

11.2. Course Overview

Study Program: *Communcation Networks and Security*

Year I				
Semester I				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1101.C	Programming 1	3+2	6
2	11.1.F.1102.C	Mathematics 1	3+2	6
3	11.9.F.1103.C	Discrete Mathematics	3+2	6
4	09.0.F.1104.C	Technical Communication 1	3+2	6
5	13.2.F.1105.C	Physics 1	3+2	6

Year I				
Semester II				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1201.C	Programming 2	3+2	6
2	11.1.F.1202.C	Mathematics 2	3+2	6
3	09.0.F.1203.C	Technical Communication 2	3+2	6
4	11.3.CNS.1201.MR	Network Architectures	3+2	6
5	11.3.CNS.1202.MR	Digital Signal Processing	3+2	6

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Year II				
Semester III				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.2.F.1301.C	Probability and Statistics	3+2	6
2	11.3.F.1302.C	Database Systems	3+2	6
3	11.3.F.1303.C	Algorithms and Data Structures	3+2	6
4	11.3.CNS.1301.MR	Communication Protocols	3+2	6
Minor Elective				
5	1 course from Minor Elective List		3+2	6

Year II				
Semester IV				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1401.C	Software Engineering	3+2	6
2	11.3.F.1402.C	Operating Systems	3+2	6
3	11.3.F.1403.C	Programming 3	3+2	6
4	11.3.CNS.1401.MR	Wireless Technology	3+2	6
Minor Elective				
5	1 course from Minor Elective List		3+2	6

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Year III				
Semester V				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1501.C	Programming 4	3+2	6
2	11.9.CNS.1501.MR	Stochastic Processes	3+2	6
Electives				
3	1 course from Major Elective List		3+2	6
4	1 course from Minor Elective List		3+2	6
5	1 course from Minor Elective List		3+2	6

Year III				
Semester VI				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.2.F.1601.C	Descriptive and Inferential Statistics	3+2	6
2	11.9.CNS.1601.MR	Information Theory (Coding Theory)	3+2	6
Electives				
3	1 course from Major Elective List		3+2	6
4	1 course from Minor Elective List		3+2	6
5	1 course from Minor Elective List		3+2	6

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Year IV				
Semester VII				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.9.F.1701.C	Research and Development Methods for Science and Engineering	3+2	6
Electives				
2	11.9.F.1701.MaE*	Industrial Internship	3+2	6
3	1 course from Major Elective List		3+2	6
4	1 course from Major Elective List		3+2	6
5	11.9.F.1701.MiE	Final Project	3+2	6

Year IV				
Semester VIII				
No.	Code	Course Name	No. of classes	ECTS
Electives				
1	11.9.F.1801.MaE*	Industrial Internship	3+2	6
3	1 course from Major Elective List		3+2	6
3	1 course from Major Elective List		3+2	6
4	11.9.F.1802.MiE	Final Project	3+2	6
5	11.9.F.1801.MiE	Final Seminar Work	3+2	6

List of Major Elective Courses

1	11.3.CNS.1501.MaE	Server and Client Systems	3+2	6
2	11.9.CNS.1601.MaE	Information Theory (Cryptography)	3+2	6
3	11.9.F.1701.MaE*	Industrial Internship	3+2	6
4	11.9.CNS.1702.MaE	Data Mining	3+2	6
5	04.9.CNS.1703.MaE	Project Management	3+2	6
6	11.9.F.1801.MaE*	Industrial Internship	3+2	6
7	11.9.CNS.1802.MaE	Software Agents	3+2	6
8	11.3.CNS.1803.MaE	Formal Methods for Computer Science	3+2	6
9	11.9.F.1x01.MaE	System Theory	3+2	6
10	11.9.F.1x02.MaE	Chaos Theory	3+2	6
11	11.9.F.1x03.MaE	Advanced Algorithms	3+2	6
12	11.9.F.1x04.MaE	Advanced Logic	3+2	6
13	11.9.F.1x05.MaE	Simulation and Modeling	3+2	6
14	11.9.F.1x06.MaE	Discrete Mathematics 2	3+2	6
15	11.9.F.1x07.MaE	Advanced Mathematical Analysis (Calculus)	3+2	6
16	11.9.F.1x08.MaE	Design of Integrated Systems	3+2	6
17	11.9.F.1x09.MaE	Digital Electronics	3+2	6
18	11.9.F.1x10.MaE	Digital Libraries	3+2	6
19	11.9.F.1x11.MaE	Distance Learning Systems	3+2	6
20	11.9.F.1x12.MaE	e-Business	3+2	6
21	11.9.F.1x13.MaE	e-Management	3+2	6
22	11.9.F.1x14.MaE	Embedded Systems	3+2	6
23	11.9.F.1x15.MaE	Ethics and Law for IT	3+2	6
24	11.9.F.1x16.MaE	Principles of Telecommunications	3+2	6
25	11.9.F.1x17.MaE	Geography Information Systems	3+2	6
26	11.9.F.1x18.MaE	Health Information Systems	3+2	6
27	11.9.F.1x19.MaE	Basics of Information Society	3+2	6
28	11.9.F.1x20.MaE	Innovative Technologies	3+2	6
29	11.9.F.1x21.MaE	Innovative and Sustainable Systems	3+2	6
30	11.9.F.1x22.MaE	Internet Programming	3+2	6
31	11.9.F.1x23.MaE	Internet Technologies	3+2	6
32	11.9.F.1x24.MaE	IT Supported Learning	3+2	6
33	11.9.F.1x25.MaE	Knowledge Based Systems	3+2	6
34	11.9.F.1x26.MaE	Knowledge Management	3+2	6
35	11.9.F.1x27.MaE	Knowledge Systems	3+2	6
36	11.9.F.1x28.MaE	Management of Technical Support	3+2	6

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37	11.9.F.1x29.MaE	Management of Virtual Environments and Visualization	3+2	6
38	11.9.F.1x30.MaE	Media and Communication	3+2	6
39	11.9.F.1x31.MaE	Microcomputer Systems	3+2	6
40	11.9.F.1x32.MaE	Modeling of Business Processes	3+2	6
41	11.9.F.1x33.MaE	Modeling of Telecommunications	3+2	6
42	11.9.F.1x34.MaE	Natural Language Processing	3+2	6
43	11.9.F.1x35.MaE	Theory of Traffic	3+2	6
44	11.9.F.1x36.MaE	Virtual Society	3+2	6
45	11.9.F.1x37.MaE	Visual Programming	3+2	6
46	11.9.F.1x38.MaE	Web Design	3+2	6
47	11.9.F.1x39.MaE	Basics in Bioinformatics	3+2	6
48	11.9.F.1x40.MaE	Next Generation Networks	3+2	6
49	11.9.F.1x41.MaE	Security and Identity Management	3+2	6
50	11.9.F.1x42.MaE	Network Security Architectures	3+2	6
51	11.9.F.1x43.MaE	Image Processing in Biomedicine	3+2	6
52	11.9.F.1x44.MaE	Instruments in Biomedicine	3+2	6
53	11.9.F.1x45.MaE	Signal Processing in Biomedicine	3+2	6
54	11.9.F.1x46.MaE	Electrical Circuits	3+2	6
55	11.9.F.1x47.MaE	Principles of Biomedical Engineering	3+2	6
56	11.9.F.1x48.MaE	Game Theory	3+2	6
57	11.9.F.1x49.MaE	Information Verification	3+2	6
58	11.9.F.1x50.MaE	Optimization Theory	3+2	6
59	11.9.F.1x51.MaE	Parallel Data Processing	3+2	6
60	11.9.F.1x52.MaE	Application of UML Design Models; Object-oriented Design	3+2	6
61	11.9.F.1x53.MaE	Cloud Computing Technologies	3+2	6
62	11.9.F.1x54.MaE	Patents and Protection of Technical Ideas	3+2	6
63	11.9.F.1x55.MaE	Service Oriented Architectures	3+2	6
64	11.9.F.1x56.MaE	Software Engineering Economics	3+2	6
65	11.3.CSE.1501.MaE	Compiler Theory	3+2	6
66	11.9.CSE.1601.MaE	Database Systems 2	3+2	6
67	11.4.CSE.1803.MaE	Artificial Intelligence	3+2	6
68	11.9.ISVMA.1501.MaE	Graph Theory	3+2	6
69	11.9.ISVMA.1601.MaE	Clustering	3+2	6

Комуникациски мрежи и безбедност

70	11.9.ISVMA.1802.MaE	Morphological Filtering	3+2	6
71	11.9.ISVMA.1803.MaE	Image Processing	3+2	6
72	11.9.ITA.1501.MaE	Signal and Image Processing	3+2	6
73	11.4.ITA.1803.MaE	Artificial Intelligence	3+2	6
74	11.2.MIR.1501.MaE	Statistical Learning Systems	3+2	6
75	11.9.MIR.1601.MaE	Stochastic Processes	3+2	6

List of Minor Elective Courses

1	03.0.F.1301.MiE	Visual Arts	3+2	6
2	14.1.F.1302.MiE	Political Science	3+2	6
3	14.3.F.1303.MiE	Economy	3+2	6
4	08.0.F.1304.MiE	Humanities 1	3+2	6
5	03.6.F.1401.MiE	History of Art	3+2	6
6	14.2.F.1402.MiE	Sociology	3+2	6
7	04.0.F.1403.MiE	Management	3+2	6
8	07.1.F.1404.MiE	Geography	3+2	6
9	08.0.F.1405.MiE	Humanities 2	3+2	6
10	08.4.F.1501.MiE	Archeology	3+2	6
11	04.7.F.1502.MiE	Marketing	3+2	6
12	13.9.F.1503.MiE	Physics (Electricity and Magnetism)	3+2	6
13	08.3.F.1505.MiE	Art History of Ohrid	3+2	6
14	16.0.F.1506.MiE	Military Science	3+2	6
15	13.9.F.1507.MiE	Physics (Waves and Optics)	3+2	6
16	13.9.F.1601.MiE	Environmental Physics	3+2	6
17	14.7.F.1602.MiE	Anthropology	3+2	6
18	04.9.F.1603.MiE	E-business	3+2	6
19	13.9.F.1604.MiE	Relativity and Quantum Physics	3+2	6
20	15.3.F.1605.MiE	Public Speaking	3+2	6
21	03.0.F.1606.MiE	Digital Art and Graphical Design	3+2	6
22	11.9.F.1701.MiE	Final Project	3+2	6
23	11.9.F.1802.MiE	Final Project	3+2	6
24	11.9.F.1801.MiE	Final Seminar Work	3+2	6
25	13.3.F.1x01.MiE	Conceptual Physics	3+2	6
26	08.1.F.1x02.MiE	Philosophy	3+2	6
27	03.9.F.1x03.MiE	Drawing	3+2	6
28	03.9.F.1x04.MiE	Painting	3+2	6
29	09.9.F.1x05.MiE	English Language for Academic Purposes	3+2	6
30	09.9.F.1x06.MiE	Macedonian Language	3+2	6
31	09.9.F.1x07.MiE	Linguistics	3+2	6
32	08.3.F.1x08.MiE	African History	3+2	6
33	08.3.F.1x09.MiE	Asian History	3+2	6
34	08.3.F.1x10.MiE	American History	3+2	6
35	08.9.F.1x11.MiE	Ethnography	3+2	6
36	08.3.F.1x12.MiE	European History	3+2	6

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37	13.3.F.1x13.MiE	Introductory Chemistry	3+2	6
38	13.3.F.1x14.MiE	Advanced Chemistry	3+2	6
39	13.1.F.1x15.MiE	Introductory Biology	3+2	6
40	13.1.F.1x16.MiE	Advanced Biology	3+2	6
41	13.9.F.1x17.MiE	Geology	3+2	6
42	13.9.F.1x18.MiE	Neurophysiology	3+2	6
43	12.8.F.1x19.MiE	Medicine and Medicine Technology	3+2	6
44	12.9.F.1x20.MiE	Pharmacology	3+2	6
45	13.9.F.1x21.MiE	Ecology	3+2	6
46	13.9.F.1x22.MiE	Genetics	3+2	6
47	09.9.F.1x23.MiE	Theater	3+2	6
48	09.9.F.1x24.MiE	Poetry	3+2	6
49	09.9.F.1x25.MiE	Entrepreneurship	3+2	6

11.2. Course Overview

Study Program: Computer Science and Engineering

Year I				
Semester I				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1101.C	Programming 1	3+2	6
2	11.1.F.1102.C	Mathematics 1	3+2	6
3	11.9.F.1103.C	Discrete Mathematics	3+2	6
4	09.0.F.1104.C	Technical Communication 1	3+2	6
5	13.2.F.1105.C	Physics 1	3+2	6

Year I				
Semester II				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1201.C	Programming 2	3+2	6
2	11.1.F.1202.C	Mathematics 2	3+2	6
3	09.0.F.1203.C	Technical Communication 2	3+2	6
4	11.3.CSE.1201.MR	Computer Organization	3+2	6
5	11.3.CSE.1202.MR	Network Architectures	3+2	6

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Year II				
Semester III				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.2.F.1301.C	Probability and Statistics	3+2	6
2	11.3.F.1302.C	Database Systems	3+2	6
3	11.3.F.1303.C	Algorithms and Data Structures	3+2	6
4	11.3.CSE.1301.MR	Computer System Configuration	3+2	6
Minor Elective				
5	1 course from Minor Elective List		3+2	6

Year II				
Semester IV				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1401.C	Software Engineering	3+2	6
2	11.3.F.1402.C	Operating Systems	3+2	6
3	11.3.F.1403.C	Programming 3	3+2	6
4	11.3.CSE.1401.MR	Assembly Language Programming	3+2	6
Minor Elective				
5	1 course from Minor Elective List		3+2	6

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Year III				
Semester V				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.3.F.1501.C	Programming 4	3+2	6
2	11.9.CSE.1501.MR	Finite State Machines	3+2	6
Electives				
3	1 course from Major Elective List		3+2	6
4	1 course from Minor Elective List		3+2	6
5	1 course from Minor Elective List		3+2	6

Year III				
Semester VI				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.2.F.1601.C	Descriptive and Inferential Statistics	3+2	6
2	11.9.CSE.1601.MR	Programming Language Concepts	3+2	6
Electives				
3	1 course from Major Elective List		3+2	6
4	1 course from Minor Elective List		3+2	6
5	1 course from Minor Elective List		3+2	6

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Year IV				
Semester VII				
No.	Code	Course Name	No. of classes	ECTS
Core (Mandatory) Courses				
1	11.9.F.1701.C	Research and Development Methods for Science and Engineering	3+2	6
Electives				
2	11.9.F.1701.MaE*	Industrial Internship	3+2	6
3	1 course from Major Elective List		3+2	6
4	1 course from Major Elective List		3+2	6
5	11.9.F.1701.MiE	Final Project	3+2	6

Year IV				
Semester VIII				
No.	Code	Course Name	No. of classes	ECTS
Electives				
1	11.9.F.1801.MaE*	Industrial Internship	3+2	6
3	1 course from Major Elective List		3+2	6
3	1 course from Major Elective List		3+2	6
4	11.9.F.1802.MiE	Final Project	3+2	6
5	11.9.F.1801.MiE	Final Seminar Work	3+2	6

List of Major Elective Courses

1	11.3.CSE.1501.MaE	Compiler Theory	3+2	6
2	11.9.CSE.1601.MaE	Database Systems 2	3+2	6
3	11.9.F.1701.MaE*	Industrial Internship	3+2	6
4	11.9.CSE.1702.MaE	Data Mining	3+2	6
5	04.9.CSE.1703.MaE	Project Management	3+2	6
6	11.9.F.1801.MaE*	Industrial Internship	3+2	6
7	11.3.CSE.1802.MaE	Software Agents	3+2	6
8	11.4.CSE.1803.MaE	Artificial Intelligence	3+2	6
9	11.9.F.1x01.MaE	System Theory	3+2	6
10	11.9.F.1x02.MaE	Chaos Theory	3+2	6
11	11.9.F.1x03.MaE	Advanced Algorithms	3+2	6
12	11.9.F.1x04.MaE	Advanced Logic	3+2	6
13	11.9.F.1x05.MaE	Simulation and Modeling	3+2	6
14	11.9.F.1x06.MaE	Discrete Mathematics 2	3+2	6
15	11.9.F.1x07.MaE	Advanced Mathematical Analysis (Calculus)	3+2	6
16	11.9.F.1x08.MaE	Design of Integrated Systems	3+2	6
17	11.9.F.1x09.MaE	Digital Electronics	3+2	6
18	11.9.F.1x10.MaE	Digital Libraries	3+2	6
19	11.9.F.1x11.MaE	Distance Learning Systems	3+2	6
20	11.9.F.1x12.MaE	e-Business	3+2	6
21	11.9.F.1x13.MaE	e-Management	3+2	6
22	11.9.F.1x14.MaE	Embedded Systems	3+2	6
23	11.9.F.1x15.MaE	Ethics and Law for IT	3+2	6
24	11.9.F.1x16.MaE	Telecommunication Basics	3+2	6
25	11.9.F.1x17.MaE	Geography Information Systems	3+2	6
26	11.9.F.1x18.MaE	Health Information Systems	3+2	6
27	11.9.F.1x19.MaE	Basics of Information Society	3+2	6
28	11.9.F.1x20.MaE	Innovative Technologies	3+2	6
29	11.9.F.1x21.MaE	Innovative and Sustainable Systems	3+2	6
30	11.9.F.1x22.MaE	Internet Programming	3+2	6
31	11.9.F.1x23.MaE	Internet Technologies	3+2	6
32	11.9.F.1x24.MaE	IT Supported Learning	3+2	6
33	11.9.F.1x25.MaE	Knowledge Based Systems	3+2	6
34	11.9.F.1x26.MaE	Knowledge Management	3+2	6
35	11.9.F.1x27.MaE	Knowledge Systems	3+2	6
36	11.9.F.1x28.MaE	Management of Technical Support	3+2	6
37	11.9.F.1x29.MaE	Management of Virtual Environments and Visualization	3+2	6

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38	11.9.F.1x30.MaE	Media and Communication	3+2	6
39	11.9.F.1x31.MaE	Microcomputer Systems	3+2	6
40	11.9.F.1x32.MaE	Modeling of Business Processes	3+2	6
41	11.9.F.1x33.MaE	Modeling of Telecommunications	3+2	6
42	11.9.F.1x34.MaE	Natural Language Processing	3+2	6
43	11.9.F.1x35.MaE	Theory of Traffic	3+2	6
44	11.9.F.1x36.MaE	Virtual Society	3+2	6
45	11.9.F.1x37.MaE	Visual Programming	3+2	6
46	11.9.F.1x38.MaE	Web Design	3+2	6
47	11.9.F.1x39.MaE	Basics in Bioinformatics	3+2	6
48	11.9.F.1x40.MaE	Next Generation Networks	3+2	6
49	11.9.F.1x41.MaE	Security and Identity Management	3+2	6
50	11.9.F.1x42.MaE	Network Security Architectures	3+2	6
51	11.9.F.1x43.MaE	Image Processing in Biomedicine	3+2	6
52	11.9.F.1x44.MaE	Instruments in Biomedicine	3+2	6
53	11.9.F.1x45.MaE	Signal Processing in Biomedicine	3+2	6
54	11.9.F.1x46.MaE	Electrical Circuits	3+2	6
55	11.9.F.1x47.MaE	Principles of Biomedical Engineering	3+2	6
56	11.9.F.1x48.MaE	Game Theory	3+2	6
57	11.9.F.1x49.MaE	Information Verification	3+2	6
58	11.9.F.1x50.MaE	Optimization Theory	3+2	6
59	11.9.F.1x51.MaE	Parallel Processing	3+2	6
60	11.9.F.1x52.MaE	Application of UML Design Models; Object-oriented Design	3+2	6
61	11.9.F.1x53.MaE	Cloud Based Technologies	3+2	6
62	11.9.F.1x54.MaE	Patents and Protection of Technical Ideas	3+2	6
63	11.9.F.1x55.MaE	Service Oriented Architectures	3+2	6
64	11.9.F.1x56.MaE	Software Engineering Economics	3+2	6
65	11.9.ISVMA.1501.MaE	Graph Theory	3+2	6
66	11.9.ISVMA.1601.MaE	Clustering	3+2	6
67	11.9.ISVMA.1802.MaE	Morphological Filtering	3+2	6
68	11.9.ISVMA.1803.MaE	Image Processing	3+2	6
69	11.9.ITA.1501.MaE	Signal and Image Processing	3+2	6
70	11.9.ITA.1702.MaE	Formal Methods for Computer Science	3+2	6

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71	11.4.ITA.1803.MaE	Artificial Intelligence	3+2	6
72	11.2.MIR.1501.MaE	Statistical Learning Systems	3+2	6
73	11.9.MIR.1601.MaE	Stochastic Processes	3+2	6
74	11.3.CNS.1501.MaE	Server and Client Systems	3+2	6
75	11.9.CNS.1601.MaE	Cryptography	3+2	6

List of Minor Elective Courses

1	03.0.F.1301.MiE	Visual Arts	3+2	6
2	14.1.F.1302.MiE	Political Science	3+2	6
3	14.3.F.1303.MiE	Economy	3+2	6
4	08.0.F.1304.MiE	Humanities 1	3+2	6
5	03.6.F.1401.MiE	History of Art	3+2	6
6	14.2.F.1402.MiE	Sociology	3+2	6
7	04.0.F.1403.MiE	Management	3+2	6
8	07.1.F.1404.MiE	Geography	3+2	6
9	08.0.F.1405.MiE	Humanities 2	3+2	6
10	08.4.F.1501.MiE	Archeology	3+2	6
11	04.7.F.1502.MiE	Marketing	3+2	6
12	13.9.F.1503.MiE	Physics (Electricity and Magnetism)	3+2	6
13	08.3.F.1505.MiE	Art History of Ohrid	3+2	6
14	16.0.F.1506.MiE	Military Science	3+2	6
15	13.9.F.1507.MiE	Physics (Waves and Optics)	3+2	6
16	13.9.F.1601.MiE	Environmental Physics	3+2	6
17	14.7.F.1602.MiE	Anthropology	3+2	6
18	04.9.F.1603.MiE	E-business	3+2	6
19	13.9.F.1604.MiE	Relativity and Quantum Physics	3+2	6
20	15.3.F.1605.MiE	Public Speaking	3+2	6
21	03.0.F.1606.MiE	Digital Art and Graphical Design	3+2	6
22	11.9.F.1701.MiE	Final Project	3+2	6
23	11.9.F.1802.MiE	Final Project	3+2	6
24	11.9.F.1801.MiE	Final Seminar Work	3+2	6
25	13.3.F.1x01.MiE	Conceptual Physics	3+2	6
26	08.1.F.1x02.MiE	Philosophy	3+2	6
27	03.9.F.1x03.MiE	Drawing	3+2	6
28	03.9.F.1x04.MiE	Painting	3+2	6
29	09.9.F.1x05.MiE	English Language for Academic Purposes	3+2	
30	09.9.F.1x06.MiE	Macedonian Language	3+2	6
31	09.9.F.1x07.MiE	Linguistics	3+2	6
32	08.3.F.1x08.MiE	African History	3+2	6
33	08.3.F.1x09.MiE	Asian History	3+2	6
34	08.3.F.1x10.MiE	American History	3+2	6
35	08.9.F.1x11.MiE	Ethnography	3+2	6
36	08.3.F.1x12.MiE	European History	3+2	6

Computer Science and Engineering

37	13.3.F.1x13.MiE	Introductory Chemistry	3+2	6
38	13.3.F.1x14.MiE	Advanced Chemistry	3+2	6
39	13.1.F.1x15.MiE	Introductory Biology	3+2	6
40	13.1.F.1x16.MiE	Advanced Biology	3+2	6
41	13.9.F.1x17.MiE	Geology	3+2	6
42	13.9.F.1x18.MiE	Neurophysiology	3+2	6
43	12.8.F.1x19.MiE	Medicine and Medicine Technology	3+2	6
44	12.9.F.1x20.MiE	Pharmacology	3+2	6
45	13.9.F.1x21.MiE	Ecology	3+2	6
46	13.9.F.1x22.MiE	Genetics	3+2	6
47	09.9.F.1x23.MiE	Theater	3+2	6
48	09.9.F.1x24.MiE	Poetry	3+2	6
49	09.9.F.1x25.MiE	Entrepreneurship	3+2	6

11.2.Course Overview

Study Program: **Information Systems, Visualization, Multimedia and Animation (ISVMA)**
Academic year: **2011**

Year I				
Semester I				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1101.C	Programming 1	3+2	6
2	11.1.F.1102.C	Mathematics 1	3+2	6
3	11.9.F.1103.C	Discrete Mathematics	3+2	6
4	09.0.F.1104.C	Technical Communication 1	3+2	6
5	13.2.F.1105.C	Physics 1	3+2	6

YearI				
SemesterII				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1201.C	Programming 2	3+2	6
2	11.1.F.1202.C	Mathematics 2	3+2	6
3	09.0.F.1203.C	Technical Communication 2	3+2	6
4	11.3.ISVMA.1201.M	Human – Computer Interaction	3+2	6
5	03.9.ISVMA.1202.M	Multimedia Design	3+2	6

YearII				
SemesterIII				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.2.F.1301.C	Probability and Statistics	3+2	6
2	11.3.F.1302.C	Database Systems	3+2	6
3	11.3.F.1303.C	Algorithms and Data Structures	3+2	6
4	11.3.ISVMA.1301.MR	Computer Graphics	3+2	6
Elective				
5	1 Course from Minor Elective List		3+2	6

Year II				
Semester IV				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1401.C	Software Engineering	3+2	6
2	11.3.F.1402.C	Operating Systems	3+2	6
3	11.3.F.1403.C	Programming 3	3+2	6
4	11.9.ISVMA.1401.MR	Numerical methods	3+2	6
Elective				
5	1 Course from Minor Elective List		3+2	6

Year III				
Semester V				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1501.C	Programming 4	3+2	6
2	11.9.ISVMA.1501.MR	Virtual Reality	3+2	6
Electives				
3	1 Course from Major Elective List		3+2	6
4	1 Course from Minor Elective List		3+2	6
5	1 Course from Minor Elective List		3+2	6

Year III				
Semester VI				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.2.F.1601.C	Descriptive and Inferential Statistics	3+2	6
2	11.9.ISVMA.1601.MR	Pattern Recognition	3+2	6
Electives				
3	1 Course from Major Elective List		3+2	6
4	1 Course from Minor Elective List		3+2	6
5	1 Course from Minor Elective List		3+2	6

Year IV				
SemesterVII				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.9.F.1701.C	Research and Development Methods for Science and Engineering	3+2	6
Electives				
2	11.9.F.1701.MaE*	Industrial Internship	3+2	6
3	1 Course from Major Elective List		3+2	6
4	1 Course from Major Elective List		3+2	6
5	11.9.F.1701.MiE	Final Project	3+2	6

Year IV				
SemesterVIII				
No.	Code	Course Name	No. of classes	ECTS
Electives				
1	11.9.F.1801.MaE*	Industrial Internship	3+2	6
3	1 Course from Major Elective List		3+2	6
3	1 Course from Major Elective List		3+2	6
4	11.9.F.1802.MiE	Final Project	3+2	6
5	11.9.F.1801.MiE	Final Seminar Work	3+2	6

List of Major Elective Courses

1	11.9.ISVMA.1501.MaE	Graph Theory	3+2	6
2	11.9.ISVMA.1601.MaE	Clustering	3+2	6
3	11.9.F.1701.MaE*	Industrial Internship	3+2	6
4	11.9.MIR.1702.MaE	Data Mining	3+2	6
5	04.9.MIR.1703.MaE	Project Management	3+2	6
6	11.9.F.1801.MaE*	Industrial Internship	3+2	6
7	11.9.ISVMA.1802.MaE	Morphology Filters	3+2	6
8	11.9.ISVMA.1803.MaE	Image Processing	3+2	6
9	11.9.F.1x01.MaE	Systems Theory	3+2	6
10	11.9.F.1x02.MaE	Chaos Theory	3+2	6
11	11.9.F.1x03.MaE	Advanced Algorithms	3+2	6
12	11.9.F.1x04.MaE	Advanced Logic	3+2	6
13	11.9.F.1x05.MaE	Simulation and Modeling	3+2	6
14	11.9.F.1x06.MaE	Discrete Mathematics 2	3+2	6
15	11.9.F.1x07.MaE	Advanced Mathematical Analysis (Calculus)	3+2	6
16	11.9.F.1x08.MaE	Embedded Systems Design	3+2	6
17	11.9.F.1x09.MaE	Digital Electronics	3+2	6
18	11.9.F.1x10.MaE	Digital Libraries	3+2	6
19	11.9.F.1x11.MaE	Distance Learning	3+2	6
20	11.9.F.1x12.MaE	e-Business	3+2	6
21	11.9.F.1x13.MaE	e-Management	3+2	6
22	11.9.F.1x14.MaE	Embedded Systems	3+2	6
23	11.9.F.1x15.MaE	Ethics and Law for IT	3+2	6
24	11.9.F.1x16.MaE	Telecommunications Basics	3+2	6
25	11.9.F.1x17.MaE	Geographical Information Systems	3+2	6
26	11.9.F.1x18.MaE	Health Information Systems	3+2	6
27	11.9.F.1x19.MaE	Basics of Information Society	3+2	6
28	11.9.F.1x20.MaE	Innovation Technologies	3+2	6
29	11.9.F.1x21.MaE	Innovative and Sustainable Systems	3+2	6
30	11.9.F.1x22.MaE	Internet Programming	3+2	6
31	11.9.F.1x23.MaE	Internet Technologies	3+2	6
32	11.9.F.1x24.MaE	IT Supported Learning	3+2	6
33	11.9.F.1x25.MaE	Knowledge Based Systems	3+2	6
34	11.9.F.1x26.MaE	Knowledge Management	3+2	6
35	11.9.F.1x27.MaE	Knowledge Systems	3+2	6

36	11.9.F.1x28.MaE	Management of Technical Support	3+2	6
37	11.9.F.1x29.MaE	Management of Virtual Environment and Visualization	3+2	6
38	11.9.F.1x30.MaE	Media and Communication	3+2	6
39	11.9.F.1x31.MaE	Microcomputer Systems	3+2	6
40	11.9.F.1x32.MaE	Modeling of Business Processes	3+2	6
41	11.9.F.1x33.MaE	Modeling of Telecommunications	3+2	6
42	11.9.F.1x34.MaE	Natural Language Processing	3+2	6
43	11.9.F.1x35.MaE	Theory of Traffic	3+2	6
44	11.9.F.1x36.MaE	Virtual Society	3+2	6
45	11.9.F.1x37.MaE	Visual Programming	3+2	6
46	11.9.F.1x38.MaE	Web Design	3+2	6
47	11.9.F.1x39.MaE	Bioinformatics Fundamentals	3+2	6
48	11.9.F.1x40.MaE	Next Generation Networks	3+2	6
49	11.9.F.1x41.MaE	Security and Identity Management	3+2	6
50	11.9.F.1x42.MaE	Network Security Architecture	3+2	6
51	11.9.F.1x43.MaE	Image Processing in Biomedicine	3+2	6
52	11.9.F.1x44.MaE	Instruments in Biomedicine	3+2	6
53	11.9.F.1x45.MaE	Signal Processing in Biomedicine	3+2	6
54	11.9.F.1x46.MaE	Electrical Circuits	3+2	6
55	11.9.F.1x47.MaE	Principles of Biomedicine Engineering	3+2	6
56	11.9.F.1x48.MaE	Game Theory	3+2	6
57	11.9.F.1x49.MaE	Information Verification	3+2	6
58	11.9.F.1x50.MaE	Optimization Theory	3+2	6
59	11.9.F.1x51.MaE	Parallel Processing	3+2	6
60	11.9.F.1x52.MaE	Application of UML Designed Models; Object Oriented Design	3+2	6
61	11.9.F.1x53.MaE	Cloud Based Technologies	3+2	6
62	11.9.F.1x54.MaE	Patent and Protection of Technical Ideas	3+2	6
63	11.9.F.1x55.MaE	Service Oriented Architectures	3+2	6
64	11.9.F.1x56.MaE	Software Engineering Economics	3+2	6
65	11.3.CSE.1501.MaE	Compiler Theory	3+2	6
66	11.4.ITA.1803.MaE	Artificial Intelligence	3+2	6
67	11.9.ITA.1501.MaE	Signal and Image Processing	3+2	6

68	11.9.ITA.1601.MaE	Cryptography	3+2	6
69	11.9.ITA.1702.MaE	Formal Methods for Computer Science	3+2	6
70	11.9.ITA.1802.MaE	Software Agents	3+2	6
71	11.2.MIR.1501.MaE	Statistical Learning Systems	3+2	6
72	11.9.MIR.1601.MaE	Stochastic Process	3+2	6
73	11.9.MIR.1803.MaE	Database Systems 2	3+2	6
74	11.3.CNS.1501.MaE	Server and Client Systems	3+2	6

List of Minor Elective Courses

1	03.0.F.1301.MiE	Visual Arts	3+2	6
2	14.1.F.1302.MiE	Political Science	3+2	6
3	14.3.F.1303.MiE	Economy	3+2	6
4	08.0.F.1304.MiE	Humanities 1	3+2	6
5	03.6.F.1401.MiE	History of Art	3+2	6
6	14.2.F.1402.MiE	Sociology	3+2	6
7	04.0.F.1403.MiE	Management	3+2	6
8	07.1.F.1404.MiE	Geography	3+2	6
9	08.0.F.1405.MiE	Humanities 2	3+2	6
10	08.4.F.1501.MiE	Archeology	3+2	6
11	04.7.F.1502.MiE	Marketing	3+2	6
12	13.9.F.1503.MiE	Physics(Electricityand Magnetism)	3+2	6
13	08.3.F.1505.MiE	Art History of Ohrid	3+2	6
14	16.0.F.1506.MiE	Military Science	3+2	6
15	13.9.F.1507.MiE	Physics (Waves and Optics)	3+2	6
16	13.9.F.1601.MiE	Environmental Physics	3+2	6
17	14.7.F.1602.MiE	Anthropology	3+2	6
18	04.9.F.1603.MiE	E-business	3+2	6
19	13.9.F.1604.MiE	Relativity and Quantum Physics	3+2	6
20	15.3.F.1605.MiE	Public Speaking	3+2	6
21	03.0.F.1606.MiE	Digital Art and Graphical Design	3+2	6
22	11.9.F.1701.MiE	Final Project	3+2	6
23	11.9.F.1802.MiE	Final Project	3+2	6
24	11.9.F.1801.MiE	Final Seminar Work	3+2	6
25	13.3.F.1x01.MiE	Conceptual Physics	3+2	6
26	08.1.F.1x02.MiE	Philosophy	3+2	6
27	03.9.F.1x03.MiE	Drawing	3+2	6
28	03.9.F.1x04.MiE	Painting	3+2	6
29	09.9.F.1x05.MiE	English Language for Academic Purposes	3+2	6
30	09.9.F.1x06.MiE	Macedonian Language	3+2	6
31	09.9.F.1x07.MiE	Linguistics	3+2	6
32	08.3.F.1x08.MiE	African History	3+2	6
33	08.3.F.1x09.MiE	Asian History	3+2	6
34	08.3.F.1x10.MiE	American History	3+2	6
35	08.9.F.1x11.MiE	Ethnography	3+2	6

36	08.3.F.1x12.MiE	European History	3+2	6
37	13.3.F.1x13.MiE	Introductory Chemistry	3+2	6
38	13.3.F.1x14.MiE	Advanced Chemistry	3+2	6
39	13.1.F.1x15.MiE	Introductory Biology	3+2	6
40	13.1.F.1x16.MiE	Advanced Biology	3+2	6
41	13.9.F.1x17.MiE	Geology	3+2	6
42	13.9.F.1x18.MiE	Neurophysiology	3+2	6
43	12.8.F.1x19.MiE	Medicine and Medicine Technology	3+2	6
44	12.9.F.1x20.MiE	Pharmacology	3+2	6
45	13.9.F.1x21.MiE	Ecology	3+2	6
46	13.9.F.1x22.MiE	Genetics	3+2	6
47	09.9.F.1x23.MiE	Theatre	3+2	6
48	09.9.F.1x24.MiE	Poetry	3+2	6
49	09.9.F.1x25.MiE	Entrepreneurship	3+2	6

11.2. Course Overview

Study Program: Machine Intelligence and Robotics

Year I				
Semester I				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1101.C	Programming 1	3+2	6
2	11.1.F.1102.C	Mathematics 1	3+2	6
3	11.9.F.1103.C	Discrete Mathematics	3+2	6
4	09.0.F.1104.C	Technical Communication 1	3+2	6
5	13.2.F.1105.C	Physics 1	3+2	6

Year I				
Semester II				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1201.C	Programming 2	3+2	6
2	11.1.F.1202.C	Mathematics 2	3+2	6
3	09.0.F.1203.C	Technical Communication 2	3+2	6
4	13.9.MIR.1201.MR	Physics 2	3+2	6
5	11.4.MIR.1202.MR	Cognitive Science	3+2	6

Machine Intelligence and Robotics

Year II				
Semester III				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.2.F.1301.C	Probability and Statistics	3+2	6
2	11.3.F.1302.C	Database Systems	3+2	6
3	11.3.F.1303.C	Algorithms and Data Structures	3+2	6
4	11.9.MIR.1301.MR	Mathematics 3	3+2	6
Elective				
5	1 Course from Minor Elective List		3+2	6

Year II				
Semester IV				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1401.C	Software Engineering	3+2	6
2	11.3.F.1402.C	Operating Systems	3+2	6
3	11.3.F.1403.C	Programming 3	3+2	6
4	06.0.MIR.1401.MR	Sensors and Actuators	3+2	6
Elective				
5	1 Course from Minor Elective List		3+2	6

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Year III				
Semester V				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.3.F.1501.C	Programming 4	3+2	6
2	06.0.MIR.1501.MR	Linear System Theory	3+2	6
Electives				
3	1 Course from Major Elective List		3+2	6
4	1 Course from Minor Elective List		3+2	6
5	1 Course from Minor Elective List		3+2	6

Year III				
Semester VI				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.2.F.1601.C	Descriptive and Inferential Statistics	3+2	6
2	06.0.MIR.1601.MR	Control Theory	3+2	6
Electives				
3	1 Course from Major Elective List		3+2	6
4	1 Course from Minor Elective List		3+2	6
5	1 Course from Minor Elective List		3+2	6

Machine Intelligence and Robotics

Year IV				
Semester VII				
No.	Code	Course Name	No. of classes	ECTS
Core Courses				
1	11.9.F.1701.C	Research and Development Methods for Science and Engineering	3+2	6
Electives				
2	11.9.F.1701.MaE*	Industrial Internship	3+2	6
3	1 Course from Major Elective List		3+2	6
4	1 Course from Major Elective List		3+2	6
5	11.9.F.1701.MiE	Final Project	3+2	6

Year IV				
Semester VIII				
No.	Code	Course Name	No. of classes	ECTS
Electives				
1	11.9.F.1801.MaE*	Industrial Internship	3+2	6
3	1 Course from Major Elective List		3+2	6
3	1 Course from Major Elective List		3+2	6
4	11.9.F.1802.MiE	Final Project	3+2	6
5	11.9.F.1801.MiE	Final Seminar Work	3+2	6

List of Major Elective Courses

1	11.2.MIR.1501.MaE	Statistical Learning Systems	3+2	6
2	11.9.MIR.1601.MaE	Stochastic Processes	3+2	6
3	11.9.F.1701.MaE*	Industrial Internship	3+2	6
4	11.9.MIR.1702.MaE	Data Mining	3+2	6
5	04.9.MIR.1703.MaE	Project Management	3+2	6
6	11.9.F.1801.MaE*	Industrial Internship	3+2	6
7	11.3.MIR.1802.MaE	Formal Methods for Computer Science	3+2	6
8	11.9.MIR.1803.MaE	Database Systems 2	3+2	6
9	11.9.F.1x01.MaE	System Theory	3+2	6
10	11.9.F.1x02.MaE	Chaos Theory	3+2	6
11	11.9.F.1x03.MaE	Advanced Algorithms	3+2	6
12	11.9.F.1x04.MaE	Advanced Logic	3+2	6
13	11.9.F.1x05.MaE	Simulations and Modeling	3+2	6
14	11.9.F.1x06.MaE	Discrete Mathematics 2	3+2	6
15	11.9.F.1x07.MaE	Advanced Mathematical Analysis (Calculus)	3+2	6
16	11.9.F.1x08.MaE	Design of Integrated Systems	3+2	6
17	11.9.F.1x09.MaE	Digital Electronics	3+2	6
18	11.9.F.1x10.MaE	Digital Libraries	3+2	6
19	11.9.F.1x11.MaE	Distance Learning Systems	3+2	6
20	11.9.F.1x12.MaE	e-Business	3+2	6
21	11.9.F.1x13.MaE	e-Management	3+2	6
22	11.9.F.1x14.MaE	Embedded Systems	3+2	6
23	11.9.F.1x15.MaE	Ethics and Law for IT	3+2	6
24	11.9.F.1x16.MaE	Telecommunications Basics	3+2	6
25	11.9.F.1x17.MaE	Geographical Information Systems	3+2	6
26	11.9.F.1x18.MaE	Health Information Systems	3+2	6
27	11.9.F.1x19.MaE	Basics of Information Society	3+2	6
28	11.9.F.1x20.MaE	Innovative Technologies	3+2	6
29	11.9.F.1x21.MaE	Innovative and Sustainable Systems	3+2	6
30	11.9.F.1x22.MaE	Internet Programming	3+2	6
31	11.9.F.1x23.MaE	Internet Technologies	3+2	6
32	11.9.F.1x24.MaE	IT Supported Learning	3+2	6
33	11.9.F.1x25.MaE	Knowledge Based Systems	3+2	6
34	11.9.F.1x26.MaE	Knowledge Management	3+2	6
35	11.9.F.1x27.MaE	Knowledge Systems	3+2	6

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36	11.9.F.1x28.MaE	Management of Technical Support	3+2	6
37	11.9.F.1x29.MaE	Management of Virtual Environment and Visualization	3+2	6
38	11.9.F.1x30.MaE	Media and Communication	3+2	6
39	11.9.F.1x31.MaE	Microcomputer Systems	3+2	6
40	11.9.F.1x32.MaE	Modeling of Business Processes	3+2	6
41	11.9.F.1x33.MaE	Modeling of Telecommunications	3+2	6
42	11.9.F.1x34.MaE	Natural Language Processing	3+2	6
43	11.9.F.1x35.MaE	Theory of Traffic	3+2	6
44	11.9.F.1x36.MaE	Virtual Society	3+2	6
45	11.9.F.1x37.MaE	Visual Programming	3+2	6
46	11.9.F.1x38.MaE	Web Design	3+2	6
47	11.9.F.1x39.MaE	Basics of Bioinformatics	3+2	6
48	11.9.F.1x40.MaE	Next Generation Networks	3+2	6
49	11.9.F.1x41.MaE	Security and Identity Management	3+2	6
50	11.9.F.1x42.MaE	Network Security Architecture	3+2	6
51	11.9.F.1x43.MaE	Image Processing in Biomedicine	3+2	6
52	11.9.F.1x44.MaE	Instruments in Biomedicine	3+2	6
53	11.9.F.1x45.MaE	Signal Processing in Biomedicine	3+2	6
54	11.9.F.1x46.MaE	Electrical Circuits	3+2	6
55	11.9.F.1x47.MaE	Principles of Biomedicine Engineering	3+2	6
56	11.9.F.1x48.MaE	Game Theory	3+2	6
57	11.9.F.1x49.MaE	Information Verification	3+2	6
58	11.9.F.1x50.MaE	Optimization Theory	3+2	6
59	11.9.F.1x51.MaE	Parallel Processing	3+2	6
60	11.9.F.1x52.MaE	Application of UML Designed Models; Object Oriented Design	3+2	6
61	11.9.F.1x53.MaE	Cloud Based Technologies	3+2	6
62	11.9.F.1x54.MaE	Patent and Protection of Technical Ideas	3+2	6
63	11.9.F.1x55.MaE	Service Oriented Architectures	3+2	6
64	11.9.F.1x56.MaE	Software Engineering Economics	3+2	6
65	11.3.CSE.1501.MaE	Compiler Theory	3+2	6
66	11.3.CSE.1802.MaE	Software Agents	3+2	6
67	11.9.ISVMA.1501.MaE	Graph Theory	3+2	6

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68	11.9.ISVMA.1601.MaE	Clustering	3+2	6
69	11.9.ISVMA.1802.MaE	Morphology Filters	3+2	6
70	11.9.ISVMA.1803.MaE	Image Processing	3+2	6
71	11.9.ITA.1501.MaE	Signal and Image Processing	3+2	6
72	11.9.ITA.1601.MaE	Cryptography	3+2	6
73	11.9.ITA.1702.MaE	Formal Methods for Computer Science	3+2	6
74	11.4.ITA.1803.MaE	Artificial Intelligence	3+2	6
75	11.3.CNS.1501.MaE	Server and Client Systems	3+2	6

List of Minor Elective Courses

1	03.0.F.1301.MiE	Visual Arts	3+2	6
2	14.1.F.1302.MiE	Political Science	3+2	6
3	14.3.F.1303.MiE	Economy	3+2	6
4	08.0.F.1304.MiE	Humanities 1	3+2	6
5	03.6.F.1401.MiE	History of Art	3+2	6
6	14.2.F.1402.MiE	Sociology	3+2	6
7	04.0.F.1403.MiE	Management	3+2	6
8	07.1.F.1404.MiE	Geography	3+2	6
9	08.0.F.1405.MiE	Humanities 2	3+2	6
10	08.4.F.1501.MiE	Archeology	3+2	6
11	04.7.F.1502.MiE	Marketing	3+2	6
12	13.9.F.1503.MiE	Physics (Electricity and Magnetism)	3+2	6
13	08.3.F.1505.MiE	Art History of Ohrid	3+2	6
14	16.0.F.1506.MiE	Military Science	3+2	6
15	13.9.F.1507.MiE	Physics (Waves and Optics)	3+2	6
16	13.9.F.1601.MiE	Environmental Physics	3+2	6
17	14.7.F.1602.MiE	Anthropology	3+2	6
18	04.9.F.1603.MiE	E-business	3+2	6
19	13.9.F.1604.MiE	Relativity and Quantum Physics	3+2	6
20	15.3.F.1605.MiE	Public Speaking	3+2	6
21	03.0.F.1606.MiE	Digital Art and Graphical Design	3+2	6
22	11.9.F.1701.MiE	Final Project	3+2	6
23	11.9.F.1802.MiE	Final Project	3+2	6
24	11.9.F.1801.MiE	Final Seminar Work	3+2	6
25	13.3.F.1x01.MiE	Conceptual Physics	3+2	6
26	08.1.F.1x02.MiE	Philosophy	3+2	6
27	03.9.F.1x03.MiE	Drawing	3+2	6
28	03.9.F.1x04.MiE	Painting	3+2	6
29	09.9.F.1x05.MiE	English Language for Academic Purposes	3+2	6
30	09.9.F.1x06.MiE	Macedonian Language	3+2	6
31	09.9.F.1x07.MiE	Linguistics	3+2	6
32	08.3.F.1x08.MiE	African History	3+2	6
33	08.3.F.1x09.MiE	Asian History	3+2	6
34	08.3.F.1x10.MiE	American History	3+2	6
35	08.9.F.1x11.MiE	Ethnography	3+2	6

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36	08.3.F.1x12.MiE	European History	3+2	6
37	13.3.F.1x13.MiE	Introductory Chemistry	3+2	6
38	13.3.F.1x14.MiE	Advanced Chemistry	3+2	6
39	13.1.F.1x15.MiE	Introductory Biology	3+2	6
40	13.1.F.1x16.MiE	Advanced Biology	3+2	6
41	13.9.F.1x17.MiE	Geology	3+2	6
42	13.9.F.1x18.MiE	Neurophysiology	3+2	6
43	12.8.F.1x19.MiE	Medicine and Medicine Technology	3+2	6
44	12.9.F.1x20.MiE	Pharmacology	3+2	6
45	13.9.F.1x21.MiE	Ecology	3+2	6
46	13.9.F.1x22.MiE	Genetics	3+2	6
47	09.9.F.1x23.MiE	Theatre	3+2	6
48	09.9.F.1x24.MiE	Poetry	3+2	6
49	09.9.F.1x25.MiE	Entrepreneurship	3+2	6