

**PLAN OF REGULAR STUDIES, FIRST DEGREE**

Faculty: **ASTRONOMY** speciality: Computer Astrophysics (*optical astronomy*)

page. 1

No	Subject	General 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	
<b>A General Subjects</b>																
1	English as a Foreign Language	Lab	<b>120</b>	5			2	1	2	1	2	1	2	2		
2	Information Technology	L	<b>30</b>	1			<u>2</u>	1								
3	Philosophy of Nature / Methodology of Natural Sciences	L	<b>30</b>	1											2 1	
4	Language culture	L	<b>30</b>	1			2	1								
5	Intellectual property protection, occupational safety, ergonomics	L	<b>15</b>	1								1	1			
<b>B Mathematics Physics Subject</b>																
6	Introduction to Higher Physics and Mathematics	T	<b>90</b>	5	6	5										
7	Mathematical Analysis	T	<b>105</b>	14	4	6	3	4								
8	Mathematical Analysis	L	<b>90</b>	14	<u>4</u>	2	<u>2</u>	2								
9	Algebraic and geometrical methods in physics	T	<b>45</b>	7	3	5										
10	Algebraic and geometrical methods in physics	L	<b>30</b>	7	<u>2</u>	2										
11	Mathematical Methods in Physics	T	<b>30</b>	6				2	4							
12	Mathematical Methods in Physics	L	<b>30</b>	6				<u>2</u>	2							
13	Fundamentals of Physics I - Mechanics	T	<b>45</b>	8	3	5										
14	Fundamentals of Physics I - Mechanics	L	<b>45</b>	8	<u>3</u>	3										
15	Fundamentals of Physics II - Thermodynamics	T	<b>30</b>	6			2	4								
16	Fundamentals of Physics II - Thermodynamics	L	<b>30</b>	6			<u>2</u>	2								
17	Electrodynamics	T	<b>30</b>	5											2 4	
18	Electrodynamics	L	<b>30</b>	5										<u>2</u>	1	
19	Physics Laboratory	Lab	<b>135</b>	10			3	3	3	4	3	3				
<b>C Astronomy Subjects</b>																
20	General Astronomy	L	<b>30</b>	2	2	2										
21	The Basics of Spherical Astronomy and Astrometry	T	<b>30</b>	6				2	4							
22	The Basics of Spherical Astronomy and Astrometry	L	<b>30</b>	6				<u>2</u>	2							
23	Introduction to Celestial Mechanics and Solar System	T	<b>30</b>	6				2	4							
24	Introduction to Celestial Mechanics and Solar System	L	<b>30</b>	6				<u>2</u>	2							
25	Systems of Stars, The Structure of the Universe and Cosmology	T	<b>30</b>	4											2 3	
26	Systems of Stars, The Structure of the Universe and Cosmology	L	<b>30</b>	4										<u>2</u>	1	
27	Introduction to the Compact Objects Astrophysics	L	<b>30</b>	1										<u>2</u>	1	
28	Astronomical Practice (160 hours)	Pr	<b>160</b>	7											7	
<b>D Specialization Subjects: Informatics*</b>																
29	Basic Programming	Lab	<b>60</b>	3			4	3								
31	Operating Systems	Lab	<b>60</b>	3			4	3								
31	Scientific Calculations and Numerical Methods	T	<b>75</b>	6								5	6			
32	Programming Languages and Paradigms	Lab	<b>30</b>	6						2	3					
33	Programming Languages and Paradigms	L	<b>30</b>	6						<u>2</u>	3					
<b>E General Course*</b>																
34	Undergraduate Seminar	S	<b>45</b>	6								3	6			
35	Undergraduate Seminar	S	<b>30</b>	5										2	5	
36	Undergraduate Seminar	Lab	<b>45</b>	7								3	7			
37	Bachelor Thesis			7											7	
38	Licentiate Examination														<b>E</b>	
<b>SUMMARY:</b>			<b>1765</b>	<b>139</b>	<b>27</b>	<b>30</b>	<b>26</b>	<b>24</b>	<b>17</b>	<b>23</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>22</b>	<b>14</b>	<b>30</b>

Legend: L - Lecture, T - Tutorial, **Lab** - Laboratory, **Pr** - Practice, S - Seminar

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

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

**Examination is marked by bold and underlined figure**

**H** - hours per week

**pt** - ECTS

**PLAN OF REGULAR STUDIES, FIRST DEGREE**

Faculty: **ASTRONOMY** speciality: Computer Astrophysics (*optical astronomy*)

Regular daily Studies - enrolment 2012/2013

page. 2

No	Subject	General 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	1765	139	27	30	26	24	17	23	9	10	14	22	14	30	
<b>F</b>	<b>Elective Course*</b>															
39	Physical Education	T	60	2			2	1	2	1						
40	Introduction to Analysis of Astrophysical Time Series or Plasma Astrophysics	T	15									1	1			
41	Introduction to Analysis of Astrophysical Time Series or Plasma Astrophysics	L	15									<u>1</u>	1			
<b>G</b>	<b>Specialization Subjects: Optical Astronomy*</b>															
42	Fundamentals of Optics and Astronomical Instruments	T	30			2	3									
43	Fundamentals of Optics and Astronomical Instruments	L	30			<u>2</u>	2									
44	Methods of Observation and Analysis of Optical Astronomy	T	30							2	4					
45	Methods of Observation and Analysis of Optical Astronomy	L	30							2	2					
46	Fundamentals of Physics III - Electricity and Magnetism	T	45					3	4							
47	Fundamentals of Physics III - Electricity and Magnetism	L	30					<u>2</u>	2							
48	The Physics of Stars and The Scattered Matter	T	30									2	4			
49	The Physics of Stars and The Scattered Matter	L	30									<u>2</u>	2			
50	Laboratory of Optical Astronomy Fundamentals	Lab	90	8						6	8					
51	Classical and Relativistic Mechanism	T	30							2	4					
52	Classical and Relativistic Mechanism	L	30							<u>2</u>	2					
<b>page 2 — Summary:</b>			495	41	0	0	6	6	7	7	14	20	6	8	0	0
<b>page 1 i 2 — SUMMARY:</b>			2260	180	27	30	32	30	24	30	23	30	20	30	14	30
<b>Number of examinations</b>					<b>3E</b>	<b>4E</b>	<b>4E</b>	<b>2E</b>	<b>2E</b>	<b>4E</b>						

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Lectures:

General Astronomy - **credit and mark**

Language Culture - **credit**

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

Intellectual property protection, occupational safety, ergonomics - **credit and mark**

\*elective speciality

**Examination is marked by bold and underlined figure**  
**H** - hours per week  
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**PLAN OF REGULAR STUDIES, FIRST DEGREE**  
Faculty: ASTRONOMY speciality: Computer Astrophysics (*radioastronomy*)

page 1

No.	Subject	General 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.	
<b>A General Subjects</b>																
1	English as a Foreign Language	Lab	120	5			2	1	2	1	2	1	2	2		
2	Information Technology	L	30	1			<u>2</u>	1								
3	Philosophy of Nature / Methodology of Natural Sciences	L	30	1											2 1	
4	Language culture	L	30	1			2	1								
5	Intellectual property protection, occupational safety, ergonomics	L	15	1								1	1			
<b>B Mathematics Physics Subject</b>																
6	Introduction to Higher Physics and Mathematics	T	90	5	6	5										
7	Mathematical Analysis	T	105	14	4	6	3	4								
8	Mathematical Analysis	L	90	14	<u>4</u>	2	<u>2</u>	2								
9	Algebraic and geometrical methods in physics	T	45	7	3	5										
10	Algebraic and geometrical methods in physics	L	30	7	<u>2</u>	2										
11	Mathematical Methods in Physics	T	30	6				2	4							
12	Mathematical Methods in Physics	L	30	6				<u>2</u>	2							
13	Fundamentals of Physics I - Mechanics	T	45	8	3	5										
14	Fundamentals of Physics I - Mechanics	L	45	8	<u>3</u>	3										
15	Fundamentals of Physics II - Thermodynamics	T	30	6			2	4								
16	Fundamentals of Physics II - Thermodynamics	L	30	6			<u>2</u>	2								
17	Electrodynamics	T	30	5											2 4	
18	Electrodynamics	L	30	5											<u>2</u> 1	
19	Physics Laboratory	Lab	135	10			3	3	3	4	3	3				
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20	General Astronomy	L	30	2	2	2										
21	The Basics of Spherical Astronomy and Astrometry	T	30	6					2	4						
22	The Basics of Spherical Astronomy and Astrometry	L	30	6					<u>2</u>	2						
23	Introduction to Celestial Mechanics and Solar System	T	30	6					2	4						
24	Introduction to Celestial Mechanics and Solar System	L	30	6					<u>2</u>	2						
25	Systems of Stars, The Structure of the Universe and Cosmology	T	30	4											2 3	
26	Systems of Stars, The Structure of the Universe and Cosmology	L	30	4											<u>2</u> 1	
27	Introduction to the Compact Objects Astrophysics	L	30	1											<u>2</u> 1	
28	Astronomical Practice (160 hours)	Pr	160	7											7	
<b>D Specialization Subjects: Informatics*</b>																
29	Basic Programming	Lab	60	3			4	3								
31	Operating Systems	Lab	60	3			4	3								
31	Scientific Calculations and Numerical Methods	T	75	6								5	6			
32	Programming Languages and Paradigms	Lab	30	6						2	3					
33	Programming Languages and Paradigms	L	30	6						<u>2</u>	3					
<b>E General Course*</b>																
34	Undergraduate Seminar	S	45	6								3	6			
35	Undergraduate Seminar	S	30	5										2	5	
36	Bachelor Seminar	Lab	45	7								3	7			
37	Bachelor Thesis			7											7	
38	Licentiate Examination														E	
<b>Summary:</b>			<b>1765</b>	<b>139</b>	<b>27</b>	<b>30</b>	<b>26</b>	<b>24</b>	<b>17</b>	<b>23</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>22</b>	<b>14</b>	<b>30</b>

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str. 2

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39	Physical Education	T	60	2			2	1	2	1						
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41	Introduction to Analysis of Astrophysical Time Series or Plasma Astrophysics	L	15									<u>1</u>	1			
<b>G</b>	<b>Specialization Subjects: Radio Astronomy*</b>															
42	The Basic of Electrodynamics and the Instruments in Radio Astronomy	T	30	5			2	3								
43	The Basic of Electrodynamics and the Instruments in Radio Astronomy	L	30			2	2									
44	Observational Methods and Data Analysis in Radio Astronomy	T	30	6						2	4					
45	Observational Methods and Data Analysis in Radio Astronomy	L	30							2	2					
46	Fundamental of Physics IV - Optics, Modern Physics	T	45	6						3	4					
47	Fundamental of Physics IV - Optics, Modern Physics	L	30							<u>2</u>	2					
48	The Physics of Stars and The Scattered Matter	T	30	6				2	4							
49	The Physics of Stars and The Scattered Matter	L	30					<u>2</u>	2							
50	Basic Radioastronomy Laboratory	Lab	90	8						6	8					
51	Foundations of Quantum Physics	T	30	6								2	4			
52	Foundations of Quantum Physics	L	30									<u>2</u>	2			
<b>page 2 — Summary:</b>			495	41	0	0	6	6	6	7	15	20	6	8	0	0
<b>page 1 i 2 — SUMMARY:</b>			2260	180	27	30	32	30	23	30	24	30	20	30	14	30
<b>Number of examinations</b>					<b>3E</b>		<b>4E</b>		<b>4E</b>		<b>2E</b>		<b>2E</b>		<b>4E</b>	

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Lectures:

General Astronomy - **credit and mark**

Language culture — **credit**

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

Intellectual property protection, occupational safety, ergonomics - **credit and mark**

\***elective speciality**