Faculty Communication Networks and Security

Study program: Information Science and Technology SECOND CYCLE OF STUDIES

Active from academic 2018/2019

After completion of the master studies, with 60 ECTS credits, students will get a degree of Master of Science in Information Science and Technology.

INFORMATION SCIENCE AND TECHNOLOGY II cycle
Model 1. One year full time studies with 60 ECTS

No.	Code	Course Name	No. of classes	ECTS
Year I				
Semester IX				
Core Courses				
1	11.3.F.2101.C	Advanced distributed technology	3+2	6
2	11.9.F.2102.C	Optimization methods	3+2	6
3	11.9.F.2103.C	Data science	3+2	6
4	11.9.F.2x04.C	Advanced information theory and coding	3+2	6
5	11.9.F.2x05.C	Advanced stochastic processes (modeling, simulation and analysis)	3+2	6
Year I				
Semester X				
No.	Code	Course Name	No. of classes	ECTS
Four Major Elective courses				
6	xx.x.F.2xxx.MaE	Major Elective List	3+2	6
7	xx.x.F.2xxx.MaE	Major Elective List	3+2	6
8	xx.x.F.2xxx.MaE	Major Elective List	3+2	6
9	11.9.F.2x71.MaE	Master's thesis - final project	3	12
				60

INFORMATION SCIENCE AND TECHNOLOGY II cycle
Model 2. Two year part time studies with 60 ECTS

No.	Code	Course Name	No. of classes	ECTS
Year I				
Semester IX				
Core Courses				
1	11.3.F.2101.C	Advanced distributed technology	3+2	6
2	11.9.F.2102.C	Optimization methods	3+2	6
3	11.9.F.2103.C	Data science	3+2	6

No.	Code	Course Name	No. of classes	ECTS
Year I				
Semester X				
4	11.9.F.2x04.C	Advanced information theory and coding	3+2	6
5	11.9.F.2x05.C	Advanced stochastic processes (modeling, simulation and analysis)	3+2	6
One Major Elective course				
6	xx.x.F.2xxx.MaE	Major Elective List	3+2	6

No.	Code	Course Name	No. of classes	ECTS
Year II				
Semester XI				
7	xx.x.F.2xxx.MaE	Major Elective List	3+2	6
8	xx.x.F.2xxx.MaE	Major Elective List	3+2	6

No.	Code	Course Name	No. of classes	ECTS
Year II				
Semester XII				
9	11.9.F.2x71.MaE	Master's thesis - final project	3	12
				60

The second cycle of university studies recognizes the modules:

- C - mandatory (core),

- MaE - elected from the scientific field of the faculty,

id	code	Course	Weekly fund of hours	ECTS
		List of Major Elective courses		
1	11.3.F.2x01.MaE	Automatic verification	3+2	6
2	11.3.F.2x02.MaE	Database management systems	3+2	6
3	11.3.F.2x03.MaE	Web technologies	3+2	6
4	11.1.F.2x04.MaE	Mathematics for computer graphics	3+2	6
5	11.3.F.2x05.MaE	Image processing technologies	3+2	6
6	11.9.F.2x06.MaE	Bioinformatics	3+2	6
7	11.9.F.2x07.MaE	Linear and nonlinear waves	3+2	6
8	11.9.F.2x08.MaE	Advanced cryptography	3+2	6
9	06.0.F.2x09.MaE	Systems for supervisory management and data acquisition	3+2	6
10	06.0.F.2x10.MaE	Theory of robotics	3+2	6
11	06.0.F.2x11.MaE	Advanced Robotics	3+2	6
12	11.3.F.2x12.MaE	Declarative programming	3+2	6
13	11.3.F.2x13.MaE	Parallel programming	3+2	6
14	11.9.F.2x14.MaE	Applied cryptography	3+2	6
15	11.9.F.2x15.MaE	Extensible spectrum and multi-carrier techniques	3+2	6
16	11.9.F.2x16.MaE	Radar systems and radio navigation assistance	3+2	6
17	11.3.F.2x17.MaE	Communication systems and simulations	3+2	6
18	11.3.F.2x18.MaE	Broadband communications	3+2	6
19	11.3.F.2x19.MaE	Cloud and fog computing	3+2	6
20	06.0.F.2x20.MaE	Nanotechnology for telecommunications	3+2	6
21	11.3.F.2x21.MaE	Ultra-wide range technologies	3+2	6
22	06.0.F.2x22.MaE	EMI / EMC problems in ICT	3+2	6
23	11.3.F.2x23.MaE	High speed networks	3+2	6
24	11.3.F.2x24.MaE	Network routing algorithms	3+2	6
25	11.3.F.2x25.MaE	Analysis of large social networks	3+2	6
26	11.4.F.2x26.MaE	Neural networks	3+2	6
27	11.4.F.2x27.MaE	Knowledge-based decision-making systems	3+2	6
28	11.3.F.2x28.MaE	Large Data Analysis	3+2	6

29	11.3.F.2x29.MaE	Genetic algorithms and machine learning	3+2	6
30	11.3.F.2x30.MaE	Principles and architecture of TCP / IP	3+2	6
31	11.3.F.2x31.MaE	Internet Security and Computer Forensics	3+2	6
32	11.3.F.2x32.MaE	Ethical hacking	3+2	6
33	11.4.F.2x33.MaE	Artificial intelligence and expert systems	3+2	6
34	11.9.F.2x34.MaE	Metaheuristics	3+2	6
35	11.3.F.2x35.MaE	GRID Technology	3+2	6
36	11.3.F.2x36.MaE	Advanced service-oriented architectures	3+2	6
37	11.3.F.2x37.MaE	Cellular machines	3+2	6
38	06.0.F.2x38.MaE	Design of nested systems and the rapid development of prototypes	3+2	6
39	11.3.F.2x39.MaE	High performance processing	3+2	6
40	11.3.F.2x40.MaE	Developmental research methods in science and engineering	3+2	6
41	11.9.F.2x41.MaE	Advanced Machine Learning Techniques	3+2	6
42	11.1.F.2x42.MaE	Advanced mathematical methods for scientific research	3+2	6
43	11.1.F.2x43.MaE	Mathematical foundations of computer science	3+2	6
44	11.9.F.2x44.MaE	Web mining	3+2	6
45	11.9.F.2x45.MaE	Advanced complexity theory	3+2	6
46	11.9.F.2x46.MaE	Advanced Internet concepts	3+2	6
47	11.9.F.2x47.MaE	Mathematical programming	3+2	6
48	11.9.F.2x48.MaE	Theoretical Computer Science	3+2	6
49	11.9.F.2x49.MaE	Business intelligence and analytics	3+2	6
50	11.9.F.2x50.MaE	Law regulation of the information society	3+2	6
51	11.9.F.2x51.MaE	Advanced concepts in database systems	3+2	6
52	11.3.F.2x52.MaE	Regression models	3+2	6
53	06.0.F.2x53.MaE	Design of VLSI systems	3+2	6
54	11.3.F.2x54.MaE	Advanced communication protocols	3+2	6
55	11.3.F.2x55.MaE	Advanced wireless communications	3+2	6
56	11.3.F.2x56.MaE	Advanced network architecture	3+2	6
57	11.3.F.2x57.MaE	Advanced Cyber Security	3+2	6
58	11.9.F.2x58.MaE	Cooperative communications	3+2	6
59	11.9.F.2x59.MaE	Computer biology	3+2	6
60	06.0.F.2x60.MaE	Modern optics	3+2	6
61	11.9.F.2x61.MaE	Medical Image Systems	3+2	6
62	11.9.F.2x62.MaE	Linear Dynamic Systems	3+2	6

Information Science and Technology II cycle (60 ECTS)

63	11.3.F.2x63.MaE	Security protocols	3+2	6
64	11.3.F.2x64.MaE	Engineering on the performance of computer systems	3+2	6
65	11.9.F.2x65.MaE	Computer mediated communication	3+2	6
66	11.9.F.2x66.MaE	Modern coding theory	3+2	6
67	11.9.F.2x67.MaE	Perform, evaluate, and process information	3+2	6
68	11.9.F.2x68.MaE	Organizing and finding information	3+2	6
69	11.9.F.2x69.MaE	Nonlinear systems	3+2	6
70	11.9.F.2x70.MaE	Advanced digital signal processing	3+2	6
71	11.9.F.2x71.MaE	Master's thesis - final project	3+2	6