	Computer simulations	Lc	<b>30</b>	<b>7</b>			2	4				
27	Computer simulations	L	<b>30</b>				<u>2</u>	3				
28	Statistical physics	C	<b>30</b>	<b>5</b>			2	3				
29	Statistical physics	L	<b>15</b>				1	2				
30	Quantum physics II	C	<b>30</b>	<b>4</b>					2	2		
31	Quantum physics II	L	<b>15</b>						<u>1</u>	2		
32	Field theory	C	<b>30</b>	<b>4</b>							2	2
33	Field theory	L	<b>30</b>								<u>2</u>	2
34	Elementary particle physics	L	<b>30</b>	<b>2</b>							2	2
<b>Sum:</b>			<b>1050</b>	<b>120</b>	<b>19</b>	<b>30</b>	<b>19</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>12</b>	<b>30</b>
<b>NUMBER OF EXAMINATIONS</b>					<u>2E</u>		<u>3E</u>		<u>4E</u>		<u>2E+</u>	<u>E</u>

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**PLAN OF REGULAR STUDIES, SECOND CYCLE PROGRAMME**  
**faculty: PHYSICS, speciality: COMPUTER ASTROPHYSICS**

REGULAR DAILY STUDIES – enrolment 2017/2018

page 3

Subject			figures		(hours per week)							
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			H	pt.	H	pt.	H	pt.	H	pt.	H	pt.
z przeniesienia ze str. 1:			<b>735</b>	<b>89</b>	<b>16</b>	<b>24</b>	<b>10</b>	<b>15</b>	<b>17</b>	<b>26</b>	<b>6</b>	<b>24</b>
<b>D. SPECIALIZATION SUBJECTS**</b>												
23	Astrophysics I	C	<b>30</b>	6	2	4						
24	Astrophysics I	L	<b>15</b>		<u>1</u>	2						
25	Astrophysics II	C	<b>30</b>	6			2	3				
26	Astrophysics II	L	<b>30</b>				<u>2</u>	3				
27	Extragalactic astronomy and cosmology	C	<b>15</b>	4			1	2				
28	Extragalactic astronomy and cosmology	L	<b>15</b>				1	2				
29	Astrophysics of compact objects	C	<b>30</b>	6							2	4
30	Astrophysics of compact objects	L	<b>15</b>								<u>1</u>	2
31	Modern radio astronomy	L	<b>30</b>	2					2	2		
32	High-energy astrophysics	L	<b>30</b>	2				<u>2</u>	2			
33	Radiative processes in astrophysics	C	<b>45</b>	5			3	3				
34	Radiative processes in astrophysics	L	<b>30</b>				<u>2</u>	2				
<b>Sum:</b>			<b>1050</b>	<b>120</b>	<b>19</b>	<b>30</b>	<b>21</b>	<b>30</b>	<b>21</b>	<b>30</b>	<b>9</b>	<b>30</b>
<b>NUMBER OF EXAMINATIONS</b>					<b>2E</b>		<b>4E</b>		<b>4E</b>		<b>2E+</b>	<b>E</b>

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**PLAN OF REGULAR STUDIES, SECOND CYCLE PROGRAMME**  
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REGULAR DAILY STUDIES – enrolment 2017/2018

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<b>D. SPECIALIZATION SUBJECTS**</b>												
23	Dosimetry and quality control in medical physics	Lc	<b>30</b>	6	2	4						
24	Dosimetry and quality control in medical physics	L	<b>15</b>		<u>1</u>	2						
25	Packages for statistical analysis	Lc	<b>30</b>	3			2	3				
26	Medical image analysis algorithms	Lc	<b>30</b>	7			2	4				
27	Medical image analysis algorithms	L	<b>30</b>				<u>2</u>	3				
28	Mathematical methods in biophysics and medical physics	C	<b>30</b>	5			2	3				
29	Mathematical methods in biophysics and medical physics	L	<b>15</b>				1	2				
30	Elements of bioinformatics	Lc	<b>30</b>	4					2	2		
31	Elements of bioinformatics	L	<b>15</b>						<u>1</u>	2		
32	Elements of neuroscience	Lc	<b>30</b>	4							2	2
33	Elements of neuroscience	L	<b>30</b>								<u>2</u>	2
34	Elements of microbiology	L	<b>30</b>	2							2	2
<b>Sum:</b>			<b>1050</b>	<b>120</b>	<b>19</b>	<b>30</b>	<b>19</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>12</b>	<b>30</b>
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