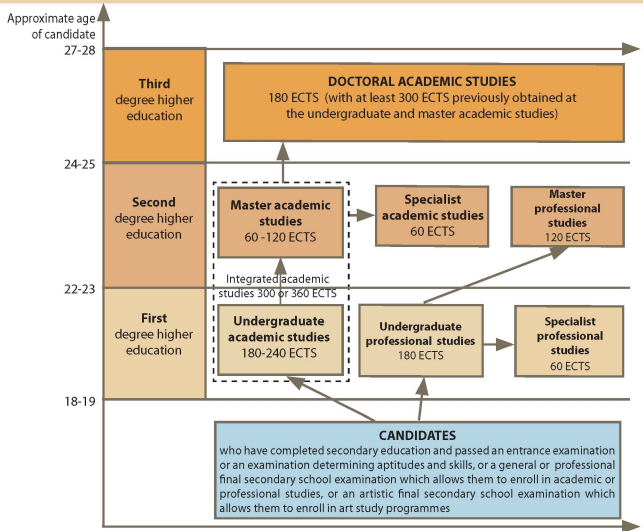


8. INFORMATION ON THE HIGHER EDUCATION SYSTEM IN THE REPUBLIC OF SERBIA



8.1 Types of higher education institutions and their status

Based on the Law on Higher Education the activity of higher education is performed by the following institutions of higher education:

• **University** - A university is an independent institution of higher education which, within its activities, unites educational, scientific, professional and/or artistic work and research, as components of a unique process of higher education. A university may implement all types and levels of studies. An institution of higher education has the status of a university if it conducts academic study programmes at all levels of studies, within at least three of the following fields: natural sciences and mathematics, social sciences and humanities, medical sciences, technical and technological sciences and the arts. As an exception to this rule, a university can be founded in the field of the arts if it has all three levels of studies in at least three areas of art.

• **Faculty or Academy of Arts which is integrated into the university** - A faculty or an academy of arts is an institution of higher education, i.e. a unit of higher education within a university, which implements academic study programmes and develops scientific research, and skilled, i.e. artistic, work in one or more areas. A faculty or academy of arts may also conduct professional study programmes. A faculty or an academy of arts acts in legal matters under the name of the university into which it has been integrated and under its own name, in accordance with the Statute of the university.

• **Academy of Professional Studies** - An academy of professional studies is an independent institution of higher education which, within its activities, unites educational, professional and artistic work and research as components of the unique process of higher education. An academy of professional studies may conduct undergraduate professional studies, specialist professional studies and master professional studies. An institution of higher education has the status of academy of professional studies if it implements at least five accredited professional study programmes in at least two fields.

• **Advanced School** - An advanced school is an independent institution of higher education which conducts undergraduate academic, specialist and master academic studies in one or more areas.

• **Advanced School of Professional Studies** is an independent institution of higher education which conducts undergraduate professional, master and specialist professional studies in one or more areas. The institutions listed here are independent institutions of higher education, with the exception of faculties and academies of arts.

8.2 Types, levels and organization of studies

The activity of higher education is conducted through academic and professional studies on the grounds of approved, i.e. accredited, study programmes which lead to higher education qualifications.

In **academic studies** the academic study programme is implemented with the purpose of training students in the development and application of scientific, professional and artistic achievements. There are three degrees of academic studies.

**First degree academic studies** are undergraduate academic studies.

**Second degree academic studies** are master and specialist academic studies. Integrated academic studies are undergraduate and master academic studies integrated together.

**Third degree academic studies** are doctoral academic studies

In **professional studies** a professional study programme is conducted to train students in the application of professional knowledge and skills necessary for their inclusion in the workplace. There are two degrees of professional studies.

**First degree professional studies** are undergraduate professional studies and specialist professional studies.

**Second degree professional studies** are master professional studies.

8.2.1 Undergraduate (academic or professional) studies

Undergraduate studies are organized by all institutions of higher education as expected under the Law on Higher Education. Undergraduate academic studies last three or four years with a total of 180 to 240 ECTS. Undergraduate professional studies last three years with a total of 180 ECTS.

Study programmes for undergraduate studies may require a final thesis. Those completing undergraduate academic studies comprising the minimum of 180 ECTS or lasting minimum three years, acquire a professional title with a designation of the first degree academic studies qualification in the corresponding area. Those completing undergraduate academic studies comprising at least 240 ECTS, i.e. lasting at least four years, acquire a professional title of Bachelor with Honours with a designation of the first degree of academic studies qualification in the corresponding area. Those completing undergraduate professional studies acquire a professional title with a designation of the first degree of professional studies qualification in the corresponding area.

8.2.2 Master (academic or professional) studies

Master academic studies may be organized by a university, faculty or advanced school. Master academic studies last one or two years, depending on the volume of previous undergraduate academic studies, so that their cumulative volume totals a minimum of 300 ECTS. Master academic study programs require an obligatory final thesis presentation. Those completing master academic studies acquire the academic title of Master, with a designation of a second degree master's academic studies in the corresponding area.

Master professional studies last two years and comprise 120 ECTS. Master professional study programmes require an obligatory final thesis presentation. Those completing master professional studies acquire the professional title of Professional Master.

8.2.3 Integrated academic studies

Academic study programmes may be also organized as integrated undergraduate and master academic studies (integrated academic studies) with a minimum of 300 ECTS and a maximum of 360 ECTS (academic study programme in medical sciences).

8.2.4 Specialist (academic or professional) studies

Specialist studies last one year at least with a total of at least 60 ECTS and can be academic or professional. Specialized study programmes may require a final thesis. A person completing specialist studies acquires a professional title of Specialist with a designation of the second degree qualification of academic or first degree qualification of professional studies in the corresponding area.

8.2.5 Doctoral academic studies

Doctoral academic studies may be organized by universities, faculties and academies of arts. Doctoral academic studies last at least three years with a total of at least 180 ECTS and with previous undergraduate and master academic studies of at least five years and a total of 300 ECTS. A Doctoral dissertation is the final part of the Doctoral academic study programme, with the exception of a Doctorate in Arts where it can also be an artistic project. Exceptionally the Doctor of Science degree can be obtained by those who have completed medical studies and have completed a specialization on the grounds of a defended dissertation based on papers published in top-tier international scientific journals.

8.3 Grading system

Students' progress in specific courses is continuously monitored during lectures and is expressed by a point system. A student may obtain the maximum 100 points by fulfilling pre-examination obligations and by passing a final examination. The distribution of points obtained by fulfilling pre-examination requirements and by passing the final examination is established by the study programme within the following range: pre-examination requirements can be worth a minimum of 30 points and a maximum of 70 points. Students' performance at the final examination is evaluated by grades ranging from 5 (non-passing grade) to 10 (ten). An institution of higher education may prescribe other, non-numerical methods of assessment by establishing the relationship between non-numerical grades and those from 5 to 10. How the final examination is administered and how it is evaluated is regulated more closely by a general act of an individual institution of higher education.

8.4. Conditions for enrolment and continuation of higher education

Enrollment of students in academic, professional or art studies shall be conducted by an institution of higher education acting in compliance with the law. The institution of higher education will enroll candidates who have passed a general or a professional final secondary school examination in academic or professional studies, and candidates who have passed an artistic final secondary school examination in art study programmes. The institution of higher education shall establish ranking criteria based on which it will rank and select candidates for enrolment into studies.

Until the time the statutory act regulating the general, professional and artistic final secondary school examinations starts to apply, candidates for enrolment into first degree studies shall take the entrance examination or an examination determining aptitudes and skills in accordance with the internal rules of the institution of higher education.

Acting in compliance with its internal rules, the institution of higher education shall draw up a list ranking the candidates for enrollment in first degree studies on the basis of the following criteria: overall performance achieved during their four-year secondary education, the achievement at the final secondary school examination, results achieved at the entrance examination or, respectively, the examination for determining the candidate's aptitudes and skills, and if applicable, on the basis of candidate's success achieved at the national and/or international competitions. The candidate who is ranked within a set number of students established in accordance with the Law on Higher Education acquires a right to enroll in first degree studies.

Students of **first degree** studies at another institution of higher education, those who have already acquired higher education at other first degree studies, and those whose student status had expired in accordance with the aforementioned Law, can enroll in first degree studies if they submit such a request provided that they meet the conditions and the procedures prescribed by the internal rules of the institution of higher education.

Candidates can enroll in **second and third degree** studies if they meet the conditions and procedures prescribed by the internal rules of the institution of higher education and set forth in the enrollment competition.

8.5. Operating permit and accreditation

An institution of higher education can start to operate upon obtaining an operating permit. The competent Ministry of the Republic of Serbia or the competent authority of the Autonomous Province of Vojvodina shall issue the operating permit upon request of the institution of higher education. The institution of higher education shall submit a request for its own accreditation and for accreditation of its study programme no later than one year upon issuing of its operating permit.

The institution of higher education can enroll students upon obtaining a certificate of accreditation of an institution of higher education and of its programme.

The request for accreditation shall be submitted to the National Accreditation Body through the Ministry in charge of higher education, using the form the content of which shall be specified by the National Accreditation Body.

The purpose of accreditation is to establish that the institution of higher education and its study programmes meet the standards specified by the National Council for Higher Education, and that the institution of higher education is entitled to issue public documents in accordance with the Law on Higher Education.

The National Accreditation Body shall issue a certificate of accreditation or a decision rejecting the request for accreditation. The institution of higher education may appeal the decision rejecting the request for accreditation within 15 days from the date of receipt. The appeal shall be forwarded to the National Council for Higher Education through the National Accreditation Body. The institution of higher education is entitled to repeat its request for accreditation 90 days upon the date of decision rejecting its initial request for accreditation.

8.6 National sources of information

• **Ministry of Education, Science and Technological Development,**

Nemanjina 22-26, 11000 Belgrade, Republic of Serbia;

Phone: +381/11/363 11 07, Fax: +381/11/361 64 91; web: [www.mpn.gov.rs](http://www.mpn.gov.rs)

• **National Council for Higher Education,** "Serbia" Pallace,

Bulevar Mihajla Pupina 2, 11070 Belgrade, Republic of Serbia;

**National Entity for Accreditation and Quality Assurance in Higher Education of Serbia – NEAQA,** "Serbia" Pallace,

Bulevar Mihajla Pupina 2, 11070 Belgrade, Republic of Serbia;

• **Provincial Secretariat for Higher Education and Scientific Research,**

Bulevar Mihajla Pupina 16, 21000 Novi Sad, Republic of Serbia, AP Vojvodina ;

Phone: +381/21/487 46 41, Fax: +381/21/456 986, web: [apv-visokoobrazovanje.vojvodina.gov.rs](http://apv-visokoobrazovanje.vojvodina.gov.rs)



# THE REPUBLIC OF SERBIA

University of Novi Sad, Novi Sad, Dr Zorana Đinđića 1  
Faculty of Economics in Subotica, Subotica, Segedinski put 9-11



## DIPLOMA SUPPLEMENT

Valid only if accompanied by the diploma

number  issued on  year

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

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

1.1 Name:

1.2 Surname:

1.3 Date of birth (day/month/year):

1.4 Student identification number:

Unique Master Citizen Number:

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### 2. INFORMATION IDENTIFYING THE DIPLOMA

2.1 Acquired (professional, academic, scientific) title:

Master of computer science in social sciences

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

Economic sciences

2.3 Name and status of awarding higher education institution:

Faculty of Economics in Subotica

2.4 Name and status of awarding higher education institution (if different from 2.3):

2.5 Language of instruction/examination:

Serbian and english

### 3. INFORMATION ON THE TYPE AND LEVEL OF STUDIES

3.1 Type and level of studies:

Master acadamic studies

3.2 Length of studies:

2 years (4 semesters)

3.3 Admission requirements:

Completed basic academic studies lasting at least three years and which are worth at least 180 ECTS, ie in lasting at least four years and which are worth at least 240 ECTS

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

4.1 Mode of study:

Regular student

4.2 Name of the study programme and its objectives:

The general goal of the study program is to provide students with the opportunity to acquire basic and professional knowledge (practical), as well as to develop creative abilities and specific practical skills to perform certain tasks related to data science: use of scientific methods, processes, algorithms and system for concluding and gaining insight into structured and unstructured data, ie achieving appropriate competencies and academic knowledge on the one hand in the field of application of quantitative methods in economics and on the other in the field of information technologies for mass data processing

4.3 Please see next page for programme details:

4.4 Grading scheme:

Grades	Meaning of the grade	Number of points	
		from	to
10	ten	91	100
9	nine	81	90
8	eight	71	80
7	seven	61	70
6	six	51	60
5	non-passing grade	0	50

The lowest passing grade is **6**, and the highest one is **10**; the grading scheme is numerical, without statistical grade distribution guidance.

4.5 Grade point average:



4.3 Programme details and the individual grades obtained:

Course							Year of study programme	Grade	Professor/Lecturer (surname and name)	
No.	Code	Name	Status	ECTS	Total number of classes					
					Lectures	Tutorials				Other
1.	ADA20	Quantitative Fundamentals	c	7	45	30		1	*	Dakić Stojanka
2.	ADA01	Managing, Storage and Visual. of Big Data	c	7	45	30		1	**	Šereš Laslo
3.	ADA02	Social Media Analytics	c	7	45	30		1		Grljević Olivera
4.	ADA03	R for Data Science	c	7	45	30		1		Savić Mirko
5.	ADA04	Machine Learning	c	7	45	30		1		Brcanov Dejan
6.	ADA05	Big Data Fundamentals	c	7	45	30		1		Stojić Dragan
7.	ADA06	Time Series	c	7	45	30		1		Radovanov Boris
8.	ADA07	Business Cases	c	7	45	30		1		Sedlak Otilija
9.		Internship	c	4				1		
10.	ADA09	Academic Writing	e	7	30	30		2		Brcanov Dejan
11.	ADA10	Business & Decision Modeling	e	7	30	30		2		Marcikić Horvat Aleksandra
12.	ADA12	Digital Marketing Analytics	e	7	30	30		2		Grubor Aleksandar
13.	ADA13	Financial Analytics	e	7	30	30		2		Radovanov Boris
14.	ADA16	Deep Learning	e	7	30	30		2		Gvozdenović Nebojša
15.		Scientific Work and Master Thesis	c	25			300	2		Savić Mirko
Total number of ECTS credits:				120	Grade point average:					

Note: **designation C** - compulsory course; **designation E** - elective course;  
**designation \*** - recognized course and grade (in the column with grades)  
**designation \*\*** - grade complying with the grading scale that applied prior to entry into force of the Law on Higher Education (Official Journal of the Republic of Serbia, no. 88/17, 27/18 - other law and 73/18)

Title of final thesis: \_\_\_\_\_  
\_\_\_\_\_

Final thesis defence committee: President: \_\_\_\_\_ Member: \_\_\_\_\_ Member: \_\_\_\_\_  
Member: \_\_\_\_\_ Member: \_\_\_\_\_ Mentor: \_\_\_\_\_

Date of defence of final thesis (dd/mm/yyyy): \_\_\_\_\_

Extracurricular activities/courses (educational activities not falling within the scope of the regular curriculum)						
No.	Course/Activity	No. of classes	Faculty	Grade	ECTS	Professor/Lecturer

Total number of ECTS credits: \_\_\_\_\_

5. INFORMATION ON THE FUNCTION OF THE DIPLOMA

5.1 Access to further study:

The holder of the diploma has the right to further education and training:  
He can continue his doctoral studies in the field of economics

5.2 Professional status (if applicable):

The diploma holder has highly specialized academic and professional knowledge related to theories, principles and processes, including evaluation, critical understanding and application in the field of advanced data analytics as a basis for scientific and applied research.

6. ADDITIONAL INFORMATION

6.1 Additional information about the student:

6.2 Further information sources about the institution:

<http://www.ef.uns.ac.rs/>

7. CERTIFICATION OF THE SUPPLEMENT

7.1 Number: \_\_\_\_\_ Date: \_\_\_\_\_

7.2 Capacity: \_\_\_\_\_ Capacity: \_\_\_\_\_

7.3 Official seal and signature: \_\_\_\_\_ Official seal and signature: \_\_\_\_\_