

PRIRODNO-MATEMATIČKOM FAKULTETU  
NAUČNO-NASTAVNOM VEĆU

ПРИРОДНО-МАТЕМАТИЧКИ ФАКУЛТЕТ - НИШ			
Примљено:		08.5.2017.	
Орг. Јед.	Бр. с. л.	Категорија	Вредност
01	1517		

MOLBA

Molim vas da mi odobrite produžetak doktorskih studija na Departmanu za hemiju, radi odbrane doktorske disertacije. Zbog porodične tragedije se odložilo pisanje i odbrana doktorske disertacije.

U Niš-u, 08.05.2017. godine

Jelena Mrmošanin, dipl. hem.

*J. Mrmošanin*

**ПОДАЦИ ПОТРЕБНИ ЗА ДОДАТАК ДИПЛОМИ ЗА СТУДИЈСКЕ ПРОГРАМЕ  
ОСНОВНИХ, МАСТЕР И ДОКТОРСКИХ АКАДЕМСКИХ СТУДИЈСКИХ  
ПРОГРАМА ПРИРОДНО-МАТЕМАТИЧКОГ ФАКУЛТЕТА УНИВЕРЗИТЕТА У  
НИШУ АКРЕДИТОВАНИХ 2014. ГОДИНЕ**

У Нишу, 22. март 2017.

**Научни и стручни називи који се стичу на  
Природно-математичком факултету Универзитета у Нишу  
на студијским програмима акредитованим 2014. године**

Ниво студија	Ниво студија на енглеском језику	Назив студијског програма	Назив студијског програма на енглеском језику	Број остарених ЕСПБ бодова	Стручни или научни назив у дипломи	Стручни или научни назив у дипломи на енглеском језику
Основне академске студије	Undergraduate academic studies	Математика	Mathematics	180	Математичар	Bachelor of Science in Mathematics
		Информатика	Computer Science		Информатичар	Bachelor of Science in Computer Science
		Физика	Physics		Физичар	Bachelor of Science in Physics
		Хемија	Chemistry		Хемичар	Bachelor of Science in Chemistry
		Биологија	Biology		Биолог	Bachelor of Science in Biology
		географија	Geography		Географ	Bachelor of Science in Geography
Основне академске студије (на захтев студента)	Undergraduate academic studies	Математика	Mathematics	240	Дипломирани математичар	Bachelor of Science (with Honours) in Mathematics
		Информатика	Computer Science		Дипломирани информатичар	Bachelor of Science (with Honours) in Computer Science
		Физика	Physics		Дипломирани физичар	Bachelor of Science (with Honours) in Physics
		Хемија	Chemistry		Дипломирани хемичар	Bachelor of Science (with Honours) in Chemistry
		Биологија	Biology		Дипломирани биолог	Bachelor of Science (with Honours) in Biology
		Екологија и заштита природе	Ecology and Nature Conservation		Дипломирани еколог	Bachelor of Science (with Honours) in Ecology
		Географија	Geography		Дипломирани географ	Bachelor of Science (with Honours) in Geography
		Туризам	Tourism		Дипломирани туризмолог	Bachelor of Science (with Honours) in Tourism
Мајстер академске студије	Master academic studies	Математика	Mathematics	120	Мајстер математичар	Master of Science in Mathematics
		Рачунарске науке	Computer Science		Мајстер информатичар	Master of Science in Computer Science
		Физика	Physics		Мајстер физичар	Master of Science in Physics
		Хемија	Chemistry		Мајстер хемичар	Master of Science in Chemistry

		Примењена хемија	Applied Chemistry		Мастер хемичар	Master of Science in Chemistry
		Биологија	Biology		Мастер биолог	Master of Science in Biology
		Екологија и заштита природе	Ecology and Nature Conservation		Мастер еколог	Master of Science in Ecology
		Географија	Geography		Мастер географ	Master of Science in Geography
		Туризам	Tourism		Мастер туризмолог	Master of Science in Tourism
Докторске академске студије	Doctoral academic studies	Математика	Mathematics	180	Доктор наука – математичке науке	Doctor of Philosophy in Mathematical Sciences
		Рачунарске науке	Computer Science		Доктор наука – рачунарске науке	Doctor of Philosophy in Computer Science
		Физика	Physics		Доктор наука – физичке науке	Doctor of Philosophy in Physical Sciences
		Хемија	Chemistry		Доктор наука – хемијске науке	Doctor of Philosophy in Chemical Sciences
		Биологија	Biology		Доктор наука – хемијске науке	Doctor of Philosophy in Biological Sciences

Напомена:

Природно-математички факултет у Нишу не организује студијске програме основних академских студија у трајању од 4 године, односно 240 ЕСПБ бодова.

Студенти могу остварити стручни назив “дипломирани”, по завршетку основних академских студија, и остваривањем најмање 60 ЕСПБ бодова на одговарајућим мастер академским студијама.

## Листа предмета који се наводе у Додатку дипломе

### ДЕПАРТМАН ЗА ФИЗИКУ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ФИЗИКА 2014

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	2400	Ф-101	Механика	Mechanics	I	Обавезни	7
2	2401	М-01	Математика 1	Mathematics 1	I	Обавезни	7
3	2402	Ф-102	Метрологија и обрада резултата мерења	Metrology and Data Processing	I	Обавезни	5
4	2403	Ф-116	Лабораторијски практикум 1	Laboratory Practicum 1	I	Обавезни	5
5	2404	Ф-105	Програмирање у физици	Programming in Physics	I	Обавезни	6
6	2405	Ф-103	Термодинамика и молекуларна физика	Thermodynamics and Molecular Physics	II	Обавезни	7
7	2406	М-02	Математика 2	Mathematics 2	II	Обавезни	7
8	2407	Ф-117	Лабораторијски практикум 2	Laboratory Practicum 2	II	Обавезни	5
9	2408	Х-144	Хемија	Chemistry	II	Обавезни	6
10	2409	О-05	Енглески језик	English	II	Изборни	5
11	2410	О-09	Психологија	Psychology	II	Изборни	5
12	2411	Ф-104	Електромагнетизам	Electromagnetism	III	Обавезни	7
13	2412	М-03	Математика 3	Mathematics 3	III	Обавезни	7
14	2413	Ф-105	Основе математичке физике	Fundamentals of Mathematical physics	III	Обавезни	7
15	2414	Ф-118	Лабораторијски практикум 3	Laboratory Practicum 3	III	Обавезни	5
16	2415	ИФ-01	Основе рачунарства	Fundamentals of Computer Science	III	Изборни	5
17	2416	ИФ-02	Увод у објектно оријентисано програмирање	Introduction to Object-Oriented Programming	III	Изборни	5
18	2417	Ф-106	Оптика	Optics	IV	Обавезни	6
19	2418	Ф-107	Основе теоријске механике	Fundamentals of Theoretical Mechanics	IV	Обавезни	7
20	2419	Ф-108	Математичка физика	Mathematical Physics	IV	Обавезни	6

21	2420	Ф-119	Лабораторијски практикум 4	Laboratory Practicum 4	IV	Обавезни	5
22	2421	Ф-123	Физика животне средине	Environmental Physics	IV	Изборни	5
23	2422	М-04	Математика 4	Mathematics 4	IV	Изборни	5
24	2423	Ф-109	Основе статистичке физике	Fundamentals of Statistical Physics	V	Обавезни	7
25	2424	Ф-110	Основе атомске и молекуларне физике	Fundamentals of Atomic and Molecular Physics	V	Обавезни	7
26	2425	Ф-111	Експерименталне методе у физици	Experimental Methods in Physics	V	Обавезни	5
27	2426	Ф-124	Специјална теорија релативности	Special Theory of Relativity	V	Изборни	5
28	2427	Ф-120	Физика атмосфере	Atmosphere Physics	V	Изборни	5
29	2428	Ф-125	Физички извори штетности	Physical Sources of Pollution	V	Изборни	5
30	2429	Ф-121	Осцилације и таласи	Oscillations and Waves	V	Изборни	5
31	2430	Ф-112	Основе електродинамике	Fundamentals of Electrodynamics	VI	Обавезни	7
32	2431	Ф-113	Основе квантне механике	Fundamentals of Quantum Mechanics	VI	Обавезни	7
33	2432	Ф-114	Основе физике чврстог стања	Fundamentals of Solid State Physics	VI	Обавезни	6
34	2433	Ф-115	Нуклеарна физика	Nuclear Physics	VI	Обавезни	6
35	2434	Ф-122	Увод у космологију	Introduction to Cosmology	VI	Изборни	5
36	2435	Ф-126	Основе биофизике	Fundamentals of Biophysics	VI	Изборни	5

**ДЕПАРТМАН ЗА ФИЗИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ФИЗИКА 2014,  
МОДУЛ: ПРИМЕЊЕНА ФИЗИКА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	2750	Пр-01	Физичка електроника	Physical Electronics	I	Обавезни	6
2	2751	Ф-212	Физичка и техничка мерења	Physical and Technical Measurements	I	Обавезни	6
3	2752	Ф-213	Физика површина и танких слојева	Physics of Surfaces and Thin Films	I	Обавезни	6
4	2753	Ф-239	Основе енергетике	Fundamentals of Energetics	I	Изборни	6
5	2754	Пр-6	Теоријска механика	Theoretical Mechanics	I	Изборни	6
6	2755	Пр-7	Педагогија	Pedagogy	I	Изборни	6
7	2756	Пр-8	Квантна механика	Quantum Mechanics	I	Изборни	6
8	2757	Пр-9	Нумеричке методе у физици	Numerical Methods in Physics	I	Изборни	6
9	2758	Пр-10	Радијациона физика	Radiation Physics	I	Изборни	6
10	2759	Пр-11	Електродинамика	Electrodynamics	I	Изборни	6
11	2760	Пр-02	Атомска и молекуларна физика	Atomic and Molecular Physics	II	Обавезни	6
12	2761	Ф-214	Електроника	Electronics	II	Обавезни	6
13	2762	Ф-215	Савремене методе експерименталне физике	Modern Methods in Experimental Physics	II	Обавезни	6
14	2763	Ф-216	Основе физике јонизованих гасова	Fundamentals of Physics of ionized gases	II	Обавезни	6
15	2764	Пр-12	Методика наставе физике	Teaching Methods in Physics	II	Изборни	6
16	2765	Ф-240	Физика сензора и претварача	Physics of Sensors and Converters	II	Изборни	6
17	2766	Пр-13	Статистичка физика	Statistical Physics	II	Изборни	6
18	2767	Ф-209	Физика чврстог стања	Solid State Physics	III	Обавезни	6
19	2768	Ф-210	Основе физике плазме	Fundamentals of Plasma Physics	III	Обавезни	6
20	2769	Пр-05	Физика елементарних честица	Physics of Elementary Particles	III	Обавезни	6

21	2770	Пр-14	Моделовање и симулација физичких система	Modeling and Simulation of Physical Systems	III	Изборни	6
22	2771	Ф-241	Аутоматско управљање	Automatic Control	III	Изборни	6
23	2772	Пр-15	Наставна средства физике	Teaching and Learning Methods in Physics	III	Изборни	6
24	2773	Ф-242	Плазмене и ласерске технологије	Plasma and Laser Technology	III	Изборни	6
25	2774	Ф-243	Примена плазме у нанотехнологијама	Plasma Application in Nanotechnology	IV	Изборни	6
26	2775	Ф-244	Нуклеарна медицинска физика	Nuclear Medical Physics	IV	Изборни	6
27	2776	Пр-16	Физика у школи	Physics in Elementary and Secondary Schools	III	Изборни	6
28	2777	Ф-217	Физика материјала	Physics of Materials	IV	Обавезни	6
29	2778	Ф-245	Физика и техника вакуума	Physics and Techniques of Vacuum	IV	Изборни	6
30	2779	Ф-246	Оптоелектроника	Optoelectronics	IV	Изборни	6
31	2780	Пр-17	Методика решавања рачунских задатака	Teaching Methods for Solving Problems in Physics	IV	Изборни	6
32	2781	Пр-18	Основе астрофизике	Fundamentals of Astrophysics	IV	Изборни	6
33	2782	Пр-19	Физика ласера	Laser Physics	IV	Изборни	6
34	2783	Ф-247	Системи за аквизицију података	Data Acquisition Systems	IV	Изборни	6
35	2784	Пр-20	Историја и филозофија физике	History and Philosophy of Physics	IV	Изборни	6
36	2785	Пр-21	Школска пракса	School Practice	IV	Изборни	6
37	2786	Сирпр	Студијски истраживачки рад	Research Study	IV	Обавезни	4
38	2787	ЗРпр	Завршни рад	Master Thesis	IV	Обавезни	8
39	2788	Оп-5	Нумеричке методе у физици	Numerical Methods in Physics	III	Изборни	6



**ДЕПАРТМАН ЗА ФИЗИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ФИЗИКА 2014,  
МОДУЛ: ОПШТА ФИЗИКА**

Р.Б Р.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семест ар	Тип предмета	ЕСП Б
1	2650	Ф-201	Теоријска механика	Theoretical Mechanics	I	Обавезни	6
2	2651	Ф-202	Квантна механика	Quantum Mechanics	I	Обавезни	6
3	2652	Ф-203	Електродинамика	Electrodynamics	I	Обавезни	6
4	2653	Ф-204	Физичка електроника	Physical Electronics	I	Обавезни	6
5	2654	О-01	Педагогија	Pedagogy	I	Изборни	6
6	2655	Оп-1	Физичка и техничка мерења	Physical and Technical Measurements	I	Изборни	6
7	2656	Ф-223	Општа теорија релативности	General Theory of Relativity	II	Изборни	6
8	2657	Ф-224	Методика наставе физике	Teaching Methods in Physics	II	Изборни	6
9	2658	Ф-225	Симетрије у физици	Symmetries in Physics	II	Изборни	6
10	2659	Оп-2	Савремене методе експерименталне физике	Modern Methods in Experimental Physics	II	Изборни	6
11	2660	Оп-3	Електроника	Electronics	II	Изборни	6
12	2661	Ф-205	Атомска и молекуларна физика	Atomic and Molecular Physics	II	Обавезни	6
13	2662	Ф-206	Статистичка физика	Statistical Physics	II	Обавезни	6
14	2663	Ф-207	Физика јонизованих гасова	Physics of Ionized Gases	II	Обавезни	6
15	2664	Ф-226	Основе астрофизике	Fundamentals of Astrophysics	II	Обавезни	6
16	2665	Ф-208	Физика чврстог стања	Solid State Physics	III	Обавезни	6
17	2666	Ф-209	Основе физике плазме	Fundamentals of Plasma Physics	III	Обавезни	6
18	2667	Ф-210	Физика елементарних честица	Physics of Elementary Particles	III	Обавезни	6
19	2668	Ф-227	Наставна средства физике	Teaching and Learning Methods in Physics	III	Изборни	6
20	2669	Ф-228	Моделовање и симулација физичких система	Modeling and Simulation of Physical Systems	III	Изборни	6
21	2670	Ф-229	Теорија поља	Field Theory	III	Изборни	6

22	2671	Оп-4	Плазмене и ласерске технологије	Plasma and Laser Technologies	III	Изборни	6
23	2672	Ф-230	Физика у школи	Physics in Elementary and Secondary Schools	III	Изборни	6
24	2673	Ф-231	Радијациона физика	Radiation Physics	III	Изборни	6
25	2674	Оп-5	Нумеричке методе у физици	Numerical Methods in Physics	III	Изборни	6
26	2675	Оп-6	Увод у нелинеарну динамику	Introduction to Nonlinear Dynamics	III	Изборни	6
27	2676	Ф-214	Историја и филозофија физике	History and Philosophy of Physics	IV	Обавезни	6
28	2677	Ф-232	Методика решавања рачунских задатака	Teaching Methods for Solving Problems in Physics	IV	Изборни	6
29	2678	Ф-233	Планетологија	Planetology	IV	Изборни	6
30	2679	Ф-234	Интеракција ласерског зрачења са плазмом	Laser Plasma Interactions	IV	Изборни	6
31	2680	Ф-235	Школска пракса	School Practice	IV	Изборни	6
32	2681	Ф-236	Звезде и звездани системи	Stars and Star Systems	IV	Изборни	6
33	2682	Ф-237	Увод у квантну оптику	Introduction to Quantum Optics	IV	Изборни	6
34	2683	Ф-238	Физика ласера	Laser Physics	IV	Изборни	6
35	2684	Сироп	Студијски истраживачки рад	Research Study	IV	Обавезни	4
36	2686	ЗРоп	Завршни рад	Master Thesis	IV	Обавезни	10
37	2758	Пр-10	Радијациона физика	Radiation Physics	I	Изборни	6
38	2859	Фи-21	Радијациона физика	Radiation Physics	I	Изборни	6

**ДЕПАРТМАН ЗА ФИЗИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ФИЗИКА 2014,  
МОДУЛ: ФИЗИКА-ИНФОРМАТИКА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	2830	Ф-218	Одабрана поглавља теоријске физике		I	Обавезни	6
2	2831	Ф-219	Нумеричке методе у физици		I	Обавезни	6
3	2832	И-01	Структуре података и алгоритми		I	Обавезни	6
4	2833	Фи-3	Педагогија		I	Изборни	6
5	2834	Фи-4	Физичка и техничка мерења		I	Изборни	6
6	2835	Фи-5	Општа теорија релативности		I	Изборни	6
7	2836	Ф-248	Програмски пакети у физици		I	Изборни	6
8	2837	Фи-6	Физика чврстог стања		I	Изборни	6
9	2838	Ф-248	Квантна механика		I	Изборни	6
10	2839	Ф-249	Квантна информатика		I	Изборни	6
11	2840	Фи-01	Електроника		II	Обавезни	6
12	2841	И-02	Базе података		II	Обавезни	6
13	2842	Ф-220	Одабрана поглавља експерименталне физике		II	Обавезни	6
14	2843	Фи-8	Основи астрофизике		II	Изборни	6
15	2844	Фи-9	Основе физике јонизованих гасова		II	Изборни	6
16	2845	Фи-10	Методика наставе физике		II	Изборни	6
17	2846	Фи-11	Савремене методе експерименталне физике		II	Изборни	6
18	2847	Фи-12	Методика решавања рачунских задатака		II	Изборни	6
19	2848	Фи-13	Атомска и молекуларна физика		II	Изборни	6
20	2849	Фи-14	Физика сензора и растварача		II	Изборни	6
21	2850	Фи-15	Статистичка физика		II	Изборни	6

22	2851	Фи-02	Физика елементарних честица	III	Обавезни	6
23	2852	Ф-221	Увод у нелинеарну динамику	III	Обавезни	6
24	2853	И-03	Увод у WEB програмирање	III	Обавезни	6
25	2854	Фи-16	Наставна средства физике	III	Изборни	6
26	2855	Фи-17	Теорија поља	III	Изборни	6
27	2856	Фи-18	Аутоматско управљање	III	Изборни	6
28	2857	Фи-19	Физика у школи	III	Изборни	6
29	2858	Фи-20	Моделовање и симулација физичких система	III	Изборни	6
30	2859	Фи-21	Радијациона физика	III	Изборни	6
31	2860	Ф-222	Визуелна квантна механика	IV	Обавезни	6
32	2861	И-04	Софтверски практикум	IV	Обавезни	6
33	2862	Фи-22	Школска пракса	IV	Изборни	6
34	2863	Фи-23	Историја и филозофија физике	IV	Изборни	6
35	2864	Фи-24	Системи за аквизицију података	IV	Изборни	6
36	2865		Студијски истраживачки рад	IV	Обавезни	4
37	2866		Завршни рад	IV	Обавезни	8

**ДЕПАРТМАН ЗА ГЕОГРАФИЈУ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
ГЕОГРАФИЈА 2014**

Р.БР	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСП Б
1	5251	Г101	Увод у географију	Introduction to Geography	I	Обавезни	4
2	5252	Г102	Математичка географија	Mathematical Geography	I	Обавезни	7
3	5253	Г103	Геологија са петрографијом	Geology with Petrography	I	Обавезни	7
4	5254	Г104	Национална економија	National Economy	I	Обавезни	6
5	5255	Г105	Картографија	Cartography	II	Обавезни	7
6	5256	Г106	Геолошки ресурси	Geological Resources	II	Обавезни	5
7	5257	Г107	Информатика	Informatics	II	Обавезни	5
8	5258	Г108	Енглески језик	English	II	Обавезни	4
9	5259		Практична настава	Practical Teaching	II	Обавезни	3
10	5260	Г109	Климатологија	Climatology	III	Обавезни	6
11	5261	Г110	Биогеографија	Biogeography	III	Обавезни	6
12	5262	Г111	Географија становништва	Geography of Population	III	Обавезни	6
13	5263	Г112	Географија земљишта	Geography of Soils	III	Обавезни	6
14	5264	Г113	Хидрологија	Hydrology	IV	Обавезни	7
15	5265	Г114	Геоморфологија	Geomorphology	IV	Обавезни	8
16	5266	Г115	Географија насеља	Geography of Settlements	IV	Обавезни	6
17	5267		Практична настава	Practical Teaching	IV	Обавезни	3
18	5268	Г116	Методика наставе географије	Teaching Methods in Geography	V	Обавезни	6
19	5269	Г117	Индустријска географија	Industrial Geography	V	Обавезни	4
20	5270	Г118	Географија Србије I	Geography of Serbia I	V	Обавезни	4
21	5271	Г119	Регионална географија I	Regional Geography I	V	Обавезни	5
22	5272	Г120	Туристичка географија	Tourism Geography	V	Обавезни	5
23	5273	Г121	Регионална географија II	Regional Geography II	VI	Обавезни	4

24	5274	Г122	Географија Србије II	Geography of Serbia II	VI	Обавезни	5
25	5275	Г123	Методика практичне наставе	Methods in Practical Geography Teaching	VI	Обавезни	8
26	5276	Г124	Аграрна географија	Agricultural Geography	VI	Обавезни	4
27	5277		Практична настава	Practical Teaching	VI	Обавезни	3
28	5278	Г131	Геометрија	Geometry	I	Изборни	6
29	5279	Г132	Пословна математика	Business Mathematics	I	Изборни	6
30	5280	Г133	Физика	Physics	II	Изборни	6
31	5281	Г134	Француски језик	French	II	Изборни	6
32	5282	Г135	Педагогија	Pedagogy	III	Изборни	6
33	5283	Г136	Географија локалне средине	Geography of Local Environment	III	Изборни	6
34	5284	Г137	Статистика	Statistics	IV	Изборни	6
35	5285	Г138	Геохемија	Geochemistry	IV	Изборни	6
36	5286	Г139	Национална хидрологија	National Hydrology	V	Изборни	6
37	5287	Г140	Национална историја	National History	V	Изборни	6
38	5288	Г141	Пословна статистика	Business Statistics	VI	Изборни	6
39	5289	Г142	Културно-историјске основе туризма	Cultural and Historical Fundamentals of Tourism	VI	Изборни	6

**ДЕПАРТМАН ЗА ГЕОГРАФИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
ГЕОГРАФИЈА 2014**

Р.БР	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСП Б
1	5600	Г201	Просторно планирање	Spatial Planning	I	Обавезни	9
2	5601	Г213	Туристичко-географске регије света	Tourist-Geographical Regions of the World	I	Изборни	6
3	5602	Г214	Дидактичке иновације	Didactical Innovations	I	Изборни	6
4	5603	Г202	Заштита животне средине	Environmental Protection	I	Обавезни	9
5	5604	Г215	Астрономија	Astronomy	I	Изборни	6
6	5605	Г216	Национални паркови	National Parks	I	Изборни	6
7	5606	Г203	Тематско картирање	Thematic Cartography	II	Обавезни	7
8	5607	Г204	Политичка географија	Political Geography	II	Обавезни	7
9	5608	Г205	Становништво света	World Population	II	Обавезни	7
10	5609	Г206	Светска привреда	World Economy	II	Изборни	6
11	5610	Г218	Наставне стратегије у изучавању географије	Teaching Strategies in Geography Study	II	Изборни	6
12	5611		Практична настава	Teaching Practice	II	Обавезни	3
13	5612	Г217	Психологија	Psychology	III	Обавезни	7
14	5613	Г207	Регионална географија Србије I	Regional Geography of Serbia I	III	Обавезни	8
15	5614	Г219	Национална туристичка географија	National Tourism Geography	III	Изборни	7
16	5615	Г220	Енглески језик II	English II	III	Изборни	7
17	5616	Г221	Урбана екологија	Urban Ecology	III	Изборни	6
18	5617	Г222	Културно-историјске основе Србије	Cultural and Historical Fundamentals of Serbia	III	Изборни	6
19	5618	Г208	Регионална географија Балканског полуострва	Regional Geography of the Balkan Peninsula	IV	Изборни	6
20	5619	Г224	Физика околине	Environmental Physics	IV	Изборни	6

21	5620	Г223	Методологија научно-истраживачког рада	Methodology of Scientific Research	IV	Обавезни	4
22	5621	Г209	ГИС	GIS (Geographic Information Systems)	IV	Обавезни	4
23	5622	Г210	Студијски истраживачки рад	Research Study	IV	Обавезни	2
24	5623	Г211	Регионална географија Србије II	Regional Geography of Serbia II	IV	Обавезни	4
25	5624	Г212	Завршни рад	Master Thesis	IV	Обавезни	12
26	5625	О-01	Педагогија	Pedagogy	I	Изборни	6
27	5626	Г277	Рурална екологија	Rural Ecology	III	Изборни	7.5
28	5627	О-01-Б	Педагогија	Pedagogy	III	Изборни	4



**ДЕПАРТАМАН ЗА ГЕОГРАФИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ТУРИЗАМ  
2014**

Р.БР	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семеста р	Тип предмета	ЕСП Б
1	6600	Г251	Увод у економију	Introduction to Economics	I	Обавезни	6
2	6601	Г252	Основе туризма	Fundamentals of Tourism	I	Обавезни	6
3	6602	Г253	Географија туристичких насеља	Geography of Tourist Settlements	I	Обавезни	6
4	6603	Г254	Енглески језик II	English II	I	Обавезни	6
5	6604	Г270	Економика и организација предузећа	Organization and Economics of Enterprise	I	Изборни	6
6	6605	Г271	Француски језик II	French 2	I	Изборни	6
7	6606	Г255	Економика туризма	Economics of Tourism	II	Обавезни	5
8	6607	Г256	Туристичко уређење простора	Spatial Planning in Tourism	II	Обавезни	5
9	6608	Г257	Бањски туризам	Spa Tourism	II	Обавезни	5
10	6609	Г272	Национални паркови	National Parks	II	Изборни	6
11	6610	Г273	Хотелијерство	Hotel Management	II	Изборни	6
12	6611	Г274	Културно историјске основе Србије	Cultural and Historical Fundamentals of Serbia	II	Изборни	6
13	6612	Г275	Физика околине	Environmental Physics	II	Изборни	6
14	6613		Практична настава	Teaching Practice	II	Обавезни	3
15	6614	Г261	Менаџмент туристичке привреде	Management in Tourism Industry	III	Обавезни	7.5
16	6615	Г263	Туристичке агенције и туроператори	Travel Agencies and Tour Operators	III	Обавезни	7.5
17	6616	Г276	Урбана екологија	Urban Ecology	III	Изборни	7.5
18	6617	Г277	Рурална екологија	Rural Ecology	III	Изборни	7.5
19	6618	Г278	Тематско картирање	Thematic Cartography	III	Изборни	7.5

20	6619	Г279	Менаџмент и маркетинг туристичке дестинације	Management and Marketing of Tourism Destination	III	Изборни	7.5
21	6620	Г264	Туристичко-географске регије света	Tourist-Geographical Regions of the World	IV	Обавезни	3
22	6621	Г265	Туризам и заштита животне средине	Tourism and Environmental Protection	IV	Обавезни	3
23	6622	Г266	ГИС	GIS (Geographic Information Systems)	IV	Обавезни	2
24	6623	Г267	Национална туристичка географија	National Tourism Geography	IV	Обавезни	3
25	6624	Г280	Методологија НИР-а	Methodology of Scientific Research	IV	Изборни	6
26	6625	Г281	Људски ресурси у туризму	Human Resources in Tourism	IV	Изборни	6
27	6626	Г268	Студијски истраживачки рад	Research Study	IV	Обавезни	1
28	6627	Г269	Завршни рад	Master Thesis	IV	Обавезни	12
29	6628	О-01	Педагогија	Pedagogy	I	Изборни	6
30	6629	Г206	Светска привреда	World Economy	II	Изборни	6

**ДЕПАРТМАН ЗА РАЧУНАРСКЕ НАУКЕ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
РАЧУНАРСКЕ НАУКЕ 2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	1576	M158	Историја и филозофија математике	History and Philosophy of Mathematics	IV	Изборни	5
2	7050	ИО-11	Увод у програмирање	Introduction to Programming	I	Обавезни	8
3	7051	ИО-12	Дискретне структуре 1	Discrete Structures 1	I	Обавезни	7
4	7052	ИО-13	Увод у рачунарство	Introduction to Computer Science	I	Обавезни	7
5	7053	ИО-14	Математичка анализа 1	Mathematical Analysis 1	I	Обавезни	8
6	7054	ИО-21	Објектно-оријентисано програмирање 1	Object-Oriented Programming 1	II	Обавезни	8
7	7055	ИО-22	Дискретне структуре 2	Discrete Structures 1	II	Обавезни	7
8	7056	ИО-23	Увод у Веб програмирање	Introduction to Web Programming	II	Обавезни	7
9	7057	ИО-24	Математичка анализа 2	Mathematical Analysis 2	II	Обавезни	8
10	7058	ИО-31	Структуре података и алгоритми	Data Structures and Algorithms	III	Обавезни	8
11	7059	ИО-32	Линеарна алгебра	Linear Algebra	III	Обавезни	7
12	7060	ИО-33	Увод у базе података	Introduction to Databases	III	Обавезни	8
13	7061	ИО-34	Објектно-оријентисано програмирање 2	Object-Oriented Programming 2	III	Обавезни	7
14	7062	ИО-41	Дизајн и анализа алгоритама	Algorithm Design and Analysis	IV	Обавезни	8
15	7063	ИО-42	Објектно-оријентисано програмирање 3	Object-Oriented Programming 3	IV	Обавезни	8
16	7064	ИО-43	Увод у оперативне системе	Introduction to Operating Systems	IV	Обавезни	7
17	7065	ИО-51	Вероватноћа	Probability	V	Обавезни	8

18	7066	ИО-52	Увод у софтверско инжењерство	Introduction to Software Engineering	V	Обавезни	7
19	7067	ИО-61	Рачунарске мреже	Computer Networks	VI	Обавезни	7
20	7068	ИО-62	Веб програмирање	Web Programming	VI	Обавезни	6
21	7069	ИО-И11	Електронско издаваштво	Electronic Publishing	IV	Изборни	7
22	7070	ИО-И12	Аналитичка геометрија	Analytical Geometry	IV	Изборни	7
23	7071	ИО-И21	Теорија бројева и полинома	Theory of Numbers and Polynomials	V	Изборни	7
24	7072	ИО-И22	Нумерички методи 1	Numerical Methods 1	V	Изборни	7
25	7073	ИО-И31	Методика наставе информатике	Teaching Methods in Informatics	V	Изборни	8
26	7074	ИО-И32	Управљање пројектима у ИТ	Project Management in IT	V	Изборни	8
27	7075	ИО-И33	Симболичка израчунавања	Symbolic Computations	V	Изборни	8
28	7076	ИО-И41	Нумерички методи 2	Numerical Methods 2	VI	Изборни	7
29	7077	ИО-И42	Open source математички софтвер	Open Source Mathematical Software	VI	Изборни	7
30	7078	ИО-И43	Математичка статистика	Mathematical Statistics	VI	Изборни	7
31	7079	О-02	Психологија	Psychology	VI	Изборни	5
32	7080	О-04	Енглески језик 1	English 1	VI	Изборни	5
33	7081	О-01	Педагогија	Pedagogy	VI	Изборни	5
34	7082	О-05	Енглески језик 2	English 2	VI	Изборни	5
35	7083	ИО-И61	Асемблерско програмирање	Assembly Programming	VI	Изборни	5

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РАЧУНАРСКЕ НАУКЕ 2014, МОДУЛ: УПРАВЉАЊЕ ИНФОРМАЦИЈАМА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	7154	ИМ-РС-22	Развој веб апликација	Web Application Development	II	Изборни	8
2	7200	ИМ-УИ-11	Теорија програмских језика	Programming Language Theory	I	Обавезни	8
3	7201	ИМ-УИ-12	Криптографски алгоритми	Cryptographic Algorithms	I	Обавезни	7
4	7202	ИМ-УИ-13	Базе података	Databases	I	Обавезни	8
5	7203	ИМ-УИ-21	Теорија алгоритама, аутомата и језика	Theory of Algorithms, Automata and Formal Languages	II	Обавезни	8
6	7204	ИМ-УИ-22	Теорија информација и кодирање	Information Theory and Coding	II	Обавезни	8
7	7205	ИМ-УИ-И11	Методика програмирања	Teaching Methods of Programming	I	Изборни	7
8	7206	ИМ-УИ-И12	Операциона истраживања	Operational Research	I	Изборни	7
9	7207	ИМ-УИ-И13	Математичка логика	Mathematical Logic	I	Изборни	7
10	7208	ИМ-УИ-И21	Методика електронског учења	e-Learning Methodology	II	Изборни	7
11	7209	ИМ-УИ-И22	Нумеричка оптимизација	Numerical Optimization	II	Изборни	7
12	7210	ИМ-УИ-И23	Тестирање и метрика софтвера	Software Testing and Metrics	II	Изборни	7
13	7211	ИМ-УИ-И31	Напредни курс из рачунарских архитектура	Advanced Course in Computer Architecture	II	Изборни	7
14	7212	ИМ-УИ-И32	Комбинаторика и теорија графова	Combinatorics and Graph Theory	II	Изборни	7
15	7213	ИМ-УИ-И33	Рачунарска графика 1	Computer Graphics 1	II	Изборни	7
16	7214	ИМ-УИ-31	Интелигентна обрада података	Intelligent Data Processing	III	Обавезни	8
17	7215	И-УИ-СИР1	Студијски истраживачки рад 1	Research Study 1	III	Обавезни	7

18	7216	ИМ-УИ-41	Мултимедијални информациони системи	Multimedia Information Systems	IV	Обавезни	8
19	7217	И-УИ-СИР2	Студијски истраживачки рад 2	Research Study 2	IV	Обавезни	7
20	7218	И-УИ-СП	Стручна/школска пракса	Professional/School Practice	III	Обавезни	8
21	7219	И-УИ-МР	Мастер рад	Master Thesis	IV	Обавезни	8
22	7220	ИМ-УИ-И41	Статистички софтвер	Statistical Software	III	Изборни	7
23	7221	ИМ-УИ-И42	Фази системи	Fuzzy Systems	III	Изборни	7
24	7222	ИМ-УИ-И51	Системи засновани на знању	Decision Based Systems	IV	Изборни	7
25	7223	ИМ-УИ-И52	Теорија одлучивања	Decision Theory	IV	Изборни	7

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РАЧУНАРСКЕ НАУКЕ 2014, МОДУЛ: РАЗВОЈ СОФТВЕРА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семе стар	Тип предмета	ЕСПБ
1	1751	M602	Мултиваријациона анализа	Multivariate Analysis	I	Изборни	7.5
2	1856	M551	Теорија апроксимација и квадратурне формуле	Approximation Theory and Quadratures	II	Изборни	7.5
3	7150	ИМ-РС-11	Теорија програмских језика	Programming Language Theory	I	Обавезни	8
4	7151	ИМ-РС-12	Дизајн софтвера	Software Design	I	Обавезни	7
5	7152	ИМ-РС-13	Базе података	Databases	I	Обавезни	8
6	7153	ИМ-РС-21	Теорија алгоритама, аутомата и језика	Theory of Algorithms, Automata and Formal Languages	II	Обавезни	8
7	7154	ИМ-РС-22	Развој веб апликација	Web Application Development	II	Обавезни	8
8	7155	ИМ-РС-И11	Методика програмирања	Teaching Methods of Programming	I	Изборни	7
9	7156	ИМ-РС-И12	Операциона истраживања	Operational Research	I	Изборни	7
10	7157	ИМ-РС-И13	Математичка логика	Mathematical Logic	I	Изборни	7
11	7158	ИМ-РС-И21	Методика електронског учења	e-Learning Methodology	II	Изборни	7
12	7159	ИМ-РС-И22	Нумеричка оптимизација	Numerical Optimization	II	Изборни	7
13	7160	ИМ-РС-И23	Тестирање и метрика софтвера	Software Testing and Metrics	II	Изборни	7
14	7161	ИМ-РС-И31	Напредни курс из рачунарских архитектура	Advanced Course in Computer Architecture	II	Изборни	7
15	7162	ИМ-РС-И32	Комбинаторика и теорија графова	Combinatorics and Graph Theory	II	Изборни	7
16	7163	ИМ-РС-И33	Рачунарска графика 1	Computer Graphics 1	II	Изборни	7
17	7164	ИМ-РС-31	Рачунарска интелигенција	Computational Intelligence	III	Обавезни	8
18	7165	И-РС-СИР1	Студијски истраживачки рад 1	Research Study 1	III	Обавезни	7
19	7166	И-РС-41	Развој мобилних апликација	Mobile Application Development	IV	Обавезни	8
20	7167	И-СИР2	Студијски истраживачки рад 2	Research Study 2	IV	Обавезни	7

21	7168	И-РС-СП	Стручна/школска пракса	Professional/School Practice	III	Обавезни	8
22	7169	И-РС-МР	Мастер рад	Master Thesis	IV	Обавезни	8
23	7170	ИМ-РС-И41	Статистички софтвер	Statistical Software	III	Изборни	7
24	7171	ИМ-РС-И42	Конструкција преводиоца и интерпретатора	Compiler Construction	III	Изборни	7
25	7172	ИМ-РС-И43	Рачунарска графика 2	Computer Graphics 2	III	Изборни	7
26	7173	ИМ-РС-И51	Функционално програмирање	Functional Programming	IV	Изборни	7
27	7174	ИМ-РС-И52	Комплексне мреже	Complex Networks	IV	Изборни	7
28	7201	ИМ-УИ-12	Криптографски алгоритми	Cryptographic Algorithms	I	Изборни	7
29	7204	ИМ-УИ-22	Теорија информација и кодирање	Information Theory and Coding	II	Изборни	8



**ДЕПАРТМАН ЗА МАТЕМАТИКУ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
МАТЕМАТИКА 2014**

Р.БР	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семеста р	Тип предмета	ЕСП Б
1	1550	M101	Математичка логика и теорија скупова	Mathematical Logic and Set Theory	I	Обавезни	7
2	1551	M102	Математичка анализа 1	Mathematical Analysis 1	I	Обавезни	8
3	1552	M103	Увод у алгебарске структуре	Introduction to Algebraic Structures	II	Обавезни	8
4	1553	M104	Теорија бројева и полинома	Theory of Numbers and Polynomials	I	Обавезни	7
5	1554	M105	Математичка анализа 2	Mathematical Analysis 2	II	Обавезни	8
6	1555	M106	Елементарна математика 2	Topics in High School Mathematics 2	II	Обавезни	7
7	1556	M107	Линеарна алгебра	Linear Algebra	I	Обавезни	8
8	1557	M108	Аналитичка геометрија	Analytical Geometry	II	Обавезни	7
9	1558	M201	Математичка анализа 3	Mathematical Analysis 3	III	Обавезни	8
10	1559	M202	Увод у нумеричку анализу	Introduction to Numerical Analysis	III	Обавезни	7
11	1560	M203	Геометрија	Geometry	III	Обавезни	8
12	1561	M205	Математичка анализа 4	Mathematical Analysis 4	IV	Обавезни	8
13	1562	M206	Теорија мера и интеграла	Theory of Measures and Integrals	IV	Обавезни	7
14	1563	M207	Увод у вероватноћу	Introduction to Probability	IV	Обавезни	8
15	1564	M301	Математичка статистика	Mathematical Statistics	V	Обавезни	7
16	1565	M302	Увод у комплексну анализу	Introduction to Complex Analysis	V	Обавезни	8
17	1566	M303	Увод у топологију	Introduction to Topology	V	Обавезни	8

18	1567	M305	Увод у диференцијалне једначине	Introduction to Differential Equations	VI	Обавезни	7.5
19	1568	M306	Функционална анализа	Functional Analysis	VI	Обавезни	7.5
20	1569	M151	Елементарна математика 1	Topics in High School Mathematics 1	III	Изборни	7
21	1570	M152	Коначно димензионални векторски простори	Finite-Dimensional Vector Spaces	III	Изборни	7
22	1571	M153	Елементарна геометрија	Elementary Geometry	IV	Изборни	7
23	1572	M154	Метрички простори и Риман–Стилтјесов интеграл	Metric Spaces and Riemann-Stieltjes Integral	IV	Изборни	7
24	1573	M155	Финансијска математика	Financial Mathematics	V	Изборни	7
25	1574	M156	Увод у програмирање	Introduction to Programming	V	Изборни	7
26	1575	O-02	Педагогија	Pedagogy	VI	Изборни	5
27	1576	M158	Историја и филозофија математике	History and Philosophy of Mathematics	VI	Изборни	5
28	1577	O-01	Психологија	Psychology	VI	Изборни	5
29	1578	O-03	Енглески језик	English	VI	Изборни	5
30	1579	M161	Програмски пакети у настави математике	Teaching Mathematics with Mathematical Software	VI	Изборни	5
31	1580	M162	Методи нацртне геометрије	Methods of Descriptive Geometry	VI	Изборни	5
32	7069	ИО-И11	Електронско издаваштво	Electronic Publishing	IV	Изборни	7

**ДЕПАРТМАН ЗА МАТЕМАТИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
МАТЕМАТИКА 2014 - МОДУЛ: ОПШТА МАТЕМАТИКА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семеста р	Тип предмета	ЕСПБ
1	1650	M401	Теорија вероватноћа	Probability Theory	I	Обавезни	7.5
2	1651	M402	Диференцијалне једначине и динамички системи	Differential Equations and Dynamical Systems	I	Обавезни	7.5
3	1652	M403	Теорија оператора	Operator Theory	I	Обавезни	7.5
4	1653	M405	Алгебарске структуре	Algebraic Structures	II	Обавезни	7.5
5	1654	M406	Диференцијална геометрија	Differential Geometry	II	Обавезни	7.5
6	1655	M407	Парцијалне диференцијалне једначине	Partial Differential Equations	II	Обавезни	7.5
7	1656	M408	Комплексна анализа	Complex Analysis	II	Обавезни	7.5
8	1657	M451	Основи Фуријеове анализе	Fundamentals of Fourier Analysis	I	Изборни	7.5
9	1658	M452	Теорија фиксне тачке и примене	Fixed Point Theory and Its Applications	I	Изборни	7.5
10	1659	M409	Нееуклидске геометрије	Non-Euclidean Geometries	III	Обавезни	7.5
11	1660	M410	Алгебарска топологија	Algebraic Topology	III	Обавезни	7.5
12	1661	M415	Школска пракса	School Practice	IV	Обавезни	6
13	1662	M416	Студијски истраживачки рад	Research Study	IV	Обавезни	4
14	1663	M417	Мастер рад	Master Thesis	IV	Обавезни	8
15	1664	M453	Методика наставе математике	Teaching Methods in Mathematics	III	Изборни	7.5
16	1665	M454	Мера и интеграција	Measure and Integration	III	Изборни	7.5
17	1666	M455	Теорија скупова	Set Theory	III	Изборни	7.5
18	1667	M456	Банахове алгебре и спектри	Banach Algebras and Spectra	III	Изборни	7.5
19	1668	M457	Стохастички процеси	Stochastic Processes	IV	Изборни	6
20	1669	M458	Уопштени инверзи	Generalized Inverses	IV	Изборни	6
21	1670	M459	Мере некомпактности и примене	Measures of Noncompactness and Their Applications	IV	Изборни	6
22	1671	M460	Математичка логика	Mathematical Logic	IV	Изборни	6

23	1856	M551	Теорија апроксимација и квадратурне формуле	Approximation Theory and Quadratures	II	Изборни	7.5
24	1857	M552	Тензорски рачун	Tensor Calculus	II	Изборни	7.5
25	1860	M510	Неограничени оператори математичке физике	Unbounded Operators in Mathematical Physics	III	Изборни	7.5
26	1868	M558	Алгебре оператора у квантној механици	Operator Algebras in Quantum Mechanics	III	Изборни	7.5
27	7156	ИМ-РС-И12	Операциона истраживања	Operational Research	I	Изборни	7

**ДЕПАРТМАН ЗА МАТЕМАТИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
МАТЕМАТИКА 2014 - МОДУЛ: ВЕРВАТНОЋА, СТАТИСТИКА И ФИНАНСИЈСКА МАТЕМАТИКА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
2	1656	M408	Комплексна анализа	Complex Analysis	II	Изборни	7.5
3	1658	M452	Теорија фиксне тачке и примене	Fixed Point Theory and Its Applications	I	Изборни	7.5
4	1660	M410	Алгебарска топологија	Algebraic Topology	III	Изборни	7.5
5	1661	M415	Школска пракса	School Practice	IV	Изборни	6
6	1665	M454	Мера и интеграција	Measure and Integration	III	Изборни	7.5
7	1670	M459	Мере некомпактности и примене	Measures of Noncompactness and Their Applications	IV	Изборни	6
8	1671	M460	Математичка логика	Mathematical Logic	IV	Изборни	6
9	1750	M601	Теорија вероватноћа	Probability Theory	I	Обавезни	7.5
10	1751	M602	Мултиваријациона анализа	Multivariate Analysis	I	Обавезни	7.5
11	1752	M603	Статистички софтвер	Statistical Software	I	Обавезни	7.5
12	1753	M605	Стохастички процеси	Stochastic Processes	II	Обавезни	7.5
13	1754	M606	Временски низови	Time Series Analysis	II	Обавезни	7.5
14	1755	M607	Актуарска математика	Actuarial Mathematics	II	Обавезни	7.5
15	1756	M651	Финансијска математика	Financial Mathematics	I	Изборни	7.5
16	1757	M652	Диференцијалне једначине и динамички системи	Differential Equations and Dynamical Systems	I	Изборни	7.5
17	1758	M653	Парцијалне диференцијалне једначине	Partial Differential Equations	II	Изборни	7.5
18	1759	M654	Теорија узорака и планирање експеримената	Sampling Theory and Design of Experiments	II	Изборни	7.5
19	1760	M616	Стручна пракса	Professional Practice	IV	Обавезни	6
20	1761	M617	Студијски истраживачки рад	Research Study	IV	Обавезни	4
21	1762	M618	Мастер рад	Master Thesis	IV	Обавезни	8

22	1763	M655	Методе функционалне анализе у економији	Methods of Functional Analysis in Economy	III	Изборни	7.5
23	1764	M656	Методика наставе математике	Teaching Methods in Mathematics	III	Изборни	7.5
24	1765	M657	Финансијско моделирање 1	Financial Modeling 1	III	Изборни	7.5
25	1766	M658	Теорија масовног опслуживања	Queueing Theory	III	Изборни	7.5
26	1767	M659	Теорија оператора	Operator Theory	III	Изборни	7.5
27	1768	M660	Теорија ризика	Risk Theory	III	Изборни	7.5
28	1769	M661	Теорија одлучивања	Decision Theory	III	Изборни	7.5
29	1770	M662	Регресиона анализа у финансијама	Regression Analysis in Finance	III	Изборни	7.5
30	1771	M663	Стохастички динамички системи	Stochastic Dynamical Systems	IV	Изборни	6
31	1772	M664	Финансијско моделирање 2	Financial Modeling 2	IV	Изборни	6
32	1773	M665	Статистичка контрола квалитета	Statistic Quality Control	IV	Изборни	6
33	1774	M666	Економетрија	Econometrics	IV	Изборни	6
34	1857	M552	Тензорски рачун	Tensor Calculus	II	Изборни	7.5

**ДЕПАРТМАН ЗА МАТЕМАТИКУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
МАТЕМАТИКА 2014, МОДУЛ: МАТЕМАТИЧКИ МОДЕЛИ У ФИЗИЦИ**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
2	1664	M453	Методика наставе математике	Teaching Methods in Mathematics	III	Изборни	7.5
3	1665	M454	Мера и интеграција	Measure and Integration	III	Изборни	7.5
4	1669	M458	Уопштени инверзи	Generalized Inverses	IV	Изборни	6
5	1670	M459	Мере некомпактности и примене	Measures of Noncompactness and Their Applications	IV	Изборни	6
6	1671	M460	Математичка логика	Mathematical Logic	IV	Изборни	6
7	1756	M651	Финансијска математика	Financial Mathematics	I	Изборни	7.5
8	1763	M655	Методе функционалне анализе у економији	Methods of Functional Analysis in Economy	III	Изборни	7.5
9	1850	M501	Диференцијалне једначине и динамички системи	Differential Equations and Dynamical Systems	I	Обавезни	7.5
10	1851	M502	Теорија оператора	Operator Theory	I	Обавезни	7.5
11	1852	M503	Основи Фуријеове анализе	Fundamentals of Fourier Analysis	I	Обавезни	7.5
12	1853	M504	Теорија вероватноћа	Probability Theory	I	Обавезни	7.5
13	1854	M505	Парцијалне диференцијалне једначине	Partial Differential Equations	II	Обавезни	7.5
14	1855	M506	Класична теоријска физика	Classical Theoretical Physics	II	Обавезни	7.5
15	1856	M551	Теорија апроксимација и квадратурне формуле	Approximation Theory and Quadratures	II	Изборни	7.5
16	1857	M552	Тензорски рачун	Tensor Calculus	II	Изборни	7.5
17	1858	M553	Диференцијална геометрија	Differential Geometry	II	Изборни	7.5
18	1859	M554	Стохастички процеси	Stochastic Processes	II	Изборни	7.5
19	1860	M510	Неограничени оператори математичке физике	Unbounded Operators in Mathematical Physics	III	Обавезни	7.5
20	1861	M509	Квантна механика	Quantum Mechanics	III	Обавезни	7.5

21	1862	M515	Стручна пракса	Professional Practice	IV	Обавезни	6
22	1863	M516	Студијски истраживачки рад	Research Study	IV	Обавезни	4
23	1864	M517	Мастер рад	Master Thesis	IV	Обавезни	8
24	1865	M555	Интегралне једначине и специјалне функције	Integral Equations and Special Functions	III	Изборни	7.5
25	1866	M556	Теорија група и примене	Group Theory and Its Applications	III	Изборни	7.5
26	1867	M557	Нумеричко решавање диференцијалних једначина	Numerical Solutions of Differential Equations	III	Изборни	7.5
27	1868	M558	Алгебре оператора у квантној механици	Operator Algebras in Quantum Mechanics	III	Изборни	7.5
28	1869	M559	Општа теорија релативности	General Theory of Relativity	IV	Изборни	6
29	1870	M560	Математички методи нелинеарне динамике	Mathematical Methods in Nonlinear Dynamics	IV	Изборни	6
30	1871	M561	Симетрије у физици	Symmetries in Physics	IV	Изборни	6
31	1872	M562	Атомска и молекуларна физика	Atomic and Molecular Physics	IV	Изборни	6
32	7204	ИМ-УИ-22	Теорија информација и кодирање	Information Theory and Coding	II	Изборни	8



## ДЕПАРТМАН ЗА ХЕМИЈУ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ХЕМИЈА 2014

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	3250	Ф-105-Б	Математика	Mathematics	I	Обавезни	7
2	3251	Ф-01-Б	Физика	Physics	I	Обавезни	7
3	3252	Х-100-Б	Општа хемија	General Chemistry	I	Обавезни	10
4	3253	ИО31-Б	Примена рачунара у хемији	Computer Applications in Chemistry	I	Обавезни	3
5	3254	Х-119-Б	Историја хемије	History of Chemistry	I	Изборни	3
6	3255	О-05-Б	Енглески језик	English	I	Изборни	3
7	3256	Х-101-Б	Основе неорганске хемије	Fundamentals of Inorganic Chemistry	II	Обавезни	9
8	3257	Х-102-Б	Аналитичка хемија 1	Analytical Chemistry 1	II	Обавезни	9
9	3258	Х-103-Б	Органска хемија 1	Organic Chemistry 1	II	Обавезни	9
10	3259	Х-104-Б	Експериментална органска хемија	Experimental Organic Chemistry	II	Обавезни	3
11	3260	Х-105-Б	Аналитичка хемија 2	Analytical Chemistry 2	III	Обавезни	6
12	3261	Х-106-Б	Физичка хемија 1	Physical Chemistry 1	III	Обавезни	5
13	3262	Х-107-Б	Органска хемија 2	Organic Chemistry 2	III	Обавезни	8
14	3263	Х-108-Б	Структура атома и молекула	Structure of Atoms and Molecules	III	Обавезни	7
15	3264	Х-120-Б	Основи минералогije	Fundamentals of Mineralogy	III	Изборни	4
16	3265	Х-121-Б	Статистичка обрада резултата	Statistical Data Analysis	III	Изборни	4
17	3266	Х-109-Б	Аналитичка хемија 3	Analytical Chemistry 3	IV	Обавезни	5
18	3267	Х-110-Б	Физичка хемија 2	Physical Chemistry 2	IV	Обавезни	7
19	3268	Х-111-Б	Хемија прелазних метала са координационом хемијом	Transition Metal Chemistry with Coordination Chemistry	IV	Обавезни	7
20	3269	Х-112-Б	Препаративна органска хемија	Preparative Organic Chemistry	IV	Обавезни	3

21	3270	X-122-B	Номенклатура у органској хемији	Nomenclature of Organic Chemistry	IV	Изборни	4
22	3271	X-123-B	Неорганске сировине и материјали	Inorganic Raw Materials	IV	Изборни	4
23	3272	X-124-B	Одабрана поглавља волуметријске анализе	Selected Topics in Volumetric Analysis	IV	Изборни	4
24	3273	X-125-B	Припрема сложених узорака за анализу	Preparation of Complex Samples for Analysis	IV	Изборни	4
25	3274	X-113-B	Инструментална аналитичка хемија	Instrumental Analytical Chemistry	V	Обавезни	8
26	3275	X-114-B	Хемија природних производа	Chemistry of Natural Products	V	Обавезни	8
27	3276	X-115-B	Основе индустријске хемије	Fundamentals of Industrial Chemistry	V	Обавезни	6
28	3277	X-116-B	Основе хемије животне средине	Introduction to Environmental Chemistry	V	Обавезни	4
29	3278	X-126-B	Прехрамбена неорганска хемија	Inorganic Chemistry of Foods	V	Изборни	4
30	3279	X-127-B	Прехрамбени адитиви	Food Additives	V	Изборни	4
31	3280	X-117-B	Инструменталне методе у органској хемији	Instrumental Methods in Organic Chemistry	VI	Обавезни	7
32	3281	X-118-B	Биохемија	Biochemistry	VI	Обавезни	5
33	3282	X-128-B	Хемодинамика загађујућих супстанци	Chemodynamics of Pollutants	VI	Изборни	5
34	3283	X-129-B	Фармацеутска хемија	Pharmaceutical Chemistry	VI	Изборни	5
35	3284	X-130-B	Корозија и заштита метала	Corrosion and Protection of Metals	VI	Изборни	5
36	3285	X-131-B	Основи контроле квалитета у аналитичкој лабораторији	Fundamentals of Quality Control in Analytical Laboratory	VI	Изборни	5
37	3286	X-132-B	Молекулски спектри	Molecular Spectra	VI	Изборни	4

38	3287	X-133-Б	Органска хемија у појавама око нас	Organic Chemistry in Everyday Life	VI	Изборни	4
39	3288	X-134-Б	Основе технологије материјала	Fundamentals in Technology of Materials	VI	Изборни	4
40	3289	X-135-Б	Прехрамбена органска хемија	Organic Chemistry of Food	VI	Изборни	4

**ДЕПАРТМАН ЗА ХЕМИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ПРИМЕЊЕНА ХЕМИЈА 2014, МОДУЛ: ПРИМЕЊЕНА ХЕМИЈА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	3670	X-200А-Б	Електрохемија	Electrochemistry	I	Обавезни	7
2	3671	X-240-Б	Индустријска хемија 1	Industrial Chemistry 1	I	Обавезни	7
3	3672	X-241-Б	Технике и методе карактеризације неорганских једињења	Techniques and Methods for Characterization of Inorganic Compounds	I	Обавезни	6
4	3673	X-242-Б	Хемија органских полимера	Chemistry of Organic Polymers	I	Обавезни	7
5	3674	X-259-Б	Анализа животних намирница	Food Analysis	I	Изборни	3
6	3675	X-260-Б	Механизми неорганских реакција	Inorganic Reaction Mechanisms	I	Изборни	3
7	3676	X-243-Б	Примењена органска хемија	Applied Organic Chemistry	II	Обавезни	6
8	3677	X-244-Б	Одабрана поглавља инструменталне анализе	Selected Topics in Instrumental Analysis	II	Обавезни	7
9	3678	X-245-Б	Индустријска хемија 2	Industrial Chemistry 2	II	Обавезни	7
10	3679	X-261-Б	Хемија и технологија материјала	Chemistry and Technology of Materials	II	Изборни	5
11	3680	X-262-Б	Форензичка хемија	Forensic Chemistry	II	Изборни	5
12	3681	X-263-Б	Хемија вода и земљишта	Chemistry of Water and Soil	II	Изборни	5
13	3682	X-233А-Б	Неорганска једињења у медицини и фармацији	Inorganic Compounds in Medicine and Pharmacy	II	Изборни	5
14	3683	X-246-Б	Примењена хемија неметала	Inorganic Metals in Industry	III	Обавезни	5
15	3684	X-247-Б	Синтеза макроколичина органских једињења	Synthesis of Macro Quantities of Organic Compounds	III	Обавезни	7
16	3685	X-248-Б	Кинетика и катализа	Kinetics and Catalysis	III	Обавезни	6

17	3686	X-249-Б	Неоргански материјали у индустрији	Inorganic Materials in Industry	III	Обавезни	6
18	3687	X-265-Б	Биоаналитичка хемија	Bioanalytical Chemistry	III	Изборни	6
19	3688	X-266-Б	Медицинска хемија	Medicinal Chemistry	III	Изборни	6
20	3689	X-250-Б	Индустријски процеси	Industrial Processes	IV	Обавезни	8
21	3690	X-224А-Б	Хемија секундарних метаболита	Chemistry of Secondary Metabolites	IV	Изборни	4
22	3691	X-267-Б	Хемија текстилних материјала и индустријских боја	Textiles and Industrial Dyes Chemistry	IV	Изборни	4
23	3692	X-268-Б	Кинетичке методе анализе	Kinetic Methods of Analysis	IV	Изборни	4
24	3693	X-264-Б	Хемија у пољопривреди	Agriculture Chemistry	IV	Изборни	4
25	3694	X-251-Б	Студијски истраживачки рад	Research Study	IV	Обавезни	4
26	3695	X-252-Б	Мастер рад	Master Thesis	IV	Обавезни	10

**ДЕПАРТМАН ЗА ХЕМИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ПРИМЕЊЕНА  
ХЕМИЈА 2014, МОДУЛ: ХЕМИЈА ЖИВОТНЕ СРЕДИНЕ**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	3670	X-200А-Б	Електрохемија	Electrochemistry	I	Обавезни	7
2	3671	X-240-Б	Индустријска хемија 1	Industrial Chemistry 1	I	Обавезни	7
3	3672	X-241-Б	Технике и методе карактеризације неорганских једињења	Techniques and Methods for Characterization of Inorganic Compounds	I	Обавезни	6
4	3673	X-242-Б	Хемија органских полимера	Chemistry of Organic Polymers	I	Обавезни	7
5	3674	X-259-Б	Анализа животних намирница	Food Analysis	I	Изборни	3
6	3675	X-260-Б	Механизми неорганских реакција	Inorganic Reaction Mechanisms	I	Изборни	3
7	3676	X-243-Б	Примењена органска хемија	Applied Organic Chemistry	II	Обавезни	6
8	3677	X-244-Б	Одабрана поглавља инструменталне анализе	Selected Topics in Instrumental Analysis	II	Обавезни	7
9	3678	X-245-Б	Индустријска хемија 2	Industrial Chemistry 2	II	Обавезни	7
10	3679	X-261-Б	Хемија и технологија материјала	Chemistry and Technology of Materials	II	Изборни	5
11	3680	X-262-Б	Форензичка хемија	Forensic Chemistry	II	Изборни	5
12	3681	X-263-Б	Хемија вода и земљишта	Chemistry of Water and Soil	II	Изборни	5
13	3682	X-233А-Б	Неорганска једињења у медицини и фармацији	Inorganic Compounds in Medicine and Pharmacy	II	Изборни	5
14	3700	X-253-Б	Хемија животне средине	Environmental Chemistry	III	Обавезни	8
15	3701	X-254-Б	Аналитичка хемија животне средине	Environmental Analytical Chemistry	III	Обавезни	6
16	3702	X-255-Б	Хемија метала у животној средини	Chemistry of Metals in the Environment	III	Обавезни	6
17	3703	X-269-Б	Зелена хемија	Green Chemistry	III	Изборни	5
18	3704	X-270-Б	Геохемија	Geochemistry	III	Изборни	5

19	3705	X-271-Б	Биодеградације	Biodegradation	III	Изборни	5
20	3706	X-272-Б	Анализа токсичних супстанци	Analysis of Toxic Substances	III	Изборни	5
21	3707	X-256-Б	Органски полутанти	Organic Pollutants	IV	Обавезни	8
22	3708	X-273-Б	Манипулација опасним органским материјама	Manipulation of Hazardous Organic Substances	IV	Изборни	4
23	3709	X-274-Б	Технологија воде и отпадних вода	Technology of Water and Wastewaters	IV	Изборни	4
24	3710	X-237-Б	Хемија гасова	Chemistry of Gases	IV	Изборни	4
25	3711	X-275-Б	Електрохемијске методе у хемији животне средине	Electrochemical Methods in Environmental Chemistry	IV	Изборни	4
26	3712	X-251-Б	Студијски истраживачки рад	Research Study	IV	Обавезни	4
27	3713	X-252-Б	Мастер рад	Master Thesis	IV	Обавезни	10
28	3714	X-256-1-Б	Органски полутанти 1	Organic Pollutants 1	III	Обавезни	4
29	3715	X-256-2-Б	Органски полутанти 2	Organic Pollutants 2	IV	Обавезни	4
30	3716	X-255	Хемија метала у животној средини	Chemistry of Metals in the Environment	IV	Обавезни	6

**ДЕПАРТМАН ЗА ХЕМИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ХЕМИЈА 2014,  
МОДУЛ: ПРОФЕСОР ХЕМИЈЕ**

Р.Б Р.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семест ар	Тип предмета	ЕСП Б
1	3600	X-200-Б	Електрохемија	Electrochemistry	I	Обавезни	7
2	3601	X-201-Б	Савремене оптичке методе анализе	Modern Methods of Optical Analysis	I	Обавезни	6
3	3602	X-202-Б	Технике и методе карактеризације неорганских једињења	Techniques and Methods for Characterization of Inorganic Compounds	I	Обавезни	6
4	3604	X-203-Б	Одабрана поглавља органске хемије	Selected Topics in Organic Chemistry	I	Обавезни	7
5	3605	X-222-Б	Бионеорганска хемија	Bioinorganic Chemistry	I	Изборни	4
6	3606	X-223-Б	Хемија воде и отпадних вода	Chemistry of Water and Waste Water	I	Изборни	4
7	3607	X-204-Б	Савремене електроаналитичке методе	Contemporary Electroanalytical Methods	II	Обавезни	6
8	3608	X-205-Б	Органске синтезе	Organic Synthesis	II	Обавезни	8
9	3609	X-206-Б	Динамичка биохемија	Dynamic Chemistry	II	Обавезни	5
10	3610	X-207-Б	Индустријска хемија	Industrial Chemistry	II	Обавезни	7
11	3611	X-224-Б	Хемија секундарних метаболита	Chemistry of Secondary Metabolites	II	Изборни	4
12	3612	X-225-Б	Физичко-хемијске основе метода одвајања у хемији	Physicochemical Fundamentals of Separation Techniques in Chemistry	II	Изборни	4
13	3640	X-214-Б	Методика наставе хемије 1	Teaching Methods in Chemistry 1	III	Обавезни	5
14	3641	X-215-Б	Школска пракса 1	School Practice 1	III	Обавезни	5
15	3642	X-216-Б	Школски огледи у органској хемији	School Experiments in Organic Chemistry	III	Обавезни	6
16	3643	X-217-Б	Школски огледи у неорганској хемији	School Experiments in Inorganic Chemistry	III	Обавезни	6



17	3644	O-01-B	Педагогија	Pedagogy	III	Обавезни	4
18	3645	O-02-B	Психологија	Psychology	III	Обавезни	4
19	3646	X-218-B	Методика наставе хемије 2	Teaching Methods in Chemistry 2	IV	Обавезни	5
20	3647	X-219-B	Школска пракса 2	School Practice 2	IV	Обавезни	5
21	3648	X-236-B	Мониторинг животне средине	Environmental Monitoring	IV	Изборни	3
22	3649	X-234-B	Нобелове награде у хемији	Nobel Prizes in Chemistry	IV	Изборни	3
23	3650	X-235-B	Рад са даровитим ученицима	Work with Gifted Students	IV	Изборни	3
24	3651	X-238-B	Активно учење у хемији	Active Learning in Chemistry	IV	Изборни	3
25	3652	X-239-B	Хемија у свакодневници - Еткинсови молекули	Everyday Life Chemistry – Atkins Molecules	IV	Изборни	3
26	3653	X-212-B	Студијски истраживачки рад	Research Study	IV	Обавезни	4
27	3654	X-213-B	Мастер рад	Master Thesis	IV	Обавезни	10
28	3656	X-209-B	Динамичка стереохемија	Dynamic Stereochemistry	I	Обавезни	7

**ДЕПАРТМАН ЗА ХЕМИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ХЕМИЈА 2014,  
МОДУЛ: ИСТРАЖИВАЊЕ И РАЗВОЈ**

Р.Б Р.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семес тар	Тип предмета	ЕС ПБ
1	3600	X-200-Б	Електрохемија	Electrochemistry	I	Обавезни	7
2	3601	X-201-Б	Савремене оптичке методе анализе	Modern Methods of Optical Analysis	I	Обавезни	6
3	3602	X-202-Б	Технике и методе карактеризације неорганских једињења	Techniques and Methods for Characterization of Inorganic Compounds	I	Обавезни	6
4	3604	X-203-Б	Одабрана поглавља органске хемије	Selected Topics in Organic Chemistry	I	Обавезни	7
5	3605	X-222-Б	Бионеорганска хемија	Bioinorganic Chemistry	I	Изборни	4
6	3606	X-223-Б	Хемија воде и отпадних вода	Chemistry of Water and Waste Water	I	Изборни	4
7	3607	X-204-Б	Савремене електроаналитичке методе	Contemporary Electroanalytical Methods	II	Обавезни	6
8	3608	X-205-Б	Органске синтезе	Organic Synthesis	II	Обавезни	8
9	3609	X-206-Б	Динамичка биохемија	Dynamic Chemistry	II	Обавезни	5
10	3610	X-207-Б	Индустријска хемија	Industrial Chemistry	II	Обавезни	7
11	3611	X-224-Б	Хемија секундарних метаболита	Chemistry of Secondary Metabolites	II	Изборни	4
12	3612	X-225-Б	Физичко-хемијске основе метода одвајања у хемији	Physicochemical Foundations of Separation Techniques in Chemistry	II	Изборни	4
13	3613	X-208-Б	Хеометрија	Chemometrics	III	Обавезни	7
14	3614	X-209-Б	Динамичка стереохемија	Dynamic Stereochemistry	III	Обавезни	7
15	3615	X-210-Б	Теоријска неорганска хемија	Theoretical Inorganic Chemistry	III	Обавезни	6
16	3616	X-226-Б	Хемија површина и колоидна хемија	Surface Chemistry and Colloid Chemistry	III	Изборни	5
17	3617	X-227-Б	Методологија научно-истраживачког рада	Methodology of Scientific Research	IV	Изборни	5

18	3618	X-228-Б	Физичка хемија чврстог стања	Physical Chemistry of Solids	III	Изборни	5
19	3619	X-229-Б	Виши курс инструменталних метода у органској хемији	Advance course of Instrumental Methods in Organic Chemistry	III	Изборни	5
20	3620	X-211-Б	Неорганска хемија 2	Inorganic Chemistry 2	IV	Обавезни	6
21	3621	X-230-Б	Виши курс органске хемије	Advanced Course in Organic Chemistry	IV	Изборни	5
22	3622	X-231-Б	Одабрана поглавља физичке хемије	Selected Topics of Physical Chemistry	III	Изборни	5
23	3623	X-232-Б	Виши курс инструменталних хроматографских метода	Advance Course of Instrumental Chromatographic Methods	IV	Изборни	5
24	3624	X-233-Б	Неорганска једињења у медицини и фармацији	Inorganic Compounds in Medicine and Pharmacy	IV	Изборни	5
25	3625	X-212-Б	Студијски истраживачки рад	Research Study	IV	Обавезни	4
26	3626	X-213-Б	Мастер рад	Master Thesis	IV	Обавезни	10
27	3655	X-203-Б	Одабрана поглавља органске хемије	Selected Topics in Organic Chemistry	III	Обавезни	7
28	3656	X-209-Б	Динамичка стереохемија	Dynamic Stereochemistry	I	Обавезни	7

**ДЕПАРТМАН ЗА БИОЛОГИЈУ И ЕКОЛОГИЈУ - ОСНОВНЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ  
ПРОГРАМ: БИОЛОГИЈА 2014**

Р.Б Р.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семест ар	Тип предмета	ЕСП Б
1	4650	БИО101	Општа и неорганска хемија	General and Inorganic Chemistry	I	Обавезни	5
2	4651	БИО102	Физика	Physics	I	Обавезни	6
3	4652	БИО103	Основи информатике	Fundamentals of Informatics	I	Обавезни	6
4	4653	БИО104	Морфологија и анатомија биљака	Morphology and Anatomy of Plants	I	Обавезни	8
5	4654	БИО105	Зоологија бескичмењака 1	Zoology of Invertebrates 1	I	Обавезни	5
6	4655	БИО106	Органска хемија	Organic Chemistry	II	Обавезни	5
7	4656	БИО107	Биологија ћелије	Cell Biology	II	Обавезни	7
8	4657	БИО108	Вероватноћа и статистика у биологији	Probability and Statistics in Biology	II	Обавезни	5
9	4658	БИО109	Зоологија бескичмењака 2	Zoology of Invertebrates 2	II	Обавезни	5
10	4659	БИО201	Микробиологија	Microbiology	III	Обавезни	6
11	4660	БИО202	Зоологија кичмењака	Zoology of Vertebrates	III	Обавезни	7
12	4661	БИО203	Биохемија	Biochemistry	III	Обавезни	7
13	4662	БИО204	Алгологија и микологија	Algology and Micology	III	Обавезни	5
14	4663	БИО205	Развиће животиња	Development of Animals	IV	Обавезни	7
15	4664	БИО206	Систематика и филогенија биљака	Plant Systematics and Phylogeny	IV	Обавезни	9
16	4665	БИО207	Општа екологија	General Ecology	IV	Обавезни	6
17	4666	БИОС02	Теренска истраживања у биологији 1	Field Research in Biology 1	IV	Обавезни	3
18	4667	БИО301	Генетика	Genetics	V	Обавезни	8
19	4668	БИО302	Физиологија биљака	Plant Physiology	V	Обавезни	6
20	4669	БИО303	Физиологија животиња	Animal Physiology	V	Обавезни	6
21	4670	БИО304	Основи екологије биљака	Fundamentals of Plant Ecology	VI	Обавезни	5

22	4671	БИО305	Основи екологије животиња	Fundamentals of Animal Ecology	VI	Обавезни	5
23	4672	БИО306	Молекуларна биологија	Molecular Biology	VI	Обавезни	5
24	4673	БИО307	Органска еволуција	Organic Evolution	VI	Обавезни	5
25	4674	БИОС03	Теренска истраживања у биологији 2	Field Research in Biology 2	VI	Обавезни	3
26	4675	БИОИ11	Енглески језик 1	English 1	II	Изборни	4
27	4676	БИОИ12	Историја и филозофија биологије	History and Philosophy of Biology	II	Изборни	4
28	4677	БИОИ21	Примена рачунара у биологији	Application of Computers in Biology	II	Изборни	4
29	4678	БИОИ22	Физика животне средине	Environmental Physics	II	Изборни	4
30	4679	БИОИ31	Принципи лабораторијског рада у биологији	Principles of Laboratory Work in Biology	III	Изборни	5
31	4680	БИОИ32	Педагогија	Pedagogy	III	Изборни	5
32	4681	БИОИ41	Историјска геологија	Historical Geology	IV	Изборни	5
33	4682	БИОИ42	Психологија	Psychology	IV	Изборни	5
34	4683	БИОИ51	Биогеографија	Biogeography	V	Изборни	5
35	4684	БИОИ52	Лабораторијске животиње у биолошким истраживањима	Laboratory Animals in Biological Research	V	Изборни	5
36	4685	БИОИ53	Биологија човека	Human Biology	V	Изборни	5
37	4686	БИОИ54	Имунобиологија	Immunobiology	V	Изборни	5
38	4687	БИОИ61	Методика наставе биологије	Teaching Methods in Biology	VI	Изборни	4
39	4688	БИОИ62	Основи конзервационе биологије	Fundamentals of Conservation Biology	VI	Изборни	4
40	4689	БИОИ63	Основи астрофизике са астробиологијом	Fundamentals of Astrophysics with Astrobiology	VI	Изборни	4
41	4690	БИОИ64	Математика у биологији	Mathematics in Biology	VI	Изборни	4

**ДЕПАРТМАН ЗА БИОЛОГИЈУ И ЕКОЛОГИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ  
ПРОГРАМ: БИОЛОГИЈА 2014**

Р.Б Р.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семест ар	Тип предмета	ЕСП Б
1	4750	БЕ3401	Екологија биљака	Plant Ecology	I	Обавезни	6
2	4751	БИО401	Заштита животне средине	Environmental Protection	I	Обавезни	6
3	4752	БИО402	Упоредна физиологија животиња	Comparative Physiology of Animals	I	Обавезни	6
4	4753	БЕ3402	Екологија животиња	Animal Ecology	II	Обавезни	6
5	4754	БИО403	Теорија еволуције	Theory of Evolution	II	Обавезни	6
6	4755	БЕ3501	Методологија научно-истраживачког рада	Scientific Research Methodology	III	Обавезни	12
7	4756	БИО404	Школска пракса	School Practice	III	Обавезни	6
8	4757	БЕ3502	Студијски истраживачки рад	Research Study	IV	Обавезни	12
9	4758	БИО501	Мастер рад	Master Thesis	IV	Обавезни	12
10	4759	БИОДИ11	Методологија експерименталног рада у биологији	Methodology of Experimental Work in Biology	I	Изборни	6
11	4760	БИОДИ12	Систематика и екологија лековитих биљака	Systematics and Ecology of Herbs	I	Изборни	6
12	4761	БИОДИ13	Биолошке симбиозе	Symbiosis in Biology	I	Изборни	6
13	4762	БИОДИ14	Микробиолошки практикум	Microbiology Practicum	I	Изборни	6
14	4763	БИОДИ15	Структурне адаптације биљака	Structural Adaptations of Plants	I	Изборни	6
15	4764	БИОДИ16	Ћелијска физиологија	Cell Physiology	I	Изборни	6
16	4765	БИОДИ17	Биохемијска систематика биљака	Biochemical Systematics of Plants	I	Изборни	6
17	4766	БИОДИ18	Палеозоологија	Paleozoology	I	Изборни	6
18	4767	БИОДИ21	Физиологија стреса код биљака	Plant Stress Physiology	II	Изборни	6
19	4768	БИОДИ22	Хумана генетика	Human Genetics	II	Изборни	6
20	4769	БИОДИ23	Форензичка биологија	Forensic Biology	II	Изборни	6

21	4770	БИОДИ24	Методика практичне наставе биологије у школама	Methods of Practical Teaching Biology in Schools	II	Изборни	6
22	4771	БИОДИ25	Култура биљних ћелија	Plant Cells Culture	II	Изборни	6
23	4772	БИОДИ26	Култура животињских ћелија	Animal Cells Culture	II	Изборни	6
24	4773	БИОДИ27	Ботанички практикум	Botany Practicum	II	Изборни	6
25	4774	БИОДИ28	Фитогеографија	Phytogeography	II	Изборни	6
26	4775	БИОДИ29	Ентомологија	Entomology	II	Изборни	6
27	4776	БИОДИ291	Зоогеографија	Zoogeography	II	Изборни	6
28	4777	БИОДИ292	Основи генетског инжењерства	Fundamentals of Genetic Engineering	II	Изборни	6
29	4778	БИОДИ293	Експериментална хематологија	Experimental Hematology	II	Изборни	6
30	4779	БИОДИ31	Биотехнологија	Biotechnology	III	Изборни	6
31	4780	БИОДИ32	Зоолошки практикум	Zoology Practicum	III	Изборни	6
32	4781	БИОДИ33	Дидактичке иновације	Innovations in Didactics	III	Изборни	6
33	4782	БИОДИ34	Експериментална биохемија	Experimental Biochemistry	III	Изборни	6
34	4783	БИОДИ35	Медицинска микробиологија	Medical Microbiology	III	Изборни	6
35	4784	БИОДИ36	Биолошка антропологија	Biological Anthropology	III	Изборни	6
36	4785	О-02-Б	Психологија	Psychology	III	Изборни	5
37	4786	О-01	Педагогија	Pedagogy	III	Изборни	4
38	4787	ЕКОИ33	Екологија микроорганизама	Ecology of Microorganisms	III	Изборни	6
39	4788	ЕКОИ31	Веgetација света	Vegetation of the World	III	Изборни	6
40	4789	ЕКОИ34	Урбана екологија	Urban Ecology	III	Изборни	6
41	4790	О-01	Педагогија	Pedagogy	I	Изборни	6
42	4860	ЕКОС01	Теренска истраживања у екологији	Field Research in Ecology	II	Обавезни	3

**ДЕПАРТМАН ЗА БИОЛОГИЈУ И ЕКОЛОГИЈУ - МАСТЕР АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ  
ПРОГРАМ: ЕКОЛОГИЈА И ЗАШТИТА ПРИРОДЕ 2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	4769	БИОДИ23	Форензичка биологија	Forensic Biology	II	Изборни	6
2	4773	БИОДИ27	Ботанички практикум	Botany Practicum	II	Изборни	6
3	4775	БИОДИ29	Ентомологија	Entomology	II	Изборни	6
4	4780	БИОДИ32	Зоолошки практикум	Zoology Practicum	III	Изборни	6
5	4790	О-01	Педагогија	Pedagogy	I	Изборни	6
6	4850	БЕ3401	Екологија биљака	Plant Ecology	I	Обавезни	8
7	4851	ЕКО402	Биоиндикације и биомониторинг	Bioindications and Biomonitoring	I	Обавезни	6
8	4852	БЕ3402	Екологија животиња	Animal Ecology	II	Обавезни	8
9	4853	ЕКО403	Хидробиологија	Hydrobiology	II	Обавезни	6
10	4854	ЕКО404	Фитогеографија	Phytogeography	II	Обавезни	6
11	4855	ЕКО405	Зоогеографија	Zoogeography	II	Обавезни	6
12	4856	БЕ3501	Методологија научно-истраживачког рада	Methodology of Scientific Research	III	Обавезни	12
13	4857	ЕКО401	Конзервациона биологија	Conservation Biology	III	Обавезни	7
14	4858	ЕКО501	Заштита биолошке разноврсности	Biodiversity Conservation	III	Обавезни	5
15	4859	БЕ3502	Студијски истраживачки рад	Research Study	IV	Обавезни	12
16	4860	ЕКОС01	Теренска истраживања у екологији	Field Research in Ecology	II	Обавезни	3
17	4861	ЕКО503	Мастер рад	Master Thesis	IV	Обавезни	12
18	4882	ЕКОИ11	Екотоксикологија	Ecotoxicology	I	Изборни	6
19	4883	ЕКОИ12	Генотоксикологија	Genotoxicology	I	Изборни	6
20	4884	ЕКОИ13	Хемија животне средине	Environmental Chemistry	I	Изборни	6
21	4885	ЕКОИ14	Лимнологија	Limnology	I	Изборни	6
22	4886	ЕКОИ21	Заштићене врсте и подручја Србије	Protected Species and Natural Areas of Serbia	II	Изборни	5



23	4887	ЕКОИ22	Абиотичка својства водених екосистема	Abiotic Properties of Aquatic Ecosystems	II	Изборни	5
24	4888	ЕКОИ31	Веgetација света	Vegetation of the World	III	Изборни	6
25	4889	ЕКОИ32	Глобална екологија	Global Ecology	III	Изборни	6
26	4890	ЕКОИ33	Екологија микроорганизама	Ecology of Microorganisms	III	Изборни	6
27	4891	ЕКОИ34	Урбана екологија	Urban Ecology	III	Изборни	6
28	4892	БИОДИ12	Систематика и екологија лековитих биљака	Systematics and Ecology of Herbs	I	Изборни	6
29	4893	БИОДИ17	Биохемијска систематика биљака	Biochemical Systematics of Plants	I	Изборни	6
30	4894	БИОДИ292	Основи генетског инжењерства	Fundamentals of Genetic Engineering	II	Изборни	6
31	4899	БИОДИ24	Методика практичне наставе биологије у школама	Methods of Biolab Practice in Schools	II	Изборни	6

**ДЕПАРТМАН ЗА РАЧУНАРСКЕ НАУКЕ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
РАЧУНАРСКЕ НАУКЕ 2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	И-СИР1	И-СИР1	Студијски истраживачки рад 1	Research Study 1	I	Обавезни	4
2	И-СИР2	И-СИР2	Студијски истраживачки рад 2	Research Study 2	II	Обавезни	6
3	И-СИР3	И-СИР3	Студијски истраживачки рад 3	Research Study 3	I	Обавезни	6
4	И-СИР4	И-СИР4	Студијски истраживачки рад 4	Research Study 4	II	Обавезни	6
	<b>И-СИР5</b>	<b>И-СИР5</b>	<b>Студијски истраживачки рад 5</b>	<b>Research Study 5</b>	<b>III</b>	<b>Обавезни</b>	<b>15</b>
5	И-СИР6	И-СИР6	Студијски истраживачки рад 6	Research Study 6	III	Обавезни	15
6	И301	И301	Методологија научно-истраживачког рада	Methodology of Scientific Research	I	Обавезни	2
7	И311	И311	Формални језици, аутомати и израчунљивост	Formal Languages, Automata and Computability	I	Изборни	12
8	И312	И312	Машинско учење		I	Изборни	12
9	И313	И313	Одабрана поглавља из статистике	Selected Topics in Statistics	I	Изборни	12
10	И321	И321	Симболичка и алгебарска израчунавања	Symbolic Algebraic Computation	I	Изборни	12
11	И322	И322	Уређени скупови и мреже	Ordered Sets and Lattices	I	Изборни	12
12	И323	И323	Напредни курс из нумеричке оптимизације	Advanced Course in Numerical Optimization	I	Изборни	12

13	И331	И331	Фази скупови и системи Операциона	Fuzzy Sets and Systems	I	Изборни	12
14	И332	И332	истраживања Вештачке неуронске	Operational Research Artificial Neural	I	Изборни	12
15	И333	И333	мреже Алгебарска	Networks Algebraic	I	Изборни	12
16	И341	И341	комбинаторика Теорија полугрупа и	Combinatorics Theory of Semigroups	I	Изборни	12
17	И342	И342	полупрстена	and Semirings	I	Изборни	12
18	И343	И343	Научна израчунавања Алгебарска теорија	Scientific Computing Algebraic Theory of	I	Изборни	12
19	И351	И351	аутомата и формалних језика	Automata and Languages	I	Изборни	12
20	И352	И352	Израчунавања уопштених инверза	Computation of Generalized Inverses	II	Изборни	12
21	И353	И353	Алгебарска теорија графова	Algebraic Graph Theory	I	Изборни	12
22	И361	И361	Интелигентна обрада текста	Text Mining	I	Изборни	12
23	И363	И363	Одабрана поглавља из алгебре	Selected Topics in Algebra	I	Изборни	12
24	И364	И364	Примена спектара графова у рачунарству	Applications of Graph Spectra in Computer Science	I	Изборни	12
25	И371	И371	Природна израчунавања	Natural Computing	I	Изборни	12
26	И372	И372	Објектно-оријентисана анализа и дизајн	Object-Oriented Analysis and Design	I	Изборни	12
27	И373	И373	Дизајн и анализа алгоритама	Desing and Analysis of Algorithms	I	Изборни	12
28	И374	И374	Обрада слика и анимација	Image Processing and Animation	I	Изборни	12

29	ИЗ81	ИЗ81	Интелигентна обрада података и препознавање узорака	Data Processing and Pattern Recognition	I	Изборни	12
30	ИЗ82	ИЗ82	Одабрана поглавља молекуларне биологије	Slected Topics in Molecular Biology	I	Изборни	12
31	ИЗ83	ИЗ83	Квантна информатика и квантно рачунање	Quantum informatics and quantum computing	I	Изборни	12
32	ИЗ84	ИЗ84	Имплементација и примена аутомата	Implementation and Application of Automata	I	Изборни	12
33	ИЗ85	ИЗ85	Дизајн и анализа алгоритама 2	Desing and Analysis of Algorithms 2	I	Изборни	12
34	ИСИР5	ИСИР5	Студијски истраживачки рад 5 Докторска дисертација	Research study 2 Doctoral Dissertation	I	Обавезни	15

**ДЕПАРТМАН ЗА МАТЕМАТИКУ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
МАТЕМАТИКА 2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	M820	M820	Линеарна алгебра на полупрстеновима	Linear Algebra on Semirings	II	Изборни	12
2	M821	M821	Универзална алгебра	Universal Algebra	II	Изборни	12
3	M823	M823	Одабрана поглавља теорије оператора	Selected Topics in Operator Theory	II	Изборни	12
4	M840	M840	Матричне и операторске једначине	Matrix and Operator Equations	I	Изборни	12
5	M842	M842	Уређене алгебарске структуре	Ordered Algebraic Structures	I	Изборни	12
6	M843	M843	Регресиона анализа	Regression Analysis	I	Изборни	12
7	M845	M845	Финслерови простори	Finsler Spaces	I	Изборни	12
8	M846	M846	Временски низови у теорији и пракси	Time Series in Theory and Applications	II	Изборни	12
9	M848	M848	Теорија ризика	Risk Theory	II	Изборни	12
10	M849	M849	Нумеричко решавање стохастичких диференцијалних једначина	Numerical Solutions of Stochastic Differential Equations	II	Изборни	12
11	M850	M850	Диференцијабилне многострукости	Differentiable Manifolds	II	Изборни	12
12	M851	M851	Хилбертови модули	Hilbert Modules	II	Изборни	12
13	M852	M852	Диференцијална геометрија комплексних и скоро комплексних простора	Differential Geometry of Complex and Almost Complex Spaces	II	Изборни	12
14	M853	M853	Пертурбације и непрекидност уопштених инверза	Perturbations and Continuity of Generalized Inverses	II	Изборни	12
15	M854	M854	Спектрална теорија оператора	Spectral Theory of Operators	II	Изборни	12
16	M855	M855	Глатка анализа	Smooth Analysis	II	Изборни	12
17	M856	M856	Алгебре, прстени и модули	Algebras, Rings and Modules	II	Изборни	12
18	M857	M857	Фази скупови и системи	Fuzzy Sets and Systems	II	Изборни	12
19	M858	M858	Научна израчунавања	Scientific Computing	II	Изборни	12

20	M860	M860	Нелинеарна динамика и теорија хаоса	Nonlinear Dynamics and Chaos Theory	II	Изборни	12
21	M861	M861	Стохастички динамички системи	Stochastic Dynamical Systems	II	Изборни	12
22	I311	I311	Формални језици, аутомати и израчунљивост	Formal Languages, Automata and Computability	I	Изборни	12
23	M703	M703	Студијски истраживачки рад 1	Research Study 1	I	Изборни	6
24	M706	M706	Студијски истраживачки рад 2	Research Study 2	II	Обавезни	6
25	M709	M709	Студијски истраживачки рад 3	Research Study 3	I	Обавезни	6
26	M712	M712	Студијски истраживачки рад 4	Research Study 4	I	Обавезни	6
27	M713	M713	Студијски истраживачки рад 5	Research Study 5	I	Обавезни	30
28	M714	M714	Студијски истраживачки рад 6	Research Study 6	II	Обавезни	15
29	M715	M715	Докторска дисертација	Doctoral Dissertation	II	Обавезни	15
30	M801	M801	Одабрана поглавља из статистике	Selected Topics in Statistics	I	Изборни	12
31	M802	M802	Квалитативна анализа линеарних и полулинеарних диференцијалних једначина	Qualitative Analysis of Semilinear Differential Equations	I	Изборни	12
32	M803	M803	Одабрана поглавља из теорије вероватноћа	Selected Topics in Probability Theory	I	Изборни	12
33	M804	M804	Диференцијална геометрија кривих и површи	Differential Geometry of Curves and Surfaces	I	Изборни	12
34	M805	M805	Функционална анализа	Functional Analysis	I	Изборни	12
35	M806	M806	Одабрана поглавља алгебре	Selected Topics in Algebra	I	Изборни	12
36	M807	M807	Мера и интеграција	Measure and Integration	I	Изборни	12
37	M808	M808	Стохастички процеси	Stochastic Processes	I	Изборни	12
38	M809	M809	Риманов простор и уопштења	Rieman Spaces and Generalizations	I	Изборни	12
39	M810	M810	Уопштени инверзи матрица	Inverses of Matrices	I	Изборни	12
40	M811	M811	Матрична анализа	Matrix Analysis	I	Изборни	12
41	M812	M812	Теорија полугрупа и полупрстена	Theory of Semigroups and Semirings	I	Изборни	12
42	M813	M813	Простори функција	Function Spaces	I	Изборни	12

43	M814	M814	Математичка статистика	Mathematical Statistics	II	Изборни	12
44	M815	M815	Теорија осцилаторности нелинеарних диференцијалних једначина	Oscillatory Theory of Nonlinear Differential Equations	II	Изборни	12
45	M816	M816	Стохастичке диференцијалне једначине	Stochastic Differential Equations	II	Изборни	12
46	M817	M817	Простори несиметричне афине конекције	Spaces of Nonsymmetric Affine Connexion	I	Изборни	12
47	M818	M818	Банахове алгебре и спектри	Banach Algebras and Spectra	II	Изборни	12
48	M819	M819	Неједнакост оператора и матрица	Operator and Matrix Inequalities	II	Изборни	12
49	M821	M821	Универзална алгебра	Universal Algebra	II	Изборни	12
50	M822	M822	Теорија фиксне тачке и примене Одабрана поглавља теорија	Fixed Point Theory and Its Applications	II	Изборни	12
51	M823	M823	оператора	Selected Topics in Operator Theory	II	Изборни	12
52	M824	M824	Фредхолмови и Рисови оператори Уопштени инверзи и системи	Fredholm and Riesz Operators Generalized Inverses and Systems	II	Изборни	12
53	M825	M825	диференцијалних једначина	of Differential Equations	II	Изборни	12
54	M826	M826	Уређени скупови и мреже	Ordered Sets and Lattices	II	Изборни	12
55	M827	M827	Метод Монте-Карло	Monte Carlo Method	II	Изборни	12
56	M828	M828	Инфинитезималне деформације	Infinitezimal Deformations	II	Изборни	12
57	M829	M829	Теорија мартингала	Theory of Martingales	II	Изборни	12
58	M830	M830	Анализа временских низова	Time Series Analysis	I	Изборни	12
59	M831	M831	Квалитативна анализа диференцијалних једначина	Qualitative Analysis of Differential Equations	I	Изборни	12
60	M832	M832	Теорија стабилности стохастичких диференцијалних једначина	Stability Theory of Stochastic Differential Equations	I	Изборни	12
61	M833	M833	Финансијско моделирање	Financial Modeling	I	Изборни	12
62	M834	M834	Геодезијска пресликавања	Geodesic Mappings	I	Изборни	12
63	M835	M835	Квантне алгебарске структуре Одабрана поглавља Фредхолмове	Quantum Algebraic Structures Selected Topics in Fredholm	I	Изборни	12
64	M836	M836	теорије	Theory	I	Изборни	12
65	M837	M837	Нелинеарне једначине и системи	Nonlinear Equations and Systems	I	Изборни	12

66	M838	M838	Матричне трансформације и низови	Matrix Transformations and				
			Итеративне методе у теорији фиксне	Sequences	I	Изборни	12	
67	M839	M839	тачке	Iterative Methods in Fixed Point				
				Theory	I	Изборни	12	
68	M841	M841	Уопштени инверзи оператора	Generalized Inverses of Operators	I	Изборни	12	
			Нумеричко решавање обичних и					
			парцијалних диференцијалних	Numerical Solutions of Ordinary				
69	M844	M844	једначина	and Partial Differential Equations	I	Изборни	12	
			Правилно променљиве функције и	Regularly Varying Functions and				
70	M847	M847	диференцијалне једначине	Differential Equations	II	Изборни	12	
71	M859	M859	Методе статистичке анализе	Methods of Statistical Analysis	II	Изборни	12	
72	M862	M862	Алгебре оператора	Algebras of Operators	I	Изборни	12	



**ДЕПАРТМАН ЗА МАТЕМАТИКУ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ:  
ДОКТОРСКА ШКОЛА МАТЕМАТИКЕ**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	AML-1	AML-1	Универзална алгебра	Universal Algebra	I	Изборни	10
2	AML-10	AML-10	Фази скупови и системи	Fuzzy Sets and System	IV	Изборни	10
3	AML-11	AML-11	Булове алгебра	Boolean Algebras	IV	Изборни	10
4	AML-12	AML-12	Теорија група	Group Theory	IV	Изборни	10
5	AML-13	AML-13	Теорија полупрстена	Semiring Theory	IV	Изборни	10
6	AML-14	AML-14	Теорија скупова	Set Theory	IV	Изборни	10
7	AML-15	AML-15	Теорија мрежа	Lattice Theory	IV	Изборни	10
8	AML-2	AML-2	Некласичне логике	Non-classical Logics	I	Изборни	10
9	AML-3	AML-3	Теорија полугрупа	Semigroup Theory	II	Изборни	10
10	AML-4	AML-4	Теорија модела	Model Theory	II	Изборни	10
11	AML-5	AML-5	Теорија уређених скупова Теорија категорија и теорија доказа	Theory of Ordered Sets Category Theory and Proof Theory	III	Изборни	10
12	AML-6	AML-6	Уређене алгебарске структуре	Ordered Algebraic Structures	III	Изборни	10
13	AML-7	AML-7	Теорија израчунљивости	Computability Theory	III	Изборни	10
14	AML-8	AML-8	Нестандардна анализа	Non-standard Analysis	III	Изборни	10
15	AML-9	AML-9	Докторска дисертација	PhD Theses	VI	Обавезни	20
16	AML-DD	AML-DD	Математичка логика	Mathematical Logic	I	Обавезни	15
17	AML1	AML1	Студијски истраживачки рад 1	Study Research Work 1	I	Обавезни	5
18	AML2	AML2	Општа алгебра	General Algebra	II	Обавезни	15
19	AML3	AML3	Студијски истраживачки рад 2	Study Research Work 1	II	Обавезни	5
20	AML4	AML4	Студијски истраживачки рад 3	Study Research Work 3	III	Обавезни	10
21	AML5	AML5	Студијски истраживачки 4	Study Research Work 4	IV	Обавезни	10
22	AML6	AML6	Студијски истраживачки рад 5	Study Research Work 5	V	Обавезни	20
23	AML7	AML7	Студијски истраживачки рад 6	Study Research Work 6	VI	Обавезни	20
24	AML8	AML8					

25	MA-1	MA-1	Комплексна анализа	Complex Analysis	II	Изборни	10
26	MA-10	MA-10	Риманове многострукости	Riemannian Manifolds	III	Изборни	10
27	MA-11	MA-11	Хармонијска анализа	Harmonic Analysis	III	Изборни	10
28	MA-2	MA-2	Динамички системи	Dynamical Systems	II	Изборни	10
29	MA-3	MA-3	Стохастичка анализа	Stochastic Analysis	II	Изборни	10
30	MA-4	MA-4	Диференцијална геометрија	Differential Geometry	II	Изборни	10
31	MA-5	MA-5	Нумеричка интеграција	Numerical Intergration	II	Изборни	10
32	MA-6	MA-6	Спектрална теорија	Spectral Theory	III	Изборни	10
33	MA-7	MA-7	Уопштене функције	Generalized Functions	III	Изборни	10
34	MA-8	MA-8	Нумеричко решавање парцијалних диференцијалних једначина	Numerical Methods for Solving Partial Differential Equatins	III	Изборни	10
35	MA-9	MA-9	Математичка статистика	Mathematical Statistics	III	Изборни	10
36	MA3	MA3	Парцијалне диференцијалне једначине	Partial Differential Equations	II	Обавезни	15
37	MA-12	MA-12	Уопштене инверзи	Generalized Inverses	III	Изборни	10
38	MA-13	MA-13	Нумеричка оптимизација	Numerical Optimization	III	Изборни	10
39	MA-14	MA-14	Лијеве групе и алгебре	Lie Groups and Lie Algebras	III	Изборни	10
40	MA-15	MA-15	Анализа временских серија	Time Series Analysis	III	Изборни	10
41	MA-16	MA-16	Функционална анализа 2	Functional Analysis 2	IV	Изборни	10
42	MA-17	MA-17	Теорија апроксимација	Approximation Theory	IV	Изборни	10
43	MA-18	MA-18	Стохастичке диференцијалне једначине	Stochastic Differential Equations	IV	Изборни	10
44	MA-19	MA-19	Симплектичка и аналитичка механика	Simplectic and Analytic Mechanics	IV	Изборни	10
45	MA-20	MA-20	Алгебарска топологија	Algebraic Topology	IV	Изборни	10
46	MA-21	MA-21	Псеудодиференцијални оператори	Pseudodifferential Operators	IV	Изборни	10
47	MA-22	MA-22	Операциона истаживања	Operational Research	IV	Изборни	10
48	MA-23	MA-23	Уопштени стохастички процеси и примене	Generalized Stochastic Processes and Applications	IV	Изборни	10
49	MA-24	MA-24	Дискретна геометрија	Discrete Geometry	IV	Изборни	10
50	MA-25	MA-25	Алгебре оператора и Хилбертови модули	Operator Algebras and Hilbert modules	IV	Изборни	10

51	MA1	MA1	Функционална анализа	Functional Analysis	I	Обавезни	15
52	MA2	MA2	Мера и интеграција Докторска дисертација	Measure and Integration Doctoral Dissertation	I	Обавезни	10

**ДЕПАРТМАН ЗА ХЕМИЈУ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ХЕМИЈА  
2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
1	X 342	H-342-B	Студијски истраживачки рад 1 Одабрана поглавља техника и метода карактеризације	Research Study 1 Selected Topics in Techniques and Methods of Characterization	I	Обавезни	14
2	X-300	X-300-B	неорганских једињења Инструменталне методе анализе	Inorganic Compounds Instrumental Methods of Analysis of	I	Изборни	8
3	X-301	X-301-B	одабраних група органских једињења Изоловање секундарних	Selected Groups of Organic Compounds	I	Изборни	8
4	X-302	X-302-B	метаболита	Isolation of Secondary Metabolites	I	Изборни	8
5	X-303	X-303-B	Хемија површинских процеса Одабрана поглавља хемије	Chemistry of Surface Processes Selected Topics in Environmental	I	Изборни	8
6	X-305	X-305-B	животне средине	Chemistry	I	Изборни	8
7	X-306	X-306-B	Површински активне материје	Surfactants	I	Изборни	8
8	X-307	X-307-B	Равнотеже у хемији	Chemical Equilibria	I	Изборни	8
9	X-308	X-308-B	Одабрана поглавља из оптичких и сродних метода хемијске анализе	Selected Topics in Optical and Related Methods of Chemical Analysis	I	Изборни	8
10	X-309	X-309-B	Атомска спектроскопија	Atomic Spectroscopy	I	Изборни	8
11	X-310	X-310-B	Физичка органска хемија	Physical Organic Chemistry	I	Изборни	8
12	X-311	X-311-B	Одабрана поглавља геохемије Мониторинг загађујућих	Selected Topics in Geochemistry	II	Изборни	8
13	X-312	X-312-B	супстанци	Monitoring of Pollutants	II	Изборни	8
14	X-313	X-313-B	Хемија боја Одабрана поглавља	Chemistry of Dyes Selected Topics in	II	Изборни	8
15	X-314	X-314-B	пречишћавања и дезинфекције вода	Purification and Disinfection of Water	II	Изборни	8
16	X-315	X-315-B	Одабрана поглавља електрохемијских методе анализе	Selected Topics in Electrochemical Methods of Analysis	II	Изборни	8

17	X-316	X-316-Б	Инструментална анализа I Физичко-хемијске методе испитивања равнотежа у	Instrumental Analysis I	II	Изборни	8
18	X-317	X-317-Б	комплексирајућим срединама Идентификација природних производа	Physico-Chemical Methods of Testing Balance in Complexes	II	Изборни	8
19	X-318	X-318-Б	Савремене органске синтезе	Identificatin of Natural Products	II	Изборни	8
20	X-319	X-319-Б	Хемија биљних пигмената	Contemporary Organic Synthesis	II	Изборни	8
21	X-320	X-320-Б	Одабрана поглавља неорганске хемије	Chemistry of Plant Pigments	II	Изборни	8
22	X-321	X-321-Б	Одабрана поглавља теоријске хемије	Selected Topics in Inorganic Chemistry	I	Изборни	8
23	X-322	X-322-Б	Асиметричне синтезе	Selected Topics in Theoretical Chemistry	I	Изборни	8
24	X-323	X-323-Б	Експериментална биохемија	Asymmetric Synthesis	I	Изборни	8
25	X-324	X-324-Б	Дводимензионална нуклеарна магнетна резонанца (2D-NMR)	Experimental Biochemistry	I	Изборни	8
26	X-325	X-325-Б	Наноструктурни материјали	Twodimensional Nuclear Magnetic Resonance (2D-NMR)	I	Изборни	8
27	X-326	X-326-Б	Метрика боја	Nanostructured Materials	I	Изборни	8
28	X-327	X-327-Б	Савремени поступци пречишћавања воде	Colourimetry	I	Изборни	8
29	X-328	X-328-Б	Методе одвајања	Advanced Technologies for Water Treatment	I	Изборни	8
30	X-329	X-329-Б	Кинетичке методе анализе	Separation Methods	I	Изборни	8
31	X-330	X-330-Б	Одабрана поглавља физичке хемије	Kinetic Methods of Analysis	I	Изборни	8
32	X-331	X-331-Б	Одабрана поглавља бионеорганске хемије	Selected Topics in Physical Chemistry	I	Изборни	8
33	X-332	X-332	Одабрана поглавља супрамолекулске хемије и хемије	Selected Topics in Bioinorganic Chemistry	II	Изборни	8
34	X-333	X-333-Б	макромолекула	Selected Topics in Supramolecular and Macromolecular Chemistry	II	Изборни	8
35	X-334	X-334	Секундарни метаболити као биомаркери	Secondary Metabolites as Biomarkers	IV	Изборни	8

36	X-335	X-335-Б	Молекулско моделовање у органској хемији	Molecular Modeling in Organic Chemistry Remediation Technologies	II	Изборни	8
37	X-336	X-336-Б	Ремедијационе технологије Хуминске супстанце у животној средини	Humic Substances in Environment	II	Изборни	8
38	X-337	X-337-Б	Инструментална анализа II	Instrumental Analysis II	II	Изборни	8
39	X-338	X-338-Б	Молекулска спектроскопија	Molecular Spectroscopy	II	Изборни	8
40	X-339	X-339-Б	Конформациона анализа	Conformation Analysis of Biomacromolecules	II	Изборни	8
41	X-340	X-340-Б	биомакромолекула Одабрана поглавља у примени органских реагенаса у хемијској анализи	Selected Topics in Application of Organic Reagents in Chemical Analysis	II	Изборни	8
42	X-341	X-341-Б	Студијски истраживачки рад 1	Research Study 1	I	Обавезни	14
43	X-342	X-342	Студијски истраживачки рад 2	Research Study 2	II	Обавезни	14
44	X-343	X-343-Б	Студијски истраживачки рад 3	Research Study 3	III	Обавезни	14
45	X-344	X-344-Б	Студијски истраживачки рад 4	Research Study 4	II	Обавезни	14
46	X-345	X-345-Б	Студијски истраживачки рад 5	Research Study 5	I	Обавезни	30
47	X-346	X-346	Докторска дисертација	Doctoral Dissertation			

**ДЕПАРТМАН ЗА ФИЗИКУ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ ПРОГРАМ: ФИЗИКА  
2014**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
2	I343	I343	Научна израчунавања Виши курс квантне механике	Advanced Quantum Mechanics	I	Изборни	12
3	Ф-301	Ф-301	Физика јонизованих гасова	Physics of Ionized Gases	I	Изборни	15
4	Ф-303	Ф-303	Елементарни процеси у гасу	Elementary Processes in Gases	I	Изборни	15
5	Ф-304	Ф-304	Физика плазме	Plasma Physics	I	Изборни	15
6	Ф-305	Ф-305	Принципи квантне теорије судара	Principles of Quantum Theory of Scattering	I	Изборни	15
7	Ф-307	Ф-307	Нелинеарна електродинамика плазме	Nonlinear Electrodynamics of Plasma	I	Изборни	15
8	Ф-308	Ф-308	Виши курс математичке физике	Advanced Course of Mathematical Physics	I	Изборни	15
9	Ф-309	Ф-309	Структуре атома и молекула	Structures of Atoms and Molecules	I	Изборни	15
10	Ф-310	Ф-310	Космичка плазма	Cosmic Plasma	I	Изборни	15
11	Ф-311	Ф-311	Системи за аквизицију података	Data Acquisition Systems	I	Изборни	15
12	Ф-312	Ф-312	Кинетичка теорија плазме	Kinetic Theory of Plasma	II	Изборни	15
13	Ф-313	Ф-313	Сударни и транспортни процеси	Scattering and Transport Processes	II	Изборни	15
14	Ф-314	Ф-314	Теорија гравитације	Theory of Gravitation	II	Изборни	15
15	Ф-315	Ф-315	Нелинеарна динамика	Nonlinear Dynamics	II	Изборни	15
16	Ф-316	Ф-316	Физичка мерења и сензори	Physical Measurements and Sensors	II	Изборни	15
17	Ф-317	Ф-317					

18	Ф-318	Ф-318	Елементи неравнотежне статистичке физике	Elements of Nonequilibrium Statistical Physics	II	Изборни	15
19	Ф-319	Ф-319	Експерименталне методе физике јонизованих гасова	Experimental Methods in Physics of Ionized Gases	I	Изборни	15
20	Ф-320	Ф-320	Моделовање гасних пражњења	Modeling of Gas Discharge	I	Изборни	15
21	Ф-321	Ф-321	Електрон атомски сударни процеси	Electron Atomic Scattering Processes	I	Изборни	15
22	Ф-322	Ф-322	Сударни тешких честица	Scattering of Heavy Particles	I	Изборни	15
23	Ф-323	Ф-323	Космологија	Cosmology	I	Изборни	15
24	Ф-324	Ф-324	Квантна теорија поља	Quantum Field Theory	I	Изборни	15
25	Ф-325	Ф-325	Физика елементарних честица	Physics of Elementary Particles	I	Изборни	15
26	Ф-326	Ф-326	Физика електричних гасних пражњења	Physics of Electrical Gas Discharge	I	Изборни	15
27	Ф-327	Ф-327	Дијагностика гасних пражњења	Diagnostics of Gas Discharge	I	Изборни	15
28	Ф-329	Ф-329	Електрични пробој гасова	Electrical Breakdown of Gases	I	Изборни	15
29	Ф-330	Ф-330	Физика и техника соларне енергетике	Physics and Technology of Solar Energy	I	Изборни	15
30	Ф-331	Ф-331	Квантна теорија на неархимедовим и деформисаним просторима	Quantum Theory on Nonarchimedean and Deformed Spaces	II	Изборни	15
31	Ф-332	Ф-332	Квантномеханичке основе космологије	Quantum-Mechanics Fundamentals of Cosmology	II	Изборни	15
32	Ф-333	Ф-333	Физика обновљивих извора енергије	Physics of Renewable Energy Sources	II	Изборни	15
33	Ф-334	Ф-334	Примене јонизованих гасова	Applications of Ionized Gases	II	Изборни	15
34	Ф-335	Ф-335	Фотоника	Photonics	II	Изборни	15



35	Ф-336	Ф-336	Интеракција атома са електромагнетним пољем	Interaction of Atom with Electromagnetic Field	II	Изборни	15
36	Ф-337	Ф-337	Моделовање електричних пробоја	Modeling of Electrical Breakdowns	II	Изборни	15
37	Ф-338	Ф-338	Поглавља дидактике и методике физике	Topics of Didactics and Teaching Methods of Physics	I	Изборни	15
38	Ф-339	Ф-339	Поглавља класичне физике	Topics in Classical Physics	I	Изборни	15
39	Ф-340	Ф-340	Методологија педагошког истраживања у настави физике	Methodology of Pedagogical Research in Teaching of Physics	II	Изборни	15
40	Ф-341	Ф-341	Поглавља теоријске физике	Topics in Theoretical Physics	I	Изборни	15
41	Ф-342	F-342	Поглавља историје и филозофије физике	Topics in History and Philosophy of Physics	I	Изборни	15
42	Ф-343	Ф-343	Физика чврстог стања	Solid State Physics	I	Изборни	15
43	Ф-344	Ф-344	Лабораторијски експеримент у настави физике	Laboratory Experiments in Teaching of Physics	II	Изборни	15
44	Ф-345	Ф-345	Теорија отворених квантних система	Open Quantum System Theory	I	Изборни	15
45	Ф-СИР1	Ф-СИР1	Студијски истраживачки рад 1	Research Study 1	I	Обавезни	6
46	Ф-СИР2	Ф-СИР2	Студијски истраживачки рад 2	Research Study 2	II	Обавезни	9
47	Ф-СИР3	Ф-СИР3	Студијски истраживачки рад 3	Research Study 3	I	Обавезни	6
48	Ф-СИР4	F-SIR4	Студијски истраживачки рад 4	Research Study 4	I	Обавезни	9
49	Ф-СИР5	Ф-СИР5	Студијски истраживачки рад 5	Research Study 5	I	Обавезни	15
50	Ф-СИР6	Ф-СИР6	Студијски истраживачки рад 6	Research Study 6	II	Изборни	15

51	ФСIP1	SIRF1	Студијски истраживачки рад 1	Research Study 1	I	Обавезни	6
52	ФСIP2	SIRF2	Студијски истраживачки рад 2	Research Study 2	I	Обавезни	9
			Докторска дисертација	Doctoral Dissertation			

**ДЕПАРТМАН ЗА БИОЛОГИЈУ И ЕКОЛОГИЈУ - ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ - СТУДИЈСКИ  
ПРОГРАМ: БИОЛОГИЈА**

Р.БР.	Број предмета	Шифра предмета	Предмет	Предмет (енг.)	Семестар	Тип предмета	ЕСПБ
2	БД102	БД102	Студијски истраживачки рад 1	Research Study 1	I	Обавезни	16
3	БД103	БД103	Студијски истраживачки рад 2	Research Study 2	II	Обавезни	16
4	БД201	БД201	Студијски истраживачки рад 3	Research Study 3	III	Обавезни	18
5	БД202	БД202	Студијски истраживачки рад 4	Research Study 4	IV	Обавезни	18
6	БД301	БД301	Студијски истраживачки рад 5	Research Study 5	V	Обавезни	15
7	БД302	БД302	Студијски истраживачки рад 6	Research Study 6	VI	Обавезни	15
8	БДИ101	БДИ101	Молекуларна биологија ћелије	Molecular Cell Biology	I	Изборни	7
9	БДИ102	БДИ102	Опште и молекуларне методе у микробиологији	General and Molecular Methods in Microbiology	I	Изборни	7
10	БДИ103	БДИ103	Концепти конзервационог планирања	Concept of Conservation Planning	I	Изборни	7
11	БДИ104	БДИ104	Разноврсност васкуларне флоре Балканског полуострва	Diversity of Vascular Flora of Balkan Peninsula	I	Изборни	7
12	БДИ201	БДИ201	Хумана и медицинска генетика	Human and Medical Genetics	II	Изборни	7
13	БДИ202	БДИ202	Виши курс физиологије животиња	Advance Course of Animal Physiology	II	Изборни	7
14	БДИ203	БДИ203	Геномика	Genomics	II	Изборни	7
15	БДИ204	БДИ204	Физиологија растења и развића биљака	Physiology of Growth and Development of Plants	II	Изборни	7
16	БДИ205	БДИ205	Секундарни метаболити одабраног биљног таксона	Secondary Metabolites of Selected Plant Taxa	II	Изборни	7
17	БДИ206	БДИ206	Микроорганизми у биотехнологији	Microorganisms in Biotechnology	II	Изборни	7

18	БДИ207	БДИ207	Патогени микроорганизми и гљиве	Pathogenic Microorganisms and Fungi	II	Изборни	7
19	БДИ208	БДИ208	Биолошка контрола штетних инсеката	Biological Control of Pest Insects	II	Изборни	7
20	БДИ209	БДИ209	Примењена биологија и екологија одабраног таксона	Applied Biology and Ecology of Selected Taxa	II	Изборни	7
21	БДИ210	БДИ210	Екологија каверниколних организама	Ecology of Cavernicole Organisms	II	Изборни	7
22	БДИ211	БДИ211	Систематика и филогенија одабраног биљног таксона	Systematic and Phylogeny of Selected Plant Taxa	II	Изборни	7
23	БДИ212	БДИ212-Б	Анатомија одабраног биљног таксона	Anatomy of Selected Plant Taxa	II	Изборни	7
24	БДИ213	БДИ213	Методологија истраживања слатководних макроинвертебрата	Methodology of Investigation of Freshwater Macroinvertebrates	II	Изборни	7
25	БДИ214	БДИ214	Екологија одабраног биљног таксона	Ecology of Selected Plant Taxa	II	Изборни	7
26	БДИ301	БДИ301	Ткивно инжењерство	Tissue Engeneering	III	Изборни	12
27	БДИ302	БДИ302	Биологија матичних ћелија	Stem Cell Ciology	III	Изборни	12
28	БДИ303	БДИ303	Молекуларна биологија малигне ћелије	Molecular Biology of Cancer	III	Изборни	12
29	БДИ304	БДИ304	Молекуларна генетика микроорганизама	Molecular Genetics of Microorganisms	III	Изборни	12
30	БДИ305	БДИ305	Биохемија и физиологија микроорганизама	Biochemistry and Physiology of Microorganisms	III	Изборни	12
31	БДИ306	БДИ306	Токсини микроорганизама	Toxins of Microorganisms	III	Изборни	12
32	БДИ307	БДИ307	Угрожене и ендемичне врсте биљака у култури in vitro	Endangered and Endemic Plants in Culture in Vitro	III	Изборни	12
33	БДИ401	БДИ401	Методологија геоботаничких истраживања	Methodology of Geobotanical Research	III	Изборни	12

34	БДИ402	БДИ402	Систематика и филогенија одабраног животињског таксона	Systematics and Phylogeny of Selected Animal Taxa	III	Изборни	12
35	БДИ403	БДИ403	Квантитативна конзервациона екологија	Quantitative Conservation Biology	III	Изборни	12
36	БДИ404	БДИ404	Мониторинг слатководних екосистема	Monitoring of Freshwater Ecosystems	IV	Изборни	12
37	БДИ405	БДИ405	Биљне заједнице и станишта Балканског полуострва	Plant Communities and Habitats of Balkan Peninsula	IV	Изборни	12
38	БДИ406	БДИ406	Биологија инвазивних биљних таксона	Biology of Invasive Plant Taxa	IV	Изборни	12
39	БДИ407	БДИ407	Биоиндикације и биомониторинг одабраног хабитата	Bioindication and Biomonitoring of Selected Habitat	IV	Изборни	12
			Докторска дисертација	Doctoral Dissertation			



4.3 Појединости студијског програма и постигнуте оцене:

ред-број	шифра	Наставни предмети					Година студијског програма	Оцена	Наставник (презиме и име)	
		назив	статус	ЕСПБ	укупан број часова					
					предавања	вежбе				друго
		Укупно		180			Просечна оцена			

Наслов завршног рада/дисертације/уметничког пројекта:

Комисија за одбрану рада:

\* Оцена је грешка

5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА

5.1 Приступ даљим студијама:

Мастер академске студије (други степен)

5.2 Професионални статус:

Студент који заврши студије из области биолошких наука (биолог) оспособљен је да самостално решава практичне и теоријске проблеме у оквиру биолошких наука.

6. ДОДАТНЕ ИНФОРМАЦИЈЕ

6.1 Додатне информације о студенту:

/

6.2 Извори додатних информација о установи:

www.pmf.ni.ac.rs

7. ОВЕРА ДОДАТКА ДИПЛОМИ

7.1 Број:

Датум:

7.2 Одговорно лице:

Проф. др Иван Манчев, декан

Одговорно лице:

Проф. др Драган Антић, ректор

7.3 Печат и потпис:




Печат и потпис:




8. ПОДАЦИ О СИСТЕМУ ВИСОКОГ ОБРАЗОВАЊА У РЕПУБЛИЦИ СРБИЈИ

Оријентационе године старости

27-28

Трећи степен високог образовања

**ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ**  
180 ЕСПБ (уз претходно остварених на основним и дипломским академским студијама најмање 300 ЕСПБ)

24-25

Други степен високог образовања

Дипломске академске студије  
60-120 ЕСПБ

Специјалистичке академске студије  
60 ЕСПБ

Специјалистичке струковне студије  
60 ЕСПБ

22-23

Први степен високог образовања

Интегрисане академске студије  
300 ЕСПБ  
Основне академске студије  
180-240 ЕСПБ

Основне струковне студије  
180 ЕСПБ

18-19

**КАНДИДАТИ**  
са стеченим средњим образовањем и положеним пријемним испитом или испитом за проверу склоности и способности или општом матуром

КАНДИДАТИ

### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title - graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

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### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of high education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council. The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA

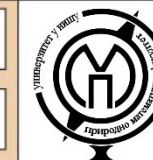


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

JMBG:

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Bachelor of Science in Biology, (BSc in Biology)

2.2 Scientific/artistic/professional field(s) of study:

Biosciences

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Undergraduate academic studies (first academic degree)

3.2 Official length of studies:

3 years (6 semesters)

3.3 Access requirements:

Students are required to have completed a four-year secondary education and passed the entrance examination test in biology.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Bachelor academic studies – Biology  
The programme is so designed as to prepare students to comprehend problems in various biological disciplines and apply the acquired knowledge in industry and social sectors, as well as to prepare them for pursuing a degree at the master academic level.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:



4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		<b>Total</b>								
		<b>180</b>								
		<b>Average grade</b>								

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Master academic studies (second academic degree)

5.2 Professional status:

Bachelor of Science in Biology (BSc in Biology). Graduates are prepared to solve practical and theoretical problems in the area of biological sciences.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

[www.pmf.ni.ac.rs](http://www.pmf.ni.ac.rs)

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

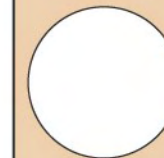
7.2 Authorised person:

Prof. Dr Ivan Mančev, Dean

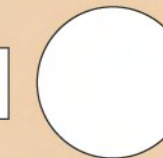
Authorised person:

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:

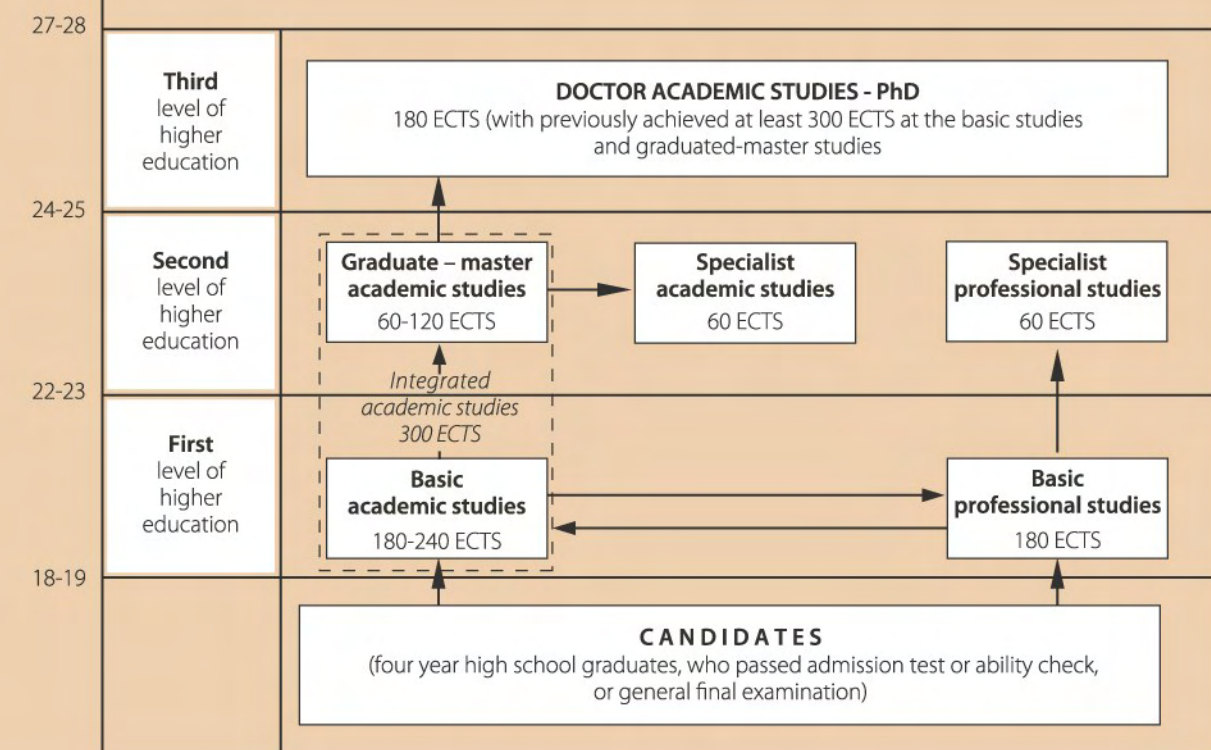



Official seal and signature:




8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑





4.3 Појединости студијског програма и постигнуте оцене:

ред. број	шифра	Наставни предмети			ЕСПБ	укупан број часова			Година студијског програма	Оцена	Наставник (презиме и име)
		назив	статус	статус		предавања	вежбе	друго			
					Укупно				Просечна оцена		
Наслов завршног рада/дисертације/уметничког пројекта:											
Комисија за одбрану рада:											

\* Оцена је греном

5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА

5.1 Приступ даљим студијама:

II степен студија - Специјалистичке академске студије: III степен студија - Докторске академске студије.

5.2 Професионални статус:

Мастер биолог. Оспособљен за научно-истраживачке и стручне послове у истраживањима из области биологије, способност за обављање научно-истраживачких и стручних послова у институтима за биологију, агрономију, медицину, ветерину, заштиту природе и животне средине и др., стручан за послове наставника у основним и средњим школама, оспособљеност за послове сарадника на факултетима и другим високообразовним институцијама.

6. ДОДАТНЕ ИНФОРМАЦИЈЕ

6.1 Додатне информације о студенту:

/

6.2 Извори додатних информација о установи:

www.pmf.ni.ac.rs

7. ОВЕРА ДОДАТКА ДИПЛОМИ

7.1 Број:

Датум:

...

7.2 Одговорно лице:

Проф. др Иван Манчев, декан

Одговорно лице:

Проф. др Драган Антић, ректор

7.3 Печат и потпис:

Печат и потпис:



8. ПОДАЦИ О СИСТЕМУ ВИСОКОГ ОБРАЗОВАЊА У РЕПУБЛИЦИ СРБИЈИ

Оријентационе године старости

27-28

24-25

22-23

18-19

**Трећи степен високог образовања**

**ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ**  
180 ЕСПБ (уз претходно остварених на основним и дипломским академским студијама најмање 300 ЕСПБ)

**Други степен високог образовања**

**Дипломске академске студије**  
60-120 ЕСПБ

**Специјалистичке академске студије**  
60 ЕСПБ

**Специјалистичке струковне студије**  
60 ЕСПБ

**Први степен високог образовања**

**Основне академске студије**  
180-240 ЕСПБ

**Основне струковне студије**  
180 ЕСПБ

**КАНДИДАТИ**  
са стеченим средњим образовањем и положеним пријемним испитом или испитом за проверу склоности и способности или општом матуром

### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title - graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

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### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council. The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

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REPUBLIC OF SERBIA

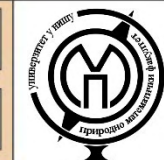


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

JMBG:

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Master of Science in Biology (MSc in Biology)

2.2 Scientific/artistic/professional field(s) of study:

Biological Sciences

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Graduate academic studies - Master (second academic degree)

3.2 Official length of studies:

2 years (4 semesters)

3.3 Access requirements:

Students are required to hold a Bachelor's degree in biology of at least three years in duration, that is, to have achieved a minimum of 180 ECTS credits.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Master academic studies – Biology. Students have to achieve a minimum of 120 ECTS credits and fulfill all the requirements as stated by the study programme, which includes mandatory and elective courses, research study and a master thesis. The aim of the programme: increased knowledge of evolutionary changes on our planet; detailed knowledge of the structure and function of the living matter; deep understanding of biological facts and principles; awareness of the possibility of applying biological knowledge in medicine, agronomy, technology, industry, economics, etc.; detailed study of biodiversity in plant and animal world; theoretical and practical knowledge of organisms and life processes; developing human resources that will be able to contribute to further development of science and scientific education applying the research methodology; increased fund of knowledge about biological problems in nature; increased fund of knowledge about diversity in plant and animal

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:

4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		Total						180	Average grade	

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies Specialist academic studies Third degree academic studies Doctoral studies

5.2 Professional status:

Master of Science in Biology (MSc in Biology) Graduates are prepared for scientific research in biology and related jobs at institutes of biology, agronomy, medicine, veterinary, nature and environment, etc. They are qualified for being teachers in elementary and secondary schools, and teaching and research assistants at universities and other institutions of higher learning.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

[www.pmf.ni.ac.rs](http://www.pmf.ni.ac.rs)

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:



7.2 Authorised person:

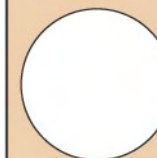
Authorised person:

Prof. Dr Ivan Mančev, Dean

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:

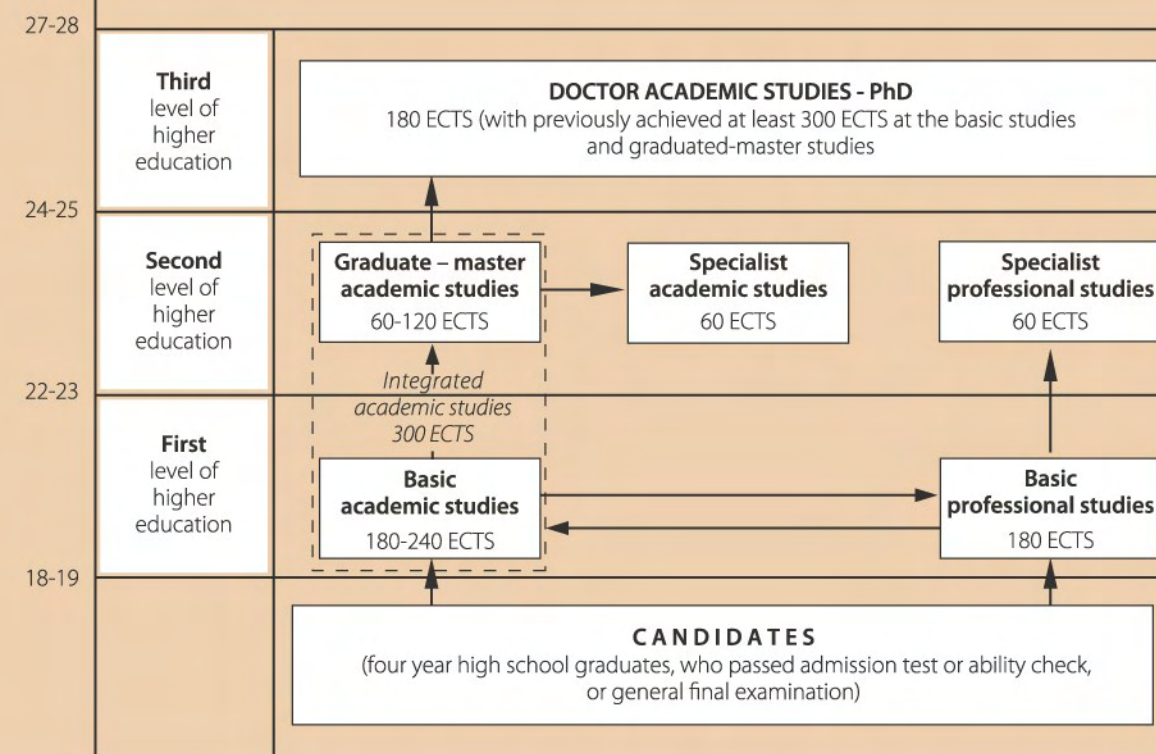
Official seal and signature:






8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑







### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- **University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
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- **The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- **Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- **Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

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### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organised by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title - graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

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If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

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### 8.6 National sources of information

- **The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- **The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- **Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA

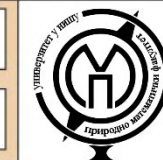


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(Name and address of the Independent Higher Education Institution)

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## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

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### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

2.2 Scientific/artistic/professional field(s) of study:

2.3 Name and status of the awarding institution:

2.4 Name and status of institution administering studies (if different from 2.3):

2.5 Language of instruction:

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

3.2 Official length of studies:

3.3 Access requirements:

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

4.2 Name and aims of the study program:

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:



4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		<b>Total</b>								
		<b>180</b>								
		<b>Average grade</b>								

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies Specialist academic studies Third degree academic studies Doctoral studies

5.2 Professional status:

Master of Science in Ecology (MSc in Ecology) Graduates are prepared for scientific research into ecology or for related jobs at institutes for nature conservation and environmental protection. They are qualified for teaching and research assistants and lecturers at professional studies colleges, and teaching and research assistants at universities and other institutions of higher learning.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

[www.pmf.ni.ac.rs](http://www.pmf.ni.ac.rs)

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

 //

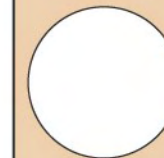
7.2 Authorised person:

Prof. Dr Ivan Mančev, Dean

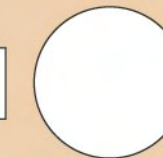
Authorised person:

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:




Official seal and signature:




8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑

27-28

Third level of higher education

**DOCTOR ACADEMIC STUDIES - PhD**  
180 ECTS (with previously achieved at least 300 ECTS at the basic studies and graduated-master studies)

24-25

Second level of higher education

**Graduate – master academic studies**  
60-120 ECTS

**Specialist academic studies**  
60 ECTS

**Specialist professional studies**  
60 ECTS

22-23

First level of higher education

*Integrated academic studies*  
300 ECTS

**Basic academic studies**  
180-240 ECTS

**Basic professional studies**  
180 ECTS

18-19

**CANDIDATES**  
(four year high school graduates, who passed admission test or ability check, or general final examination)



## 4.3 Појединости студијског програма и постигнуте оцене:

Наставни предмети									Година студијског програма	Оцена	Наставник (презиме и име)
ред-број	шифра	назив	статус	ЕСПБ	укупан број часова						
					предавања	вежбе	друго				
Укупно					180				Просечна оцена		
Наслов завршног рада/дисертације/уметничког пројекта:											
Комисија за одбрану рада:											

\* Оцена је пројекта

## 5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА

5.1 Приступ даљим студијама:

Мастер академске студије (други степен)

5.2 Професионални статус:

Студент стиче фундаментална и практична знања из различитих области хемије, која омогућавају разумевање хемијских процеса и оспособљавају га за активно учешће у развојним и истраживачким лабораторијама у многим гранама индустрије. Оспособљен је да на оптималан начин изабере адекватну литературу, да успешно спроведе експеримент, а потом израчунава, обрађује и презентује резултате експерименталног рада. Студент је оспособљен за праћење наставе на дипломским академским студијама (мастер).

## 6. ДОДАТНЕ ИНФОРМАЦИЈЕ

6.1 Додатне информације о студенту:

/

6.2 Извори додатних информација о установи:

www.pmf.ni.ac.rs

## 7. ОВЕРА ДОДАТКА ДИПЛОМИ

7.1 Број:

Датум:

7.2 Одговорно лице:

Проф. др Иван Манчев, декан

Одговорно лице:

Проф. др Драган Антић, ректор

7.3 Печат и потпис:



Печат и потпис:



## 8. ПОДАЦИ О СИСТЕМУ ВИСОКОГ ОБРАЗОВАЊА У РЕПУБЛИЦИ СРБИЈИ

Оријентационе  
године старости

27-28

Трећи  
степен  
високог  
образовања

**ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ**  
180 ЕСПБ (уз претходно остварених на основним и дипломским академским студијама најмање 300 ЕСПБ)

24-25

Други  
степен  
високог  
образовањаДипломске  
академске студије  
60-120 ЕСПБСпецијалистичке  
академске студије  
60 ЕСПБСпецијалистичке  
струковне студије  
60 ЕСПБ

22-23

Први  
степен  
високог  
образовањаИнтегрисане  
академске студије  
300 ЕСПБОсновне  
академске студије  
180-240 ЕСПБОсновне  
струковне студије  
180 ЕСПБ

18-19

**КАНДИДАТИ**  
са стеченим средњим образовањем и положеним пријемним испитом или испитом за проверу склоности и способности или општом матуром

\* Оцена је пројекта

### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

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### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

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REPUBLIC OF SERBIA

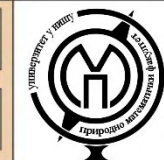


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

2.2 Scientific/artistic/professional field(s) of study:

2.3 Name and status of the awarding institution:

2.4 Name and status of institution administering studies (if different from 2.3):

2.5 Language of instruction:

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

3.2 Official length of studies:

3.3 Access requirements:

The candidate should have completed upper secondary education. For admission to undergraduate studies the entrance exam in chemistry should be taken. The selection of candidates for admission to the studies is carried out on the basis of the general success in school and success in the entrance exam.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

4.2 Name and aims of the study program:

**Chemistry**  
The aim of these studies is to provide students a wider knowledge and professional skills which include acquiring complex concepts and principles of chemistry and related sciences. Also these studies offer acquiring routine in both traditional and modern methods application and techniques in various fields of experimental chemistry; the usage of modern processing forms and presentation of results, comparison of obtained results with the literature data and their representation in a clear way. These studies prepare students for independent and successful work in research laboratories in many industries, developing their critical way of thinking, analyzing facts and adoption of the ethical principles in science.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:

4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		<b>Total</b>								
		<b>Average grade</b>								

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies – Master academic studies

5.2 Professional status:

Student obtains fundamental and practical knowledge from different areas of chemistry which enables understanding of chemical processes and give ability to participate actively in research and development laboratories in many industries. Student is capable to choose the relevant literature, to carry out the experiments successfully and then to calculate and represent the results of the experimental work. Student is able to follow undergraduate academic studies (master).

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

www.pmf.ni.ac.rs

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

//

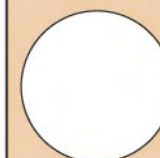
7.2 Authorised person:

Prof. dr Ivan Mančev, Dean

Authorised person:

Prof. dr Dragan Antić, Rector

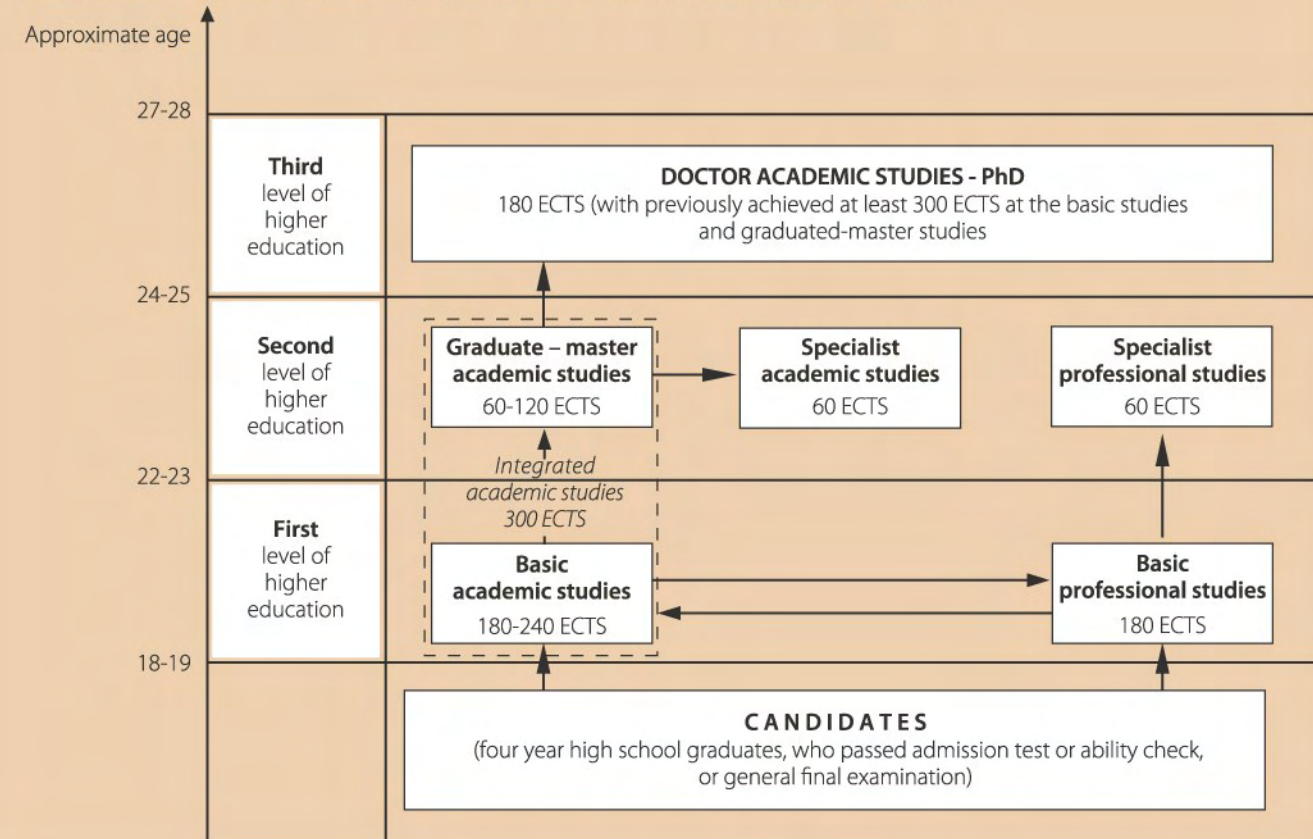
7.3 Official seal and signature:



Official seal and signature:



8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA







### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title - graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of high education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA

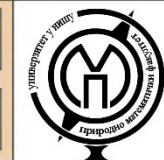


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number 0021

dated

year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

 JMBG: 

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

2.2 Scientific/artistic/professional field(s) of study:

2.3 Name and status of the awarding institution:

2.4 Name and status of institution administering studies (if different from 2.3):

2.5 Language of instruction:

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

3.2 Official length of studies:

3.3 Access requirements:

Candidates with a bachelor degree (a minimum of 180 ECTS credits) in chemistry or related disciplines are eligible for the program. The selection procedure is based on average grades in previous level (bachelor) of studies (70%) and their progression and duration (30%).

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Chemistry  
The goal of this program is to provide student with the fundamental and practical knowledge applicable in different areas of chemistry that are exploited in industry, science and education. This program also provides basis for higher levels of education (doctoral studies), at both national and European universities, and for lifelong learning programs.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:



4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		Total						120	Average grade	

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies Specialist academic studies Third degree academic studies Doctoral studies

5.2 Professional status:

Person with master's degree in chemistry possesses active knowledge, systematic understanding and critical awareness regarding the most important topics in different areas of chemistry; she/he is able to use chemical principles, laws, methods, techniques and instruments, individually or in a team, to solve practical problems and to critically evaluate methodology and the obtained results; she/he is competent to communicate with professionals from other disciplines.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

www.pmf.ni.ac.rs

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

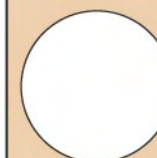
7.2 Authorised person:

Prof. dr Ivan Mančev, Dean

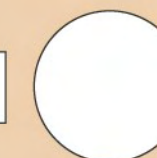
Authorised person:

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:




Official seal and signature:




8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑

27-28

Third level of higher education

**DOCTOR ACADEMIC STUDIES - PhD**  
180 ECTS (with previously achieved at least 300 ECTS at the basic studies and graduated-master studies)

24-25

Second level of higher education

**Graduate – master academic studies**  
60-120 ECTS

**Specialist academic studies**  
60 ECTS

**Specialist professional studies**  
60 ECTS

22-23

First level of higher education

*Integrated academic studies*  
300 ECTS  
**Basic academic studies**  
180-240 ECTS

**Basic professional studies**  
180 ECTS

18-19

**CANDIDATES**  
(four year high school graduates, who passed admission test or ability check, or general final examination)

**CANDIDATES**



## 4.3 Појединости студијског програма и постигнуте оцене:

ред-број	шифра	Наставни предмети			ЕСПБ	укупан број часова			Година студијског програма	Оцена	Наставник (презиме и име)
		назив	статус	предавања		вежбе	друго				
Укупно					120	Просечна оцена					

Наслов завршног рада/дисертације/уметничког пројекта:

Комисија за одбрану рада:

## 5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА

5.1 Приступ даљим студијама:

II степен студија Специјалистичке академске студије III степен студија Докторске академске студије

5.2 Професионални статус:

Мастер хемичар поседује знања, систематско разумевање, критичку свест и практично-апликативни аспект о истакнутијим темама у различитим областима хемије; примењује хемијске принципе и законе, као и хемијске методе, технике и инструментацију, самостално или у тиму, у решавању проблема; критички евалуира поступак и резултате; способан да комуницира са стручњацима из других дисциплина.

## 6. ДОДАТНЕ ИНФОРМАЦИЈЕ

6.1 Додатне информације о студенту:

/

6.2 Извори додатних информација о установи:

www.pmf.ni.ac.rs

## 7. ОВЕРА ДОДАТКА ДИПЛОМИ

7.1 Број:

Датум:

7.2 Одговорно лице:

Проф. др Иван Манчев, декан

Одговорно лице:

Проф. др Драган Антић, ректор

7.3 Печат и потпис:

Печат и потпис:

## 8. ПОДАЦИ О СИСТЕМУ ВИСОКОГ ОБРАЗОВАЊА У РЕПУБЛИЦИ СРБИЈИ

Оријентационе  
године старости

27-28

24-25

22-23

18-19

Трећи  
степен  
високог  
образовањаДруги  
степен  
високог  
образовањаПрви  
степен  
високог  
образовања

**ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ**  
180 ЕСПБ (уз претходно остварених на основним и дипломским академским студијама најмање 300 ЕСПБ)

Дипломске  
академске студије  
60-120 ЕСПБ

Специјалистичке  
академске студије  
60 ЕСПБ

Специјалистичке  
струковне студије  
60 ЕСПБ

Интегрисане  
академске студије  
300 ЕСПБ

Основне  
академске студије  
180-240 ЕСПБ

Основне  
струковне студије  
180 ЕСПБ

**КАНДИДАТИ**  
са стеченим средњим образовањем и положеним пријемним испитом или испитом за проверу склоности и способности или општом матуrom

### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA

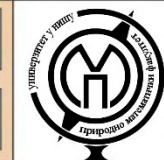


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

000 JMBG:

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Master of Science in Chemistry

2.2 Scientific/artistic/professional field(s) of study:

Chemistry

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Graduate academic studies - Master (second academic degree)

3.2 Official length of studies:

2 years (4 semesters)

3.3 Access requirements:

Candidates with a bachelor degree (a minimum of 180 ECTS credits) in chemistry or related disciplines are eligible for the program. The selection procedure is based on average grades in previous level (bachelor) of studies (70%) and their progression and duration (30%).

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Applied chemistry  
The goal of this program is to provide student with the fundamental and practical knowledge applicable in different areas of chemistry that are exploited in industry, science and education. This program also provides basis for higher levels of education (doctoral studies), at both national and European universities, and for lifelong learning programs.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:

4.3 Study program details and the marks obtained:										
No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		Total		120			Average grade			
Title of the final paper / dissertation / artistic project:										
Commission for the paper defence:										

\*the mark has been acknowledged

### 5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies Specialist academic studies Third degree academic studies Doctoral studies

5.2 Professional status:

Person with master's degree in chemistry possesses active knowledge, systematic understanding and critical awareness regarding the most important topics in different areas of chemistry; she/he is able to use chemical principles, laws, methods, techniques and instruments, individually or in a team, to solve practical problems and to critically evaluate methodology and the obtained results; she/he is competent to communicate with professionals from other disciplines.

### 6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

www.pmf.ni.ac.rs

### 7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:  Date:

7.2 Authorised person: Prof. Dr Ivan Mančev, Dean Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:

### 8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑

27-28 Third level of higher education DOCTOR ACADEMIC STUDIES - PhD 180 ECTS (with previously achieved at least 300 ECTS at the basic studies and graduated-master studies)

24-25 Second level of higher education Graduate - master academic studies 60-120 ECTS Specialist academic studies 60 ECTS Specialist professional studies 60 ECTS

22-23 First level of higher education Basic academic studies 180-240 ECTS Basic professional studies 180 ECTS

18-19 CANDIDATES (four year high school graduates, who passed admission test or ability check, or general final examination)



4.3 Појединости студијског програма и постигнуте оцене:										
Наставни предмети										
ред-број	шифра	назив	статус	ЕСПБ	укупан број часова			Година студијског програма	Оцена	Наставник (презиме и име)
					предавања	вежбе	друго			
Укупно					180			Просечна оцена	10,00	
Наслов завршног рада/дисертације/уметничког пројекта:										
Комисија за одбрану рада:										

\* Оцена је гривата

5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА	6. ДОДАТНЕ ИНФОРМАЦИЈЕ
<p>5.1 Приступ даљим студијама:  <div style="border: 1px solid black; padding: 2px;">Мастер академске студије</div></p> <p>5.2 Професионални статус:  <div style="border: 1px solid black; padding: 2px;">Информатичар. Оспособљен је за самосталан и тимски рад на дизајну и имплементацији софтвера, примени софтвера и информатичких технологија, осмишљавању нових начина примене рачунара и проналажење ефективних начина за решавање информатичких проблема.</div></p>	<p>6.1 Додатне информације о студенту:  <div style="border: 1px solid black; padding: 2px;">/</div></p> <p>6.2 Извори додатних информација о установи:  <div style="border: 1px solid black; padding: 2px;">www.pmf.ni.ac.rs</div></p>

7. ОВЕРА ДОДАТКА ДИПЛОМИ	
7.1 Број: <div style="border: 1px solid black; padding: 2px; text-align: center;">13/10</div>	Датум: <div style="border: 1px solid black; padding: 2px; text-align: center;">01. 10. 2012.</div>
7.2 Одговорно лице: <div style="border: 1px solid black; padding: 2px;">Проф. др Иван Манчев, декан</div>	Одговорно лице: <div style="border: 1px solid black; padding: 2px;">Проф. др Драган Антић, ректор</div>
7.3 Печат и потпис: <div style="border: 1px solid black; border-radius: 50%; width: 50px; height: 50px; display: inline-block; margin-right: 10px;"></div> <div style="border: 1px solid black; width: 150px; height: 30px; display: inline-block;"></div>	Печат и потпис: <div style="border: 1px solid black; border-radius: 50%; width: 50px; height: 50px; display: inline-block; margin-right: 10px;"></div> <div style="border: 1px solid black; width: 150px; height: 30px; display: inline-block;"></div>



### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

The institution of higher education can start working and performing its activities after it receives the working license. Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA

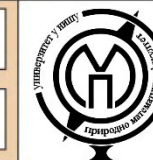


UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

1.2 Surname:

1.3 Date of birth:

1.4 Student's identification number:

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

2.2 Scientific/artistic/professional field(s) of study:

2.3 Name and status of the awarding institution:

2.4 Name and status of institution administering studies (if different from 2.3):

2.5 Language of instruction:

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

3.2 Official length of studies:

3.3 Access requirements:

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

4.2 Name and aims of the study program:

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:







УНИВЕРЗИТЕТ У НИШУ

Природно-математички факултет у Нишу

(Означити и седиште високошколске установе)

ДОДАТАК ДИПЛОМИ

Важи само уз диплому

број  издату  године

(Особини број дипломе)

Додатак дипломи омогућаје опис природе, нивоа, повезаности, садржаја и статуса студија које је показао и успешно завршило лице наведено у дипломи уз коју је овај додатак издат. Информације морају бити наведене у свих осам поглавља, а тамо где нема података треба дати објашњење о разлогу зашто их нема.

1. ПОДАЦИ О ИМАОЦУ ДИПЛОМЕ

1.1 Име:

1.2 Презиме:

1.3 Датум рођења:

1.4 Број индекса студента:

3.3 Услови уписа:

Завршене основне академске студије из области рачунарских наука или сродних области.

8.1 Врсте високошколске установе и њихов статус

На основу Закона о високом образовању [Сл. гласник РС, број 76/06], делатност високог образовања обављају следеће високошколске установе:

- **Универзитет** – Универзитет је самостална високошколска установа која у обављању делатности обједињује образовни и научноистраживачки, стручни, односно уметнички рад, као компоненте јединственог процеса високог образовања. Универзитет може остваривати све врсте и нивое студија. Високошколска установа има статус универзитета ако остварује академске студијске програме на свим нивоима студија, у оквиру најмање три поља (Природно-математичке, друштвено-хуманистичке, медицинске, техничко-технолошке науке и уметности) и три области. Изузетно, докторат наука може да ствара лице са завршеним студијама медицинске и завршеном специјализацијом, на основу одобрене дисертације засноване на редовним образовањем у врхунским савременим часописима.
- **Факултет, односно уметничка академија у саставу универзитета** – Факултет, односно уметничка академија, јесте високошколска установа, односно високошколска јединица у саставу универзитета, која остварује академске студијске програме и реализије научноистраживачки, стручни, односно уметнички рад у једној или више области. Факултет, односно уметничка академија, може остваривати и струковне студијске програме. Факултет, односно уметничка академија, у правном промену наступа под називом универзитета у чијем је саставу и под својим називом, у складу са статутом универзитета.
- **Академија струковних студија** – Академија струковних студија је самостална високошколска установа која у обављању делатности обједињује образовни, истраживачки, стручни и уметнички рад, као компоненте јединственог процеса високог образовања. Академија струковних студија може остваривати основне струковне студије и специјалистичке струковне студије. Високошколска установа има статус академије струковних студија ако остварује најмање пет акредитованих студијских програма струковних студија из најмање три поља.
- **Висока школа** – Висока школа је самостална високошколска установа која остварује академске основне, специјалистичке и дипломске академске студије из једне или више области.
- **Висока школа струковних студија** – Висока школа струковних студија је самостална високошколска установа која остварује основне струковне и специјалистичке струковне студије из једне или више области.

Наведене установе имају својство правног лица. Наведене установе су самосталне високошколске установе, осим факултета и уметничких академија.

8.2 Врсте, ниво и организација студија

Делатност високог образовања остварује се кроз академске и струковне студије на основу одобрених, односно акредитованих студијских програма за сличне високог образовања.

На академским студијама изводи се академски студијски програм, који оспособљава студенте за развој и примену научних, стручних и уметничких достигнућа. Постоје три степена академских студија.

**Академске студије првог степена** су основне академске студије. **Академске студије другог степена** су дипломске академске студије – мастер и специјалистичке академске студије. Интегрисане академске студије су основне и дипломске академске студије организоване у једној целини. **Академске студије трећег степена** су докторске академске студије.

На струковним студијама изводи се струковни студијски програм, који оспособљава студенте за примену знања и вештина потребних за укључивање у радни процес. Постоје два степена струковних студија.

**Струковне студије првог степена** су основне струковне студије. **Струковне студије другог степена** су специјалистичке струковне студије.

8.2.1. Основне (академске или струковне) студије

Основне студије организују све високошколске установе предвиђене Законом о високом образовању.

Основне академске студије трају три или четири године са обимом 180 до 240 ЕСПБ. Основне струковне студије трају три године са обимом 180 ЕСПБ. Студијским програмом основних студија може бити предвиђен завршни рад. Лице које заврши основне академске студије стиче стручни назив са назначом звања првог степена академских студија из одговарајуће области. Лице које заврши основне струковне студије стиче стручни назив са назначом звања првог степена струковних студија из одговарајуће области.

8.2.2. Дипломске академске студије

Дипломске академске студије могу да организују универзитет, факултет и висока школа. Дипломске академске студије трају једну или две године у зависности од обима претходних основних академских студија тако да у збиру имају обим од најмање 300 ЕСПБ. Студијским програмом дипломских академских студија садржи обавезу израде завршног рада. Лице које заврши дипломске академске студије стиче академски назив дипломирања, са назначом звања другог степена дипломских академских студија из одговарајуће области – мастер.

8.2.3. Интегрисане академске студије

Академски студијски програми могу се организовати и интегрисано у оквиру основних и дипломских академских студија (интегрисане академске студије) са укупним обимом од најмање 300 и највише 360 ЕСПБ (академски студијски програм из медицинских наука).

8.2.4. Специјалистичке (академске или струковне) студије

Специјалистичке студије трају најмање једну годину са обимом од најмање 60 ЕСПБ и могу бити академске или струковне. Студијским програмом специјалистичких студија може бити предвиђен завршни рад. Лице које заврши специјалистичке студије стиче стручни назив са назначом звања другог степена академских или струковних студија из одговарајуће области.

8.2.5. Докторске академске студије

Докторске академске студије могу да организују универзитет и факултет. Докторске академске студије трају најмање три године са обимом од најмање 180 ЕСПБ уз претходно трајање основних и дипломских академских студија од најмање пет година и обимом од најмање 300 ЕСПБ. Докторска дисертација је завршни део студијског програма докторских академских студија, осим доктората уметности који је уметнички пројекат. Изузетно, докторат наука може да ствара лице са завршеним студијама медицинске и завршеном специјализацијом, на основу одобрене дисертације засноване на редовним образовањем у врхунским савременим часописима.

8.3 Систем оцењивања

Успешност студената у савладавању појединог предмета континуирано се прати током наставе и изражава се поенима. Исполњавањем предиспитних обавеза и полагањем испита студент може остварити највише 100 поена. Студијским програмом утврђује се саизмера поена стечених у предиспитним обавезама и на испиту, при чему предиспитне обавезе учествују са најмање 30, а највише 70 поена. Успех студента на испиту изражава се оценом од 5 (ниже положај) до 10 (одличан). Високошколска установа може прописати и други, нумерички начин оцењивања, утврђивањем односа ових оцена са оценама од 5 до 10. Општим актом високошколске установе ближе се уређује начин полагања испита и оцењивање на испиту.

8.4 Услови за упис и наставак високог образовања

Кандидат за упис на студије првог степена полаже пријемни испит или испит за проверу склоности и способности, у складу са општим актом самосталне високошколске установе.

Редослед кандидата за упис на студије првог степена утврђује се на основу општег успеха постигнутог у средњем образовању и резултата постигнутих на пријемном испиту, односно испиту за проверу склоности и способности.

Кандидат који има положену општу матуру не полаже пријемни испит. Уместо пријемног испита овом кандидату вреднују се резултати опште матуре, у складу са општим актом самосталне високошколске установе. Самостална високошколска установа може кандидата са положеном стручном, односно уметничком матуrom, уместо пријемног испита, упутити на полагање одређених предмета опште матуре. На основу критеријума из конкурса, самостална високошколска установа сачињава ранг листу пријављених кандидата. Првак уписа на студије првог степена стиче кандидат који је на ранг листи рангиран у оквиру броја студената из члана 84. Закона о високом образовању.

Студент студија првог степена друге самосталне високошколске установе, лице које има степено високо образовање на студијама првог степена и лице које је престо статус студента у складу са овим законом може се уписати на студије првог степена, под условима и на начин прописан општим актом самосталне високошколске установе, на лични захтев.

На студије другог и трећег степена кандидат се уписује под условима, на начин и по поступку утврђеном општим актом и конкурсном самосталне високошколске установе.

8.5 Акредитација

Акредитацијом се утврђује да високошколска установа и студијски програми испуњавају стандарде које је утврдио Национални савет и да високошколска установа има право на издржавање јавних испрваз у складу са Законом о високом образовању.

У поступку акредитације високошколске установе утврђује се да ли установа испуњава и одговарајуће услове који су, по Закону о високом образовању, предвиђени за даје установе које обављају високошколску делатност.

У поступку акредитације студијског програма утврђује се и да ли су испуњени услови за увођење тог програма, у складу са законом.

Поступак акредитације спроводи се на захтев Министарства, осим ако, односно саме високошколске установе. У поступку акредитације Комисија за акредитацију и проверу квалитета може издати уверење о акредитацији високошколске установе, односно студијског програма, упутити високошколској установи акт упозорена, којим се указује на недостатке и потпеду испуњености услова и оставља рок за отклањање наведених недостатака или додати решења којим се одбија захтев за акредитацију. Ако Комисија за акредитацију и проверу квалитета донесе решење којим се одбија захтев за акредитацију, осим ако, односно високошколска установа може упознати жалбу Националном савету за високо образовање као другостепеном органу у року од 30 дана од дана пријема решења. Прописана решења Националног савета по жалби не може се водити управни спор. Осим ако, односно високошколска установа има право да понуди захтев за акредитацију по истому року од годину дана од дана доношења решења којим се одбија захтев за акредитацију.

Високошколска установа може почети са радом и обављати делатност по добијању дозволе за рад. Дозволу за рад издаје Министарство, на захтев високошколске установе, а на територији Аутономне Покрајине Војводине, дозволу издају њени органи надлежни за поверене послове.

8.6 Национални извори информација

- **Министарство просвете**, Немањина 22-26, 11000 Београд, Србија; Телефон: +381/11/363 11 07, Факс: +381/11/361 64 91, web: www.mpr.gov.rs
- **Национални савет за високо образовање**, Палата Републике Србије, Булевар Михајла Пупина 2, 11000 Београд, Србија
- **Покрајински секретаријат за образовање**, Булевар Михајла Пупина 16, 21000 Нови Сад, Србија, AP Војводина; Телефон: +381/11/487 45 55, Факс: +381/21/456 986, web: www.obrazovanje.vojvodina.gov.rs



### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- **University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- **Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- **The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- **Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- **Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- **The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- **The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- **Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA



UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number 000999

dated October 20

year 2099

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

Petar

1.2 Surname:

Petrović

1.3 Date of birth:

00.00.1900.

1.4 Student's identification number:

000 JMBG: 0 0 0 0 0 0 0 0 0 0 0 0

3.3 Access requirements:

Completed undergraduate studies in computer science or a related field.

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Master of Science in Computer Science

2.2 Scientific/artistic/professional field(s) of study:

Computer Science

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Graduate academic studies - Master (second academic degree)

3.2 Official length of studies:

2 years (4 semesters)

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Master studies Computer Science. Master computer technician is qualified for individual or team work on the development and implementation of software, designing new ways of computer applications and finding effective, the best possible ways to solve IT problems. Also, if the basic studies and master studies laid the methodological subjects and pedagogical-psychological orientation (total 30 ECTS) with the school system, can run classes in computer science and related subjects in osnovnimj and secondary schools.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:





УНИВЕРЗИТЕТ У НИШУ

(Имени и облику самосталне високошколске установе)

Природно-математички факултет у Нишу

(Имени и облику самосталне високошколске установе)



ДОДАТАК ДИПЛОМИ

Важи само уз диплому

број  издату  2013. године

(Остаци број дипломе)

Додатак дипломи омогућаје опис природе, нивоа, повезаности, садржаја и статуса студија које је похађао и успешно завршило лице наведено у дипломи уз коју је овај додатак издат. Информације морају бити наведене у свих осам поглавља, а тамо где нема података треба дати објашњење о разлогу зашто их нема.

1. ПОДАЦИ О ИМАОЦУ ДИПЛОМЕ

1.1 Име:

XXX

1.2 Презиме:

XXX

1.3 Датум рођења:

16.06.1989.

1.4 Број индекса студента:

1/08

ЈМБГ:

1606989805013

2. ПОДАЦИ О СТЕЧЕНОЈ ДИПЛОМИ:

2.1 Стечени (стручни, академски, научни) назив:

Математичар

2.2 Научна/уметничка/стручна област (или области) студија:

Математика

2.3 Назив и статус високошколске установе која издаје диплому:

Универзитет у Нишу, Природно-математички факултет у Нишу, (Државни факултет)

2.4 Назив и статус високошколске установе која организује студије (уколико се разликује од 2.3):

/

2.5 Језик на коме се одржава настава:

српски језик

3. ПОДАЦИ О ВРСТИ И СТЕПЕНУ СТУДИЈА:

3.1 Врста и степен студија:

Основне академске студије (први степен)

3.2 Дужина трајања студија:

3 године (6 семестара)

3.3 Услови уписа:

Завршена четворогодишња средња школа и положен пријемни испит.

4. ПОДАЦИ О САДРЖАЈУ И ПОСТИГНУТИМ РЕЗУЛТАТИМА:

4.1 Начин студирања:

Редовне студије (у седишту Факултета)

4.2 Назив и циљеви студијског програма:

Математичар је оспособљен за разумевање задатака у оквиру математичких дисциплина и способан да практично примени стечена знања. Такође, оспособљен је за наставак школовања на мастер академским студијама као и за рад у привредним и друштвеним делатностима.

4.3 Видети следећу страну.

4.4 Начин оцењивања:

Оцене:	Значење оцене:	Број поена	
		од	до
10	одличан	91	100
9	изузетно добар	81	90
8	врло добар	71	80
7	добар	61	70
6	довољан	51	60
5	није положио	0	50

4.5 Просечна оцена и успех:

8.1 Врсте високошколске установе и њихов статус

На основу Закона о високом образовању (Сл. гласник РС, број 78/05), делатност високог образовања обављају следеће високошколске установе:

- Универзитет** – Универзитет је самостална високошколска установа која у обављању делатности обједињује образовне и научноистраживачке, стручне, односно уметнички рад, као компоненте јединственог процеса високог образовања. Универзитет може остваривати све врсте и нивое студија. Високошколска установа има статус универзитета ако оствари академске студијске програме на свим нивоима студија, у оквиру најмање три поља (природно-математичке, друштвено-хуманистичке, медицинске, техничко-технолошке науке и уметности) и три области. Изузетно, универзитет се може основати у пољу уметности, ако има сва три нивoa студија из најмање три области уметности.
- Факултет, односно уметничка академија у саставу универзитета** – Факултет, односно уметничка академија, јесте високошколска установа, односно високошколска јединица у саставу универзитета, која остварује академске студијске програме и остварује научноистраживачки, стручни, односно уметнички рад у једној или више области. Факултет, односно уметничка академија, може остваривати и струковне студијске програме. Факултет, односно уметничка академија, у правном промену наступа под називом универзитета у чијем је саставу и под својим називом, у складу са статутом универзитета.
- Академија струковних студија** – Академија струковних студија је самостална високошколска установа која у обављању делатности обједињује образовни, истраживачки, стручни и уметнички рад, као компоненте јединственог процеса високог образовања. Академија струковних студија може остваривати основне струковне студије и специјалистичке струковне студије. Високошколска установа има статус академије струковних студија ако оствари најмање пет акредитованих студијских програма струковних студија из најмање три поља.
- Висока школа** – Висока школа је самостална високошколска установа која остварује академске основне, специјалистичке и дипломске академске студије из једне или више области.
- Висока школа струковних студија** – Висока школа струковних студија је самостална високошколска установа која остварује основне струковне и специјалистичке струковне студије из једне или више области.

Наведене установе имају својство правног лица. Наведене установе су самосталне високошколске установе, осим факултета и уметничких академија.

8.2 Врсте, ниво и организација студија

Делатност високог образовања остварује се кроз академске и струковне студије на основу одобрених, односно акредитованих студијских програма за стицање високог образовања.

На академским студијама изводи се академски студијски програм, који оспособљава студенте за развој и примену научних, стручних и уметничких достигнућа. Постоје три степена академских студија.

**Академске студије првог степена** су основне академске студије. **Академске студије другог степена** су дипломске академске студије – мастер и специјалистичке академске студије. Интегрисане академске студије су основне и дипломске академске студије организоване у једној целини. **Академске студије трећег степена** су докторске академске студије.

На струковним студијама изводи се струковни студијски програм, који оспособљава студенте за примену знања и вештина потребних за укључивање у радни процес. Постоје два степена струковних студија.

**Струковне студије првог степена** су основне струковне студије. **Струковне студије другог степена** су специјалистичке струковне студије.

8.2.1. Основне (академске или струковне) студије

Основне студије организује све високошколске установе предвиђене Законом о високом образовању.

Основне академске студије трају три или четири године са обимом 180 до 240 ЕСПБ. Основне струковне студије трају три године са обимом 180 ЕСПБ. Студијским програмом основних студија може бити предвиђен завршни рад. Лице које заврши основне академске студије стиче стручни назив са називом званичног степена академских студија из одговарајуће области. Лице које заврши основне струковне студије стиче стручни назив са називом званичног степена струковних студија из одговарајуће области.

8.2.2. Дипломске академске студије

Дипломске академске студије могу да организује универзитет, факултет и висока школа. Дипломске академске студије трају једну или две године у зависности од облика предходних основних академских студија тако да у збиру имају обим од најмање 300 ЕСПБ. Студијским програмом дипломских академских студија садржи обавезу израде завршног рада. Лице које заврши дипломске академске студије стиче академски назив дипломирали, са називом званичног другог степена дипломских академских студија из одговарајуће области – мастер.

8.2.3. Интегрисане академске студије

Академски студијски програми могу се организовати и интегрисано у оквиру основних и дипломских академских студија (интегрисане академске студије) са укупним обимом од најмање 300 и највише 360 ЕСПБ (академски студијски програм из медицинских наука).

8.2.4. Специјалистичке (академске или струковне) студије

Специјалистичке студије трају најмање једну годину са обимом од најмање 60 ЕСПБ и могу бити академске или струковне. Студијским програмом специјалистичких студија може бити предвиђен завршни рад. Лице које заврши специјалистичке студије стиче стручни назив са називом званичног другог степена академских или струковних студија из одговарајуће области.

8.2.5. Докторске академске студије

Докторске академске студије могу да организује универзитет и факултет. Докторске академске студије трају најмање три године са обимом од најмање 180 ЕСПБ уз претходно трајање основних и дипломских академских студија од најмање пет година и обимом од најмање 300 ЕСПБ. Докторска дисертација је завршни део студијског програма докторских академских студија, осим доктората уметности који је уметнички пројекат. Изузетно, докторат наука може да ствара лице са завршним студијама медицине и завршном специјализацијом, на основу одобрене дисертације засноване на редовним обављеним у врхунским световним часописима.

8.3 Систем оцењивања

Успешност студената у савладавању појединог предмета континуирано се прати током наставе и изражава се поенима. Истичувањем предиститних обавеза и полагањем испита студент може остварити највише 100 поена. Студијским програмом утврђује се савмера поена стичених у предиститним обавезама и на испиту, при чему предиститне обавезе учествују са најмање 30, а највише 70 поена. Успех студената на испиту изражава се оценом од 5 (није положио) до 10 (одличан). Високошколска установа може прописати и други, нумерички начин оцењивања, утврђивањем односа свих оцена са оценама од 5 до 10. Општи аксиом високошколске установе блиске се уређује начин полагања испита и оцењивање на испиту.

8.4 Услови за упис и наставак високог образовања

Кандидат за упис на студије првог степена полаже пријемни испит или испит за проверу оспособности и способност, у складу са општим актом самосталне високошколске установе.

Редослед кандидата за упис на студије првог степена утврђује се на основу општег услова постигнутог у средњем образовању и резултата постигнутих на пријемном испиту, односно испиту за проверу оспособности и способност.

Кандидат који има положену општу матуру не полаже пријемни испит. Уместо пријемног испита овом кандидату вреднују се резултати опште матуре, у складу са општим актом самосталне високошколске установе. Самостална високошколска установа може кандидата са положеном стручном, односно уметничком матуrom, уместо пријемног испита, угупити на полагање одређених предмета опште матуре. На основу критеријума из конкурса, самостална високошколска установа сачињава ранг листу пријемних кандидата. **Прво уписа на студије првог степена** стиче кандидат који је на ранг листи рангиран у оквиру броја студената из члана 84. Закона о високом образовању.

Студент студија **првог степена** друге самосталне високошколске установе, лице које има стечено високо образовање на студијама првог степена и лице које је престо статус студента у складу са свим законом може се уписати на студије првог степена, под условима и на начин прописан општим актом самосталне високошколске установе, на лични захтев.

На студијама **другог и трећег степена** кандидат се уписује под условима, на начин и по поступку утврђеном општим актом и конкурсном самосталне високошколске установе.

8.5 Акредитација

Акредитацијом се утврђује да високошколска установа и студијски програми испуњавају стандарде који је утврдио Национални савет и да високошколска установа има право на издавање јавних исправа у складу са Законом о високом образовању.

У поступку **акредитације високошколске установе** утврђује се да ли установа испуњава и одговарајуће услове који су, по Закону о високом образовању, предвиђени за даје установе које обављају високошколску делатност.

У поступку **акредитације студијског програма** утврђује се и да ли су испуњени услови за увођење тог програма, у складу са Законом.

Поступак акредитације спроводи се на захтев Министарства, означава, односно саме високошколске установе. У поступку акредитације Комисија за акредитацију и проверу квалитета може издати уверење о акредитацији високошколске установе, односно студијског програма, угупити високошколској установи акт улозодена, којим се указује на недостатаке или додати решења којим се одбија захтев за акредитацију. Ако Комисија за акредитацију и проверу квалитета донесе решење којим се одбија захтев за акредитацију, осим ако, односно високошколска установа може уложити жалбу Националном савету за високо образовање, као другостепеном органу у року од 30 дана од дана пријема решења. Проглашењем Националног савета по жалби не може се водити управни спор. Осим ако, односно високошколска установа има право да понуди захтев за акредитацију по истом року од годину дана од дана доношења решења којим се одбија захтев за акредитацију.

Високошколска установа може почети са радом и обављати делатност по добијању дозволе за рад. Дозволу за рад издаје Министарство, на захтев високошколске установе, и на територији Аутономне Покрајине Војводине, дозволу издају њени органи надлежни за поверене послове.

8.6 Национални извори информација

- **Министарство просвете**, Немањина 22-26, 11000 Београд, Србија; Телефон: +381/11/363 11 07; Факс: +381/11/361 54 91; веб: www.mps.gov.rs
- **Национални савет за високо образовање**, Палата Републике Србије, Булевар Милоша Пупина 2, 11000 Београд, Србија
- **Покрајински секретаријат за образовање**, Булевар Милоша Пупина 16, 21000 Нови Сад, Србија, AP Војводине; Телефон: +381/11/487 45 55; Факс: +381/21/456 986; веб: www.obrazovanje.vojvodina.gov.rs



### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- **University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- **Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- **The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- **Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- **Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organised by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- **The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- **The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- **Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA



UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number  dated  year

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

XXX

1.2 Surname:

XXXX

1.3 Date of birth:

21.05.1994.

1.4 Student's identification number:

JMBG:  
2105994

3.3 Access requirements:

Completed four-year high school and passed the entrance exam.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

The mathematician is able to understand the tasks within the mathematical disciplines and is able to apply acquired knowledge. Also, the capability to continue their education at the master academic studies as well as work in economic and social activities.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Undergraduate academic studies (first academic degree)

3.2 Official length of studies:

3 years (6 semesters)



4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
		Total		180	Average grade					

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies – Master academic studies

5.2 Professional status:

The mathematician is able to understand the tasks within the mathematical disciplines and is able to apply acquired knowledge in the industry, educational and other social activities.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

[www.pmf.ni.ac.rs](http://www.pmf.ni.ac.rs)

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

 //

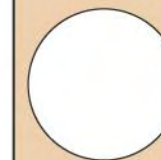
7.2 Authorised person:

Prof. dr Ivan Mančev, Dean

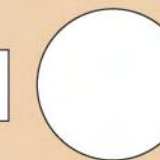
Authorised person:

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:




Official seal and signature:




8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑

27-28

Third level of higher education

**DOCTOR ACADEMIC STUDIES - PhD**  
180 ECTS (with previously achieved at least 300 ECTS at the basic studies and graduated-master studies)

24-25

Second level of higher education

**Graduate – master academic studies**  
60-120 ECTS

**Specialist academic studies**  
60 ECTS

**Specialist professional studies**  
60 ECTS

22-23

First level of higher education

*Integrated academic studies*  
300 ECTS  
**Basic academic studies**  
180-240 ECTS

**Basic professional studies**  
180 ECTS

18-19

**CANDIDATES**  
(four year high school graduates, who passed admission test or ability check, or general final examination)

**CANDIDATES**





### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- **University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- **Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- **The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- **Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- **Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title - graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- **The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- **The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- **Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA



UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number 000999

dated October 20

year 2099

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

Petar

1.2 Surname:

Petrović

1.3 Date of birth:

00.00.1900.

1.4 Student's identification number:

000 JMBG: 0 0 0 0 0 0 0 0 0 0 0 0

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Master of Science in Mathematics

2.2 Scientific/artistic/professional field(s) of study:

Mathematics

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Graduate academic studies - Master (second academic degree)

3.2 Official length of studies:

2 years (4 semesters)

3.3 Access requirements:

Completed undergraduate studies in mathematics or a related field.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Student can choose one of three modules:

1. General Mathematics. Student is qualified for the application and development of professional skills and values in mathematics, as well as in the planning, programming and management of the teaching and learning of mathematics and mathematical disciplines in primary, secondary schools and high schools, as well as all other economic and social activities related to mathematics.
2. Probability, statistics and financial mathematics. The student is able to deploy mathematical methods in modern financial business, banking, insurance, stock exchanges, institutions for assessment and risk management, as well as in development and research institutes concerning the application of mathematics in finance.
3. Mathematical methods in physics. The student is qualified to work in industrial development centers, research institutes related to the applications of mathematics in physics and related disciplines.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:





4.3 Појединости студијског програма и постигнуте оцене:

ред-број	шифра	Наставни предмети			ЕСПБ	укупан број часова			Година студијског програма	Оцена	Наставник (презиме и име)
		назив	статус			предавања	вежбе	друго			
Укупно					180	Просечна оцена					

Наслов завршног рада/дисертације/уметничког пројекта:

Комисија за одбрану рада:

\* Оцена је грчичка

5. ПОДАЦИ О НАМЕНИ СТЕЧЕНОГ НАЗИВА

5.1 Приступ даљим студијама:

Мастер академске студије (други степен)

5.2 Професионални статус:

Физичар је оспособљен за учешће у образовно-васпитним процесима и примену знања из области физике у школама, истраживачким установама и привреди. Оспособљен је и за наставак школовања на мастер академским студијама.

6. ДОДАТНЕ ИНФОРМАЦИЈЕ

6.1 Додатне информације о студенту:

/

6.2 Извори додатних информација о установи:

www.pmf.ni.ac.rs

7. ОВЕРА ДОДАТКА ДИПЛОМИ

7.1 Број:

Датум:

7.2 Одговорно лице:

Проф. др Иван Манчев, декан

Одговорно лице:

Проф. др Драган Антић, ректор

7.3 Печат и потпис:




Печат и потпис:




8. ПОДАЦИ О СИСТЕМУ ВИСОКОГ ОБРАЗОВАЊА У РЕПУБЛИЦИ СРБИЈИ

Оријентационе  
године старости

27-28

Трећи  
степен  
високог  
образовања

**ДОКТОРСКЕ АКАДЕМСКЕ СТУДИЈЕ**  
180 ЕСПБ (уз претходно остварених на основним и дипломским академским студијама најмање 300 ЕСПБ)

24-25

Други  
степен  
високог  
образовања

Дипломске академске студије  
60-120 ЕСПБ

Специјалистичке академске студије  
60 ЕСПБ

Специјалистичке струковне студије  
60 ЕСПБ

22-23

Први  
степен  
високог  
образовања

Интегрисане академске студије  
300 ЕСПБ

Основне академске студије  
180-240 ЕСПБ

Основне струковне студије  
180 ЕСПБ

18-19

**КАНДИДАТИ**  
са стеченим средњим образовањем и положеним пријемним испитом или испитом за проверу склоности и способности или општом матуrom.

### 8.1 Types of high education institutions and their status

According to the Law on higher education (Official Gazette RS, No 76/05), the activity of high education in the Republic of Serbia is performed by the following high-education institutions:

- **University** – University is an independent institution of higher education the performance of which unites educational, scientific, research and professional/artistic work, as components of a unique higher education process. University can perform all types and levels of studies. The institution of higher education has the status of university if it performs academic study programs at all levels of studies, within at least three fields (natural sciences and mathematics, social and humanistic studies, medical sciences, technical and technological sciences, arts) and three areas. As an exception, a university can be established in the area of art, if it contains all three levels of studies from at least three fields of art.
- **Faculty/Art academy, as a component of the university** – Faculty/art academy is an institution of higher education, i.e. a unit of the system of higher education which is a part of university and performs academic study programs and develops scientific, research and professional/artistic activities within one or more areas. Faculty/art academy can also perform specialized study programs. In legal transfer, faculty/art academy is presented by the name of the university which it belongs to, under its own name and in accordance with the university statute.
- **The Academy of professional studies** – The academy of professional studies is an independent institution of higher education the performance of which unites educational, research, professional and artistic work, as components of the unique process of high education. The academy of professional studies can perform basic professional studies and specialist professional studies. An institution of higher education has the status of the academy of professional studies if it accomplishes at least five accredited study programs from at least three fields.
- **Higher education school** – Higher education school is an independent institution of higher education which performs basic, specialist and graduate academic studies in one or more areas.
- **Higher education school of professional studies** – Higher education school of professional studies is an independent institution of higher education which performs basic professional and specialist professional studies from one or more areas.

The stated institutions are treated as legal subjects. The stated institutions are independent institutions of higher education, except faculties and art academies.

### 8.2 Types and level of studies

The activity of higher education is performed through academic and professional studies based on granted/accredited study programs for the achievement of high education.

At the **academic** studies, the academic study programme is carried out. The program enables students for the development and practical use of scientific, professional and artistic achievements. There are three levels of academic studies.

**Academic studies of the first level** are basic academic studies.

**Academic studies of the second level** are graduate academic studies – master and specialist academic studies. Integrated academic studies are basic and graduate academic studies organised as one whole.

**Academic studies of the third level** are doctor academic studies.

At the **professional** studies, the professional study program is carried out. This program enables students to apply knowledge and skills necessary for participating in the working process. There are two levels of professional studies.

**Professional studies of the first level** are basic professional studies.

**Professional studies of the second level** are specialist professional studies.

#### 8.2.1 Basic (academic or professional) studies

Basic studies are organized by all the institutions of higher education defined by the Law of higher education.

Basic academic studies last three to four years with the range of 180 to 240 ECTS.

Basic professional studies last three years with the range of 180 ECTS.

Study program of basic and specialist studies can include the final work.

A person who finishes the basic academic studies acquires the professional title that includes the name of the profession of the first degree academic studies in the corresponding area.

A person who finishes the basic professional studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.2 Graduate academic studies

Graduate academic studies can be organized by the university, faculty of the higher education school. Graduate academic studies last one or two years depending on the range of the previous basic academic studies so that in total there is a range of at least 300 ECTS. Study program of graduate academic studies contains the obligation to create the final work. The person who finishes the graduate academic studies acquires the academic title – graduated, with the name of profession of the second degree of graduate academic studies in the corresponding area – master.

A person who finishes the graduate academic studies acquires the professional title that includes the name of the profession of the first degree of the professional studies in the corresponding area.

#### 8.2.3 Integrated studies

Academic study programs can be also organized as integrated within basic and graduate academic studies (integrated academic studies) with the total of at least 300 ECTS and the maximum of 360 ECTS points (academic study programs in medical sciences).

#### 8.2.4 Specialised (academic or professional) studies

Specialised studies last at least one year with the range of at least 60 ECTS and can be either academic or professional. The study program of professional studies can include specialised work. The person who finishes specialised studies acquires the professional title with the name of profession of the second degree of academic or professional studies in the corresponding area.

### 8.2.5 PhD academic studies

PhD studies can be organized by universities and faculties. PhD studies last for at least three years with at least 180 ECTS with previous basic and graduate academic studies that lasted for at least five years and at least 300 ECTS. PhD dissertation is the final part of the study program of PhD studies, with the exception of the PhD in Art which is an artistic project. Exceptionally, a person can achieve the PhD title by graduating in medical studies and with finished specialization, on the grounds of the dissertation defence on the works published in leading world magazines.

### 8.3 Marking system

A student's achievement in a specific subject is continuously assessed during lessons and it is expressed in points.

By fulfilling the exam preceding duties and by passing exams, a student can achieve the maximum of 100 points.

Study program establishes the proportion of points achieved during the exam-preceding duties and in the exam. The exam-preceding duties bring a minimum of 30 and maximum of 70 points.

Student's success is assessed by marks from 5 (failed) to 10 (excellent).

An institution of higher education can establish a different, numeric method of marking, by establishing the relation between these marks and those of 5 to 10. A general act of an institution of higher education defines more closely the way of taking exams and marking.

### 8.4 Formal conditions necessary to proceed with the higher education

To enroll the first level studies, a candidate takes the entrance exam or ability-check exam, in accordance with the general act of an independent institution of higher education.

The list (order) of candidates to enroll the first level of studies is established on the basis of the general success achieved during high-school education and results achieved at the entrance/ability check exam. A candidate who passed the final, general knowledge high school exam, does not take entrance exam. In this case, the candidate's results of the final high school exam are being assessed, instead of the entrance exam, in accordance with the general act of an independent institution of higher education.

An independent institution of higher education can direct the candidate, who passed the professional/artistic final high school exam instead of the entrance exam, to take tests in the certain subjects of the general, final high school exam.

On the basis of the competition criteria, an independent institution of higher education makes the rank order list of applied candidates. The right to enroll the first level of studies has the student who is ranked on the list, within the number of students determined in accordance with the article 84 of the Law of higher education.

The student of the first level studies of another independent institution of higher education, a person who acquired the higher education at the first level studies and a person who no longer has the status of a student, in accordance with this law, can enroll the first level studies, under conditions and within forms established by the general act of an independent institution of higher education, at the personal demand.

A candidate enrolls the **second and third level of studies** under certain conditions, according to the manner and procedures established by the general act and open competition of an independent institution of higher education.

### 8.5 Accreditation

Accreditation is used to establish that an institution of higher education and study programs fulfills the standards established by the National Council, and that it has the right to issue public documents, in accordance with the Law of higher education.

In the process of **accrediting an institution of higher education**, it is established if the institution fulfills certain conditions which are, according to the Law of higher education, specified for the given institutions which perform the higher education activity.

In the process of **accrediting a study program**, it is established if the conditions of introducing such a program are being fulfilled, in accordance with the law.

The process of accrediting is conducted at the demand of the Ministry, the founder, i.e., the institution of higher education itself.

In the process of accrediting, the Accreditation and Quality Control Commission can issue a certificate of accreditation to an institution of higher education or study program, issue an act of warning to an institution of higher education. This act points out the weaknesses concerning conditions, and gives a deadline for removing the weaknesses. When the deadline is over, it decides about the request. It can issue a decision which denies the accreditation demand.

If the board reaches a decision to deny the accreditation, the founder/ institution of higher education can file a complaint to the National Council within 30 days from the day the decision was received.

There could not be a legal process against the decision of the National Council.

The founder/institution of higher education has the right to repeat the request for accreditation after the period of one year the decision to deny the accreditation request was received.

The institution of higher education can start working and performing its activities after it receives the working license.

Working license is issued by the Ministry, at the demand of the institution of higher education. At the territory of AP Vojvodina, the licence is issued by the organs authorised for the delegated affairs.

### 8.6 National sources of information

- **The Ministry of Education**, Nemanjina 22-26, 11000 Belgrade, Serbia; Telephone: +381/11/363 11 07, Fax: +381/11/361 64 91, web: www.mp.gov.rs
- **The National Council for Higher Education**, the Palace of the Republic of Serbia, Bulevar Mihajla Pupina 2, 11000 Belgrade, Serbia.
- **Provincial Secretary of Education**, Bulevar Mihajla Pupina 16, 21000 Novi Sad, Serbia, AP Vojvodina; Telephone +381/11/48745 55, Fax: +381/21/456 986; web: www.obrazovanje.vojvodina.gov.rs



REPUBLIC OF SERBIA



UNIVERSITY OF NIŠ

(Name and address of the Independent Higher Education Institution)

Faculty of Sciences and Mathematics in Niš

(Name and address of the Higher Education Institution)



## DIPLOMA SUPPLEMENT

Valid only with the diploma

number 000 dated Оцтобер 22. year 2056

Diploma supplement provides a description of the nature, level, cohesion, context and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. Information in all eight sections should be provided, and where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 First Name:

XXXXX

1.2 Surname:

XXXXXX

1.3 Date of birth:

21.05.1994.

1.4 Student's identification number:

H45

JMBG:

2105994

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Title conferred (professional, academic, scientific):

Bachelor of Science in Physics

2.2 Scientific/artistic/professional field(s) of study:

Physics

2.3 Name and status of the awarding institution:

University of Niš, Faculty of Sciences and Mathematics in Niš (state university)

2.4 Name and status of institution administering studies (if different from 2.3):

/

2.5 Language of instruction:

Serbian

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Type and level of qualification:

Undergraduate academic studies (first academic degree)

3.2 Official length of studies:

3 years (6 semesters)

3.3 Access requirements:

The candidate should have completed upper secondary education in duration of 4 years. For admission to undergraduate studies candidate should pass the entrance exam in physics. The selection of candidates for admission to the program shall be based on the overall success in high school and success in the entrance exam.

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time studies (at the seat of the faculty)

4.2 Name and aims of the study program:

Physics

The aim of the study program Physics is to train students to be able to apply scientific and technical knowledge and skills needed to work in the fields of teaching, theoretical, applied and experimental physics.

4.3 Please see the next page:

4.4 Grading scheme:

Marks:	Classification:	Points number	
		from	to
10	excellent	91	100
9	outstandingly good	81	90
8	very good	71	80
7	good	61	70
6	sufficient	51	60
5	insufficient	0	50

4.5 Average grade and classification:



4.3 Study program details and the marks obtained:

No	code	Subjects						Year of the study program	Mark	Lecturer (surname and name)
		title	status	ECTS	total number of classes					
					lectures	practice	other			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
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30										
31										
<b>Total</b>				180					<b>Average grade</b>	

Title of the final paper / dissertation / artistic project:

Commission for the paper defence:

\*the mark has been acknowledged

5. INFORMATION ON PURPOSE

5.1 Access to further studies:

Second degree academic studies – Master studies

5.2 Professional status:

Physicists is qualified to participate in the educational process and application of the knowledge in the field of physics research institutions, schools and industry. Physicists is qualified to continue education at the master academic studies.

6. ADDITIONAL INFORMATION

6.1 Additional information on the student:

/

6.2 Further information sources:

www.pmf.ni.ac.rs

7. CERTIFICATION OF THE DIPLOMA SUPPLEMENT

7.1 No:

Date:

//

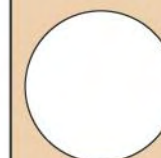
7.2 Authorised person:

Prof. dr Ivan Mančev, Dean

Authorised person:

Prof. dr Dragan Antić, Rector

7.3 Official seal and signature:



Official seal and signature:



8. INFORMATION ON THE SYSTEM OF HIGHER EDUCATION IN THE REPUBLIC OF SERBIA

Approximate age ↑

27-28

**Third level of higher education**

**DOCTOR ACADEMIC STUDIES - PhD**  
180 ECTS (with previously achieved at least 300 ECTS at the basic studies and graduated-master studies)

24-25

**Second level of higher education**

**Graduate – master academic studies**  
60-120 ECTS

**Specialist academic studies**  
60 ECTS

**Specialist professional studies**  
60 ECTS

22-23

**First level of higher education**

**Basic academic studies**  
180-240 ECTS

**Basic professional studies**  
180 ECTS

18-19

**CANDIDATES**  
(four year high school graduates, who passed admission test or ability check, or general final examination)

\*the mark has been acknowledged