Visoka škola strukovnih studija za infromacione tehnologije (Information Technology School – ITS)

Cara Dušana 34, 11080 Zemun, Belgrade, Serbia

Course Catalogue

About this catalogue

This catalogue lists all courses offered at the Information Technology School – ITS (Visoka škola strukovnih studija za informacione tehnologije), Belgrade. It is intended for incoming Erasmus+ students choosing courses for their Learning Agreement.

Level	Study programme	Duration	ECTS
Bachelor of Applied Studies (OSS)	Information Technology (modules: Data Science and AI; Software Development)	3 years / 6 semesters	180
Bachelor of Applied Studies (OSS)	Digital Business	3 years / 6 semesters	180
Bachelor of Applied Studies (OSS)	Digital Multimedia	3 years / 6 semesters	180
Master of Applied Studies (MSS)	Information Technology	2 years / 4 semesters	120
Master of Applied Studies (MSS)	Management in Information Technology (modules: IT Project Management; Esports Management)	2 years / 4 semesters	120
Master of Applied Studies (MSS)	Digital Multimedia	2 years / 4 semesters	120

General information

ECTS. One academic year carries 60 ECTS credits (30 per semester). One ECTS credit corresponds to 25–30 hours of student workload.

Semesters. Odd semesters (1, 3, 5) are taught in the winter term (October–January); even semesters (2, 4, 6) in the summer term (February–June).

Language of instruction. Serbian. Courses available in English for incoming students.

Course status. Compulsory courses are taken by all students of the programme. In each elective block the student chooses one of the offered courses.

Hours. L = lectures, E = exercises, in hours per week.

Grading scale. Students are assessed continuously (pre-exam obligations) and in a final exam, for a maximum of 100 points.

Points	Serbian grade	ECTS grade	Description
91–100	10	A	Excellent
81–90	9	B	Very good
71–80	8	C	Good
61–70	7	D	Satisfactory
51–60	6	E	Sufficient
0–50	5	F	Fail

Bachelor (OSS): Information Technology

Programme description

Aim: To educate professionals in software development, design and maintenance of information systems, databases, and the application of data science and artificial intelligence. In year 3, students specialise in Data Science and Artificial Intelligence or in Software Development.

Learning outcomes. On completion of the programme, students are able to:

- develop applications using modern programming languages, tools and software engineering methods;
- design and use databases and information systems;
- analyse data and apply basic machine learning and AI methods (Data Science and AI module);
- develop, test and deliver web and software solutions (Software Development module);
- work in a team, communicate in English and apply their knowledge in practice.

Years 1 and 2 are common; in year 3 students choose the module Data Science and Artificial Intelligence or Software Development.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
07.23RMIT	Computer Mathematics	1	Compulsory	3	3	8
07.23SPIT	Data Structures and Algorithmic Modelling	1	Compulsory	3	2	8
07.23WDIT	Web Design	1	Compulsory	3	3	8
07.23ITIT	Information and Internet Technologies	1	Elective block 1	3	1	6
07.23ISIT	Information Systems	1	Elective block 1	3	1	6
07.23OPIT	Fundamentals of Programming	2	Compulsory	2	6	8
07.23KMIT	Quantitative and Qualitative Methods	2	Compulsory	3	2	8
07.23E1IT	English Language 1	2	Compulsory	4	0	6
07.23RIT	Computer Networks	2	Elective block 2	3	1	8
07.23KRIT	Creative Problem Solving Using Information Technology	2	Elective block 2	3	1	8

Year 2

Code	Course	Sem.	Status	L	E	ECTS
07.23E2IT	English Language 2	3	Compulsory	4	0	6
07.23OOIT	Object-Oriented Programming	3	Compulsory	3	3	9
07.23BPIT	Databases	3	Compulsory	3	3	9
07.23UPIT	Project Management	3	Elective block 3	3	1	6
07.23MPIT	Management and Entrepreneurship	3	Elective block 3	3	1	6
07.23PIIT	Information Systems Design	4	Compulsory	2	3	7
07.23NBIT	Advanced Databases	4	Compulsory	3	2	8
07.23PAIT	Programming Tools	4	Compulsory	2	3	8
07.23SJIT	Scripting Languages for Web Programming	4	Elective block 4	3	2	7
07.23JMIT	Languages for Machine Learning	4	Elective block 4	3	2	7

Year 3 – Module: Data Science and Artificial Intelligence

Code	Course	Sem.	Status	L	E	ECTS
07.23ODIT	Fundamentals of Data Science	5	Compulsory	2	3	7

Code	Course	Sem.	Status	L	E	ECTS
07.23AMIT	Machine Learning Algorithms	5	Compulsory	3	2	7
07.23SSIT	Simulations and Statistical Analysis	5	Compulsory	3	2	8
07.23POIT	Business Decision-Making Using Information Technology	5	Elective block 5	3	2	8
07.23BZIT	Security in Information Technology	5	Elective block 5	3	2	8
07.23E3IT	English Language 3	6	Compulsory	4	0	5
07.23VIIT	Artificial Intelligence	6	Compulsory	3	3	7
07.23NMIT	Neural Networks	6	Compulsory	2	2	4
07.23PKIT	Business Communication	6	Compulsory	3	1	3
07.23STIT	Professional Internship (6 h/week)	6	Compulsory	0	0	3
07.23PZIT	Professional Research Work	6	Compulsory	0	0	4
07.23ZRIT	Final Thesis – Preparation and Defence	6	Compulsory	0	0	4

Year 3 – Module: Software Development

Code	Course	Sem.	Status	L	E	ECTS
07.23PPIT	Applied Programming Practicum	5	Compulsory	2	3	7
07.23PSIT	Principles of Software Engineering	5	Compulsory	2	2	7
07.23WPIT	Web Programming	5	Compulsory	3	3	8
07.23BZIT	Security in Information Technology	5	Elective block 5	3	2	8
07.23POIT	Business Decision-Making Using Information Technology	5	Elective block 5	3	2	8
07.23E3IT	English Language 3	6	Compulsory	4	0	5
07.23IPIT	Internet Programming Tools	6	Compulsory	2	2	5
07.23TSIT	Software Testing	6	Compulsory	3	2	6
07.23PKIT	Business Communication	6	Compulsory	3	1	3
07.23STIT	Professional Internship (6 h/week)	6	Compulsory	0	0	3
07.23PZIT	Professional Research Work	6	Compulsory	0	0	4
07.23ZRIT	Final Thesis – Preparation and Defence	6	Compulsory	0	0	4

Bachelor (OSS): Digital Business

Programme description

Aim: To educate professionals who combine business knowledge with information technology: digital marketing, data analysis, e-business and the digital transformation of organisations.

Learning outcomes. On completion of the programme, students are able to:

- analyse business processes and propose their digital improvement;
- plan and carry out digital marketing and sales activities;
- use data analysis and business intelligence tools in decision-making;
- understand the legal, ethical and security aspects of digital business;
- develop a business idea and take part in managing projects using agile methods.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
07.23RMIT	Computer Mathematics	1	Compulsory	3	3	8
23.23EUDP	Electronic Services	1	Compulsory	2	0	4

Code	Course	Sem.	Status	L	E	ECTS
23.23OEDP	Fundamentals of Economics	1	Compulsory	2	2	6
07.23ITIT	Information and Internet Technologies	1	Compulsory	3	1	6
07.23DPDP	Digital Business Models and Creative Industries	1	Elective block 1	2	2	6
23.23MEDP	Management	1	Elective block 1	2	2	6
07.23OPIT	Fundamentals of Programming	2	Compulsory	2	6	8
07.23SJIT	Scripting Languages for Web Programming	2	Compulsory	3	2	7
07.23E1DP	English Language 1	2	Compulsory	4	0	6
07.23PKDP	Business Communication	2	Compulsory	3	1	6
07.23MEDP	Managerial Economics	2	Elective block 2	2	2	6
07.23LJDP	Human Resource Management and Organisation	2	Elective block 2	2	2	6

Year 2

Code	Course	Sem.	Status	L	E	ECTS
07.23VPDP	Big Data and Analytics	3	Compulsory	3	3	8
07.23VPDB	Web Programming	3	Compulsory	3	3	8
07.23DMDP	Digital Marketing	3	Compulsory	3	2	6
07.23DIDP	Digital Media and Communications	3	Elective block 3	3	2	8
07.23SPIT	Data Structures and Algorithmic Modelling	3	Elective block 3	3	2	8
07.23PDDP	Entrepreneurship	4	Compulsory	2	2	6
07.23MPDP	Marketing, Sales and Customer Relationship Management	4	Compulsory	3	2	6
07.23E2DP	English Language 2	4	Compulsory	2	1	5
07.23PEDP	Business Intelligence	4	Compulsory	2	2	6
07.23ITDP	IT Security and Crypto Technology	4	Elective block 4	3	2	7
07.23JMIT	Languages for Machine Learning	4	Elective block 4	3	2	7

Year 3

Code	Course	Sem.	Status	L	E	ECTS
07.APPS23	Business Systems Analysis and Design	5	Compulsory	2	2	6
07.23PSIT	Principles of Software Engineering	5	Compulsory	2	2	7
07.23ENDP	Business English	5	Compulsory	4	0	5
07.23PODP	Business Ethics and Sustainability	5	Compulsory	2	2	6
07.23DTDP	Digital Innovation and Transformation	5	Elective block 5	2	2	6
07.23PPDP	Business Law in the Digital Age	5	Elective block 5	2	2	6
07.23VIIT	Artificial Intelligence	6	Compulsory	3	3	7
07.23KKDP	Quantitative and Qualitative Methods	6	Compulsory	2	2	8
07.23AUDP	Agile Project Management	6	Compulsory	2	0	3
07.23SPDP	Professional Internship (6 h/week)	6	Compulsory	0	0	3
07.23EPDP	Electronic Business	6	Elective block 6	3	1	3
23.BPDP	Employer Branding	6	Elective block 6	3	1	3
07.23PZDP	Final Thesis Subject	6	Compulsory	0	0	3
07.23ZRDP	Final Thesis – Preparation and Defence	6	Compulsory	0	0	3

Bachelor (OSS): Digital Multimedia

Programme description

Aim: To educate digital media designers skilled in graphic and web design, photography, video, 3D modelling and animation, and in delivering multimedia projects.

Learning outcomes. On completion of the programme, students are able to:

- apply the principles of visual communication and design in raster and vector graphics;
- design and build websites and user interfaces;
- create photography, video, 3D models and animation;
- design visual identities and publications;
- plan and manage a multimedia project and present the solution to a client.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
07.23CVDM	Drawing and Visual Fundamentals	1	Compulsory	3	3	8
07.23RGDP	Raster Graphics	1	Compulsory	3	3	8
07.23RMIT	Computer Mathematics	1	Compulsory	3	3	8
07.23TCDM	Technical Drawing Using CAD Tools	1	Elective block 1	2	2	6
07.23ITIT	Information and Internet Technologies	1	Elective block 1	3	1	6
07.23TNDM	Theory of New Media	2	Compulsory	3	3	8
07.23PRDM	Raster Graphics in Design	2	Compulsory	3	4	9
07.23E1IT	English Language 1	2	Compulsory	4	0	6
07.23FODM	Photography	2	Elective block 2	3	2	7
07.23PPDM	Design Principles	2	Elective block 2	3	2	7

Year 2

Code	Course	Sem.	Status	L	E	ECTS
07.23VGDM	Vector Graphics	3	Compulsory	3	4	9
07.23WDDM	Web Design	3	Compulsory	3	3	8
07.23E2IT	English Language 2	3	Compulsory	4	0	6
07.233DDM	3D Modelling and Animation	3	Elective block 3	2	2	6
07.23MPDM	Management and Entrepreneurship	3	Elective block 3	3	1	6
07.23SUDM	Contemporary Art and Design	4	Compulsory	4	1	7
07.23PVDM	Vector Graphics in Design	4	Compulsory	2	4	9
07.23NVDM	Advanced Web Design	4	Compulsory	3	4	9
07.23P3DM	3D Modelling and Animation Practicum	4	Elective block 4	2	2	6
07.23VPDM	Video Production	4	Elective block 4	2	2	6

Year 3

Code	Course	Sem.	Status	L	E	ECTS
07.23AVDM	Video Game Animation	5	Compulsory	3	4	9
07.23UPDM	Project Management	5	Compulsory	3	1	6
07.23DMIT	Digital Marketing	5	Compulsory	3	2	10
07.23DPDM	Publication Design	5	Elective block 5	2	2	6
07.23VEDM	Visual Effects	5	Elective block 5	2	2	6
07.23KIDM	Corporate Identity	6	Compulsory	3	4	9
07.23IRDM	Multimedia Content Research and Development	6	Compulsory	2	1	3

Code	Course	Sem.	Status	L	E	ECTS
07.23E3DM	English Language 3	6	Compulsory	4	0	5
07.23SPDM	Professional Internship (3 h/week)	6	Compulsory	0	0	3
07.23EPDP	Electronic Business	6	Elective block 6	3	1	3
07.23PKDM	Business Communication	6	Elective block 6	3	1	3
07.23PZDM	Final Thesis Subject	6	Compulsory	0	0	3
07.23ZRDM	Final Thesis – Preparation and Defence	6	Compulsory	0	0	3

Master (MSS): Information Technology

Programme description

Aim: To provide advanced knowledge and skills in artificial intelligence, data science, cloud computing, blockchain, and mobile and web technologies, and to prepare students for independent research and project work.

Learning outcomes. On completion of the programme, students are able to:

- design and develop complex software solutions using advanced technologies;
- apply machine learning and big data analysis methods;
- design cloud, edge and Internet of Things solutions;
- assure software quality and manage IT projects;
- conduct applied research and act in line with professional ethics.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
23.PITM	Entrepreneurship in Information Technology	1	Compulsory	3	1	5
23.VIM	Artificial Intelligence	1	Compulsory	3	2	8
23.NPM	Data Science – Selected Topics	1	Compulsory	3	2	8
23.DPM	Digital Business	1	Elective block 1	3	3	9
23.PARM	Legal Aspects of Computing and Cybercrime	1	Elective block 1	3	3	9
23.KUISM	Use and Management of Information Systems	2	Compulsory	2	2	6
23.OKSM	Software Quality Assurance	2	Compulsory	2	2	6
23.BTAM	Blockchain Technologies and Applications	2	Compulsory	3	3	9
23.MPM	Mobile Programming	2	Elective block 2	3	3	9
23.AVPM	Data Analytics and Visualisation	2	Elective block 2	3	3	9

Year 2

Code	Course	Sem.	Status	L	E	ECTS
23.RORIM	Cloud Computing and Edge Computing	3	Compulsory	3	2	8
23.OPIM	Fundamentals of Applied Research	3	Compulsory	3	1	5
23.TAVSM	Big Data Technologies and Tools	3	Compulsory	3	2	8
23.MUM	Machine Learning	3	Elective block 3	3	3	9
23.RASM	Robotics and Autonomous Systems	3	Elective block 3	3	3	9
23.OUPM	Project Organisation and Management	4	Compulsory	2	2	6
23.DEPM	Society, Ethics and Professionalism	4	Compulsory	2	0	3
23.NVTM	Advanced Web Technologies – Selected Topics	4	Compulsory	2	2	6
23.IOTAM	Internet of Things – Applications	4	Elective block 4	3	2	8
23.NMPM	Advanced Mobile Programming	4	Elective block 4	3	2	8

Code	Course	Sem.	Status	L	E	ECTS
23.SPM	Professional Internship (6 h/week)	4	Compulsory	0	0	3
23.PMM	Final Thesis Subject	4	Compulsory	0	0	2
23.ZRM	Master Thesis	4	Compulsory	0	0	2

Master (MSS): Management in Information Technology

Programme description

Aim: To educate IT managers who combine technological and business knowledge, with the modules IT Project Management and Esports Management.

Learning outcomes. On completion of the programme, students are able to:

- plan, lead and monitor IT projects using traditional and agile methods;
- evaluate and choose technology solutions (cloud, AI, data analytics, blockchain) in line with business goals;
- manage information security and respect legal and ethical frameworks;
- apply knowledge of managerial economics, marketing and business intelligence;
- manage business, events and finances in esports (Esports Management module).

Year 1 is common; in year 2 students choose the module IT Project Management or Esports Management.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
23.DBM2	Digital Business	1	Compulsory	2	2	6
23.RUMM	Cloud Computing, Networks and Distributed Systems	1	Compulsory	3	3	9
23.PITMM2	Entrepreneurship in Information Technology	1	Compulsory	2	2	6
23.VIM2	Artificial Intelligence	1	Elective block 1	3	3	9
23.NPM2	Introduction to Data Science	1	Elective block 1	3	3	9
23.MIMM	International and Intercultural Management	2	Compulsory	2	2	6
23.OPMM	Fundamentals of Applied Research	2	Compulsory	3	1	6
23.PSBMM	Cyber Security and Data Protection	2	Compulsory	2	2	6
23.ITOM	IT Operating Systems and Logistics	2	Elective block 2	3	3	9
23.BTM2	Blockchain Technologies and Applications	2	Elective block 2	3	3	9
23.SP1MM	Professional Internship 1 (6 h/week)	2	Compulsory	0	0	3

Year 2 – Module: IT Project Management

Code	Course	Sem.	Status	L	E	ECTS
23.PIM	Business Intelligence	3	Compulsory	2	2	6
23.AUIM	Agile IT Project Management	3	Compulsory	3	3	9
23.DMM	Digital Marketing	3	Compulsory	2	2	6
23.SIM	Software Engineering	3	Elective block 3 (1 of 3)	3	3	9
23.TAVM2	Big Data Technologies and Tools	3	Elective block 3 (1 of 3)	3	3	9
23.MISMM	Management Information Systems	3	Elective block 3 (1 of 3)	3	3	9
23.PARSM2	Legal Aspects of Computing and Ethics	4	Compulsory	4	0	6

Code	Course	Sem.	Status	L	E	ECTS
23.MEMM	Managerial Economics	4	Compulsory	4	0	6
23.AVPMM2	Data Analytics and Visualisation	4	Elective block 4	3	3	9
23.PVIMM2	Applications of Artificial Intelligence (Healthcare, Finance, Manufacturing, Smart Cities, Agriculture, Education)	4	Elective block 4	3	3	9
23.SPMM	Professional Internship 2 (6 h/week)	4	Compulsory	0	0	3
23.PZRMM	Final Thesis Subject	4	Compulsory	0	0	3
23.ZRMM	Master Thesis – Preparation and Defence	4	Compulsory	0	0	3

Year 2 – Module: Esports Management

Code	Course	Sem.	Status	L	E	ECTS
23.PIM	Business Intelligence	3	Compulsory	2	2	6
23.AUIM	Agile IT Project Management	3	Compulsory	3	3	9
23.DMM	Digital Marketing	3	Compulsory	2	2	6
23.BKESMM	Starting a Business and Innovation Management in Esports	3	Elective block 3 (1 of 3)	3	3	9
23.MLSMM	Management and Leadership in Esports	3	Elective block 3 (1 of 3)	3	3	9
23.MISMM	Management Information Systems	3	Elective block 3 (1 of 3)	3	3	9
23.PARSM2	Legal Aspects of Computing and Ethics	4	Compulsory	4	0	6
23.MEMM	Managerial Economics	4	Compulsory	4	0	6
23.USDESM	Esports Event and Sponsorship Management	4	Elective block 4	3	3	9
23.UFESMM	Financial Management of Esports Organisations and Events	4	Elective block 4	3	3	9
23.SPMM	Professional Internship 2 (6 h/week)	4	Compulsory	0	0	3
23.PZRMM	Final Thesis Subject	4	Compulsory	0	0	3
23.ZRMM	Master Thesis – Preparation and Defence	4	Compulsory	0	0	3

Master (MSS): Digital Multimedia

Programme description

Aim: To develop advanced competences in the design and production of multimedia content: video and sound, interface and brand design, virtual and augmented reality, AI in creative work, and art direction.

Learning outcomes. On completion of the programme, students are able to:

- lead the creative process of a multimedia project from concept to delivery;
- design interfaces, brands and communication campaigns based on user insight;
- create content for video, sound, 3D, VR and AR environments;
- use AI tools responsibly in creative work;
- conduct applied research and lead a creative team.

Year 1

Code	Course	Sem.	Status	L	E	ECTS
23.TDDMM	Design Theory	1	Compulsory	2	2	6
23.KKDMM	Corporate Communications	1	Compulsory	4	0	6
23.DZDMM	Sound Design	1	Compulsory	2	2	6
23.VDDMM	Video Design	1	Compulsory	2	2	6

Code	Course	Sem.	Status	L	E	ECTS
23.DMDMM	Digital Media	1	Elective block 1	3	2	7
23.IOTDMM	Internet of Things Applications in Design	1	Elective block 1	3	2	7
23.DIDMM	Interface Design	2	Compulsory	2	2	6
23.ODMM	Advertising	2	Compulsory	3	2	7
23.IDBDMM	Brand Identity and Design	2	Compulsory	2	2	6
23.PPDMM	Consumer Psychology	2	Compulsory	2	2	6
23.KIM	Creative Industries	2	Elective block 2	3	0	4
23.KRIDMM	Creative Thinking and Innovation	2	Elective block 2	2	1	4

Year 2

Code	Course	Sem.	Status	L	E	ECTS
23.DMADMM	Digital Marketing and Analytics	3	Compulsory	2	1	4
23.VPSDMM	Virtual and Augmented Reality	3	Compulsory	2	2	6
23.SMPDMM	Contemporary Multimedia Production	3	Compulsory	2	2	6
23.OPIM2	Fundamentals of Applied Research	3	Compulsory	3	1	6
23.N3DDMM	Advanced 3D Modelling and Animation	3	Elective block 3 (1 of 3)	3	3	8
23.APMDMM	Agile Project Management	3	Elective block 3 (1 of 3)	3	3	8
23.AVPMM2	Data Analytics and Visualisation	3	Elective block 3 (1 of 3)	3	3	9
23.AIDMM	AI Technology in Digital Multimedia	4	Compulsory	3	1	6
23.ADDMM	Art Direction	4	Compulsory	2	2	6
23.VUDMM	Skills for Success	4	Compulsory	2	0	3
23.DMPDMM	Multimedia Space Design	4	Elective block 4	3	1	6
23.AVMDMM	Audiovisual Performances and Multimedia Installations	4	Elective block 4	3	1	6
23.SPDMM	Professional Internship (6 h/week)	4	Compulsory	0	0	3
23.ZRPDMM	Final Thesis Subject	4	Compulsory	0	0	3
23.ZRDMM	Master Thesis – Preparation and Defence	4	Compulsory	0	0	3

Contact for incoming students

Detailed course syllabi (objectives, content, learning outcomes and assessment) are available on request from the International Relations Office.

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