International University of Sarajevo (IUS), Faculty of Engineering and Natural Sciences (FENS)

Undergraduate Curriculum - Computer Engineering Program (DDP - MU)

Semester I

Code	Title	Prerequisites	T	P	ECTS
ELIT100	Academic English and Effective Communication		2	1	6
MATH101	Calculus I		3	2	6
CS103	Introduction to Programming		3	2	6
NS102	Physics		3	2	6
ENS101	Introduction to Engineering		2	1	3
xxx	University Elective I / **DDP pool 1 (2 course) ***				6
		Semester Total =			33

Semester II

Code	Title	Prerequisites	T	P	ECTS
xxx	Critical Reading and Writing / **DDP pool 2 (2 course) ***		2	1	6
CS105	Advanced Programming	CS103	3	2	6
MATH102	Calculus II	MATH101	3	2	6
MATH201	Linear Algebra	MATH101	3	2	6
NS122	Physics II	NS102	3	2	6
		Semester Total =			30

Semester III

Code	Title	Prerequisites	T	P	ECTS
MATH203	Introduction to Probability and Sta	MATH101	3	2	6
MATH204	Discrete Mathematics	MATH101	3	2	6
CS206	Data Structures		3	2	6
CS305	Programming Languages	CS105	3	2	6
MATH202	Differential Equations	MATH102	3	2	6
		Semester Total =			30

Semester IV

Code	Title	Prerequisites	T	P	ECTS
ENS203	Electrical Circuits I	MATH101	3	2	6
EE201	Analog Electronics I	CS105	3	2	6
MATH205	Numerical Analysis	MATH102	3	2	6
CS207	Analaysis of Algorithms	CS105	3	2	6
CS2138	Systems of Programming	CS105	3	2	6
		Semester Total =			30

Abbreviations: T (Theory), P (Practice), ECTS credit

IMPORTANT NOTES

University elective courses are taken from the pool of University Elective Courses, see Table 1.

* DDP program students of Turkish nationality must take IATA101, ITRD101, IATA102 and ITRD102 courses, see Table 2.

Table 1: IUS Pool of 6 ECTS University Courses					
Code	Title	Prerequisites	T	P	ECTS
ECON102	Globalization and Business		3	0	6
ECON111	Introduction to Microeconomics		3	0	6
ECON112	Introduction to Macroeconomics		3	0	6
IBF205	Principles of International Business		3	0	6
IR101	Introduction to International Relations		3	0	6
LAW109	Law and Ethics		3	0	6
LAW110	Introduction to Law I		3	0	6
MAN102	Introduction to Management		3	0	6
NS104	General Chemistry		3	2	6
POLS102	Introduction to Political Science		3	0	6
PSY103	Introduction to Psychology		3	0	6
SOC102	Introduction to Sociology		3	0	6
SPS120	Critical Thinking		3	0	6
SPS150	World History		3	0	6
VA121	History of Art I		3	0	6

Table 2: IUS and MU joint compulsory course pool					
Code	Title	Prerequisites	T	P	ECTS
DDP pool 1					
IATA101	Atatürk İlkeleri ve İnkılap Tarihi 1		2	0	3
ITRD101	Türk Dili 1		2	0	3
DDP pool 2					
IATA102	Atatürk İlkeleri ve İnkılap Tarihi 2	IATA101	2	0	3
ITRD102	Türk Dili 2	ITRD101	2	0	3

Genel Toplam   **ECTS : 260**

5. YARIYIL

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	CSE3000	Summer Practice I	0	0	10	10
2	CSE3033	Operating Systems	3	2	7	7
3	CSE3055	Database Systems	3	2	7	7
4	CSE3063	Object-Oriented Software Design	3	0	5	5
5	CSE3215	Digital Logic Design	3	2	6	6
6	IE3081	Modeling and Discrete Simulation	3	0	4	4
		Toplam	15	6	39	39

6. YARIYIL

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	COM2202	Technical Communications and Entrepreneurship	2	0	2	2
2	CSE3038	Computer Organization	3	2	7	7
3	CSE3044	Software Engineering	3	2	7	7
4	CSE3048	Introduction to Signals and Systems	3	0	5	5
5	CSE3264	Formal Languages and Automata Theory	3	0	5	5
6	IE3235	Operations Research	3	0	4	4
		Toplam	17	4	30	30

7. YARIYIL

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	CSE4000	Summer Practice II	0	0	10	10
2	CSE4074	Computer Networks	3	0	5	5
3	CSE4219	Principles of Embedded Systems Design	3	2	6	6
4	CSE4288	Introduction to Machine Learning	3	0	5	5
5	CSE4297	Engineering Project I	0	2	5	5
6	ENG-UE	University Elective (Ders 1)[Bu ders ENG-UE ders grubundan alınacaktır, aşağıya bakınız]	2	0	3	3
7	ISG121	İş Sağlığı ve Güvenliği I	2	0	2	2
8	T-E1	Technical Elective - 1 (Ders 1)[Bu ders T-E1 ders grubundan alınacaktır, aşağıya bakınız]	3	0	5	5
		Toplam	16	4	41	41

8. YARIYIL

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	CSE4298	Engineering Project II	0	2	5	5
2	ENG-FTE	Faculty Technical Electives (Ders 1)[Bu ders ENG-FTE ders grubundan alınacaktır, aşağıya	3	0	5	5
3	ISG122	İş Sağlığı ve Güvenliği II	2	0	2	2
4	NTE_2	Non-Technical Elective - 2 (Ders 1)[Bu ders NTE_2 ders grubundan alınacaktır, aşağıya bakınız]	2	0	3	3
5	T-E2,3,4	Technical Elective - 2,3,4 (Ders 1)[Bu ders T-E2,3,4 ders grubundan alınacaktır, aşağıya bakınız]	3	0	5	5
6	T-E2,3,4	Technical Elective - 2,3,4 (Ders 2)[Bu ders T-E2,3,4 ders grubundan alınacaktır, aşağıya bakınız]	3	0	5	5
7	T-E2,3,4	Technical Elective - 2,3,4 (Ders 3)[Bu ders T-E2,3,4 ders grubundan alınacaktır, aşağıya bakınız]	3	0	5	5
		Toplam	16	2	30	30

CSE-NTE1

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	BUS1003	Entrepreneurship and Innovation	2	0	3	3
2	BUS1004	Strategic Entrepreneurship	2	0	3	3
3	BUS2005	International Business	2	0	3	3
4	CAS1001	Self Management	2	0	3	3
5	CAS1010	Our Biosphere	2	0	3	3
6	CAS1061	Geometric Origami	2	0	3	3
7	CAS2001	Energy for Physical Activity	2	0	3	3
8	CAS2002	Human Performance and Nutrition	2	0	3	3
9	CAS2003	Cardiopulmonary Resuscitation and First Aid Basics	2	0	3	3
10	CAS2004	Interpersonal Relations and Communication	2	0	3	3
11	CAS2005	Trekking and Orienteering	2	0	3	3
12	CAS3001	Earthquake and Rescue Principles	2	0	3	3
13	CAS3044	Positive Thinking	2	0	3	3
14	COMM2060	Communication Models and Techniques	2	0	3	3
15	FNCE3003	Investment Planning	2	0	3	3
16	HR1013	Career Development	2	0	3	3
17	HR4001	Career Orientation	2	0	3	3
18	HSS3002	Ethics in Engineering and Science	2	0	3	3
19	IKT1054	Industrial and Economic Sociology	2	0	3	3
20	INF1001	Information Literacy in Engineering	2	0	3	3

ENG-UE

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	BUS1003	Entrepreneurship and Innovation	2	0	3	3
2	BUS1004	Strategic Entrepreneurship	2	0	3	3
3	BUS2005	International Business	2	0	3	3
4	CAS1001	Self Management	2	0	3	3
5	CAS1010	Our Biosphere	2	0	3	3
6	CAS1061	Geometric Origami	2	0	3	3
7	CAS2001	Energy for Physical Activity	2	0	3	3
8	CAS2002	Human Performance and Nutrition	2	0	3	3
9	CAS2003	Cardiopulmonary Resuscitation and First Aid Basics	2	0	3	3
10	CAS2004	Interpersonal Relations and Communication	2	0	3	3
11	CAS2005	Trekking and Orienteering	2	0	3	3
12	CAS3001	Earthquake and Rescue Principles	2	0	3	3
13	CAS3044	Positive Thinking	2	0	3	3
14	COMM2060	Communication Models and Techniques	2	0	3	3
15	FNCE3003	Investment Planning	2	0	3	3
16	HR1013	Career Development	2	0	3	3
17	HR4001	Career Orientation	2	0	3	3
18	HSS3002	Ethics in Engineering and Science	2	0	3	3
19	IKT1054	Industrial and Economic Sociology	2	0	3	3
20	INF1001	Information Literacy in Engineering	2	0	3	3

#	Code	Course	L	T	P	C
21	LAW2004	Labor Law	2	0	3	3
22	MAN1001	Principles of Managerial Economics & Financial Management	2	0	3	3
23	MGT1021	Design, Innovation and Entrepreneurship	2	0	3	3
24	MGT3082	Creativity and Innovation Management	2	0	3	3
25	MGT4083	Sustainability Management	2	0	3	3
26	MRK3082	Integrated Marketing Communication	2	0	3	3
27	MRK3084	Brand Creation/Branding	2	0	3	3
28	NTE1002	Effects of Human Behaviour on Environment	2	0	3	3
29	NTE1003	The Culture of Radiation Safety	2	0	3	3
30	NTE1004	World Cultures	2	0	3	3
31	NTE1006	Basic Principles of Accessibility in Informatics and Technology	2	0	3	3
32	NTE1008	Cinema	2	0	3	3
33	NTE1010	Introduction to Finance for Engineers	2	0	3	3
34	NTE1011	Business Communication	2	0	3	3
35	NTE1012	Introduction to Corporate Governance for Engineers	2	0	3	3
36	NTE1013	Business Intelligence for Managers	2	0	3	3
37	NTE1014	Introduction to Strategic Human Resources Management	2	0	3	3
38	NTE1015	Introduction to Leadership & Management for Engineers	2	0	3	3
39	NTE1016	Introduction to Strategy for Engineers	2	0	3	3
40	NTE1017	Marketing in a Technology Driven world for Engineers	2	0	3	3
41	NTE1018	Introduction to Business World for Engineers	2	0	3	3
42	NTE1019	Introduction to Programming with Python	2	0	3	3
43	NTE1020	Introduction to Angel Financing for Engineers	2	0	3	3
44	OB2040	Industrial Psychology	2	0	3	3
45	OB2041	Behavioral Sciences for Engineers	2	0	3	3
46	OB3043	Organizational Behaviour	2	0	3	3
47	SOC3082	Environmental Sociology	2	0	3	3

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
48	YDA1001	German for Beginners	2	0	3	3
49	YDA1002	German	2	0	3	3
50	YDA1003	German Communication	2	0	3	3
51	YDA2001	Seminars in German	2	0	3	3
52	YDAR1001	Arabic for Beginners	2	0	3	3
53	YDC1001	Chinese - I	2	0	3	3
54	YDC1002	Chinese - II	2	0	3	3
55	YDC1003	Chinese - III	2	0	3	3
56	YDF1001	French for Beginners	2	0	3	3
57	YDF1002	French	2	0	3	3
58	YDI1004	Report Writing in English	2	0	3	3
59	YDIS1001	Spanish for Beginners	2	0	3	3
60	YDIS1002	Spanish	2	0	3	3
61	YDJ1001	Japanese - I	2	0	3	3

T-E1

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	CSE4026	Introduction to Robotics and Control Theory	3	0	5	5
2	CSE4032	Introduction to Distributed Systems	3	0	5	5
3	CSE4034	Advanced Unix Programming	3	0	5	5
4	CSE4038	Introduction to Parallel Processing	3	0	5	5
5	CSE4040	Cloud Computing	3	0	5	5
6	CSE4044	Software Project Management	3	0	5	5
7	CSE4053	Information Systems: Analysis and Design	3	0	5	5
8	CSE4056	Management of Information Systems	3	0	5	5
9	CSE4057	Information Systems Security	3	0	5	5
10	CSE4058	Fundamentals of Electronic Commerce	3	0	5	5

ENG-FTE

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	BIOE4072	Planning and Management of Research	3	0	5	5
2	CHE4060	Cost Management in Chemical Industries	3	0	5	5
3	CHE4068	Financial Engineering	3	0	5	5
4	CHE4080	Chemical Engineering for Sustainable Biosphere	3	0	5	5
5	CSE4044	Software Project Management	3	0	5	5
6	CSE4056	Management of Information Systems	3	0	5	5
7	CSE4062	Introduction to Data Science and Analytics	3	0	5	5
8	EE4056	Introduction to Information Systems Management	3	0	5	5
9	EE4062	Introduction to Image Processing	3	0	5	5

#	Code	Course				
11	CSE4059	Internet Programming	3	0	5	5
12	CSE4061	Compiler Design	3	0	5	5
13	CSE4062	Introduction to Data Science and Analytics	3	0	5	5
14	CSE4063	Fundamentals of Data Mining	3	0	5	5
15	CSE4065	Introduction to Computational Genomics	3	0	5	5
16	CSE4066	Introduction to Cryptography	3	0	5	5
17	CSE4067	Introduction to Blockchain Programming	3	0	5	5
18	CSE4070	Software Frameworks	3	0	5	5
19	CSE4075	Wireless and Mobile Networks	3	0	5	5
20	CSE4077	Advanced Data Structures	3	0	5	5
21	CSE4078	Introduction to Natural Language Processing	3	0	5	5
22	CSE4079	Introduction to Deep Learning	3	0	5	5
23	CSE4082	Artificial Intelligence	3	0	5	5
24	CSE4083	Computer Graphics	3	0	5	5
25	CSE4084	Multimedia Systems	3	0	5	5
26	CSE4085	Human Computer Interaction	3	0	5	5
27	CSE4086	Mobile Device Programming	3	0	5	5

#	Code	Course				
10	ENVE4062	Energy and the Environment	3	0	5	5
11	ENVE4063	Construction Materials for Environmental Engineering	3	0	5	5
12	IE4055	Design of Experiments	3	0	5	5
13	IE4087	Introduction to Total Quality Management	3	0	5	5
14	ME3004	Mathematical Modeling in Mechanical Engineering	3	0	5	5
15	ME3022	Mechatronics	3	0	5	5
16	ME4018	Introduction to Robotics	3	0	5	5
17	ME4022	Control Systems	3	0	5	5
18	ME4033	Designing Quality Products	3	0	5	5
19	ME4051	Automotive Engineering	3	0	5	5
20	MGT4076	Quality Management System in Automotive Industry	3	0	5	5
21	MGT4078	Sustainable Innovation and Circular Economy	3	0	5	5
22	MGT4082	Advanced Innovative Design Management for Entrepreneurship	3	0	5	5
23	MGT4084	Innovation and New Product Development Management	3	0	5	5
24	MGT4086	Managing Engineering and Technology	3	0	5	5

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
27	CSE4080	Mobile Device Programming	3	0	5	5
28	CSE4093	Special Topics in Computer Engineering I	3	0	5	5
29	CSE4094	Special Topics in Computer Engineering II	3	0	5	5
30	CSE4095	Special Topics in Computer Engineering III	3	0	5	5
31	CSE4096	Special Topics in Computer Engineering IV	3	0	5	5
32	CSE4217	Microprocessors	3	0	5	5
33	DP.TE1	Exchange Program Technical Elective-1	3	0	5	5
34	DP.TE2	Exchange Program Technical Elective-2	3	0	5	5
35	DP.TE3	Exchange Program Technical Elective-3	3	0	5	5
36	DP.TE4	Exchange Program Technical Elective-4	3	0	5	5
37	DP.TE5	Exchange Program Technical Elective-5	3	0	5	5
38	DP.TE6	Exchange Program Technical Elective-6	3	0	5	5
39	DP.TE7	Exchange Program Technical Elective-7	3	0	5	5

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
25	MGT4088	Project Management for Engineers	3	0	5	5
26	MGT4090	Business Management for Engineers	3	0	5	5
27	MSE4073	Materials Engineering Economics and Plant Design	3	0	5	5
28	MSE4074	Total Quality Management in Materials Engineering	3	0	5	5

T-E2,3,4

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	CSE4026	Introduction to Robotics and Control Theory	3	0	5	5
2	CSE4032	Introduction to Distributed Systems	3	0	5	5
3	CSE4034	Advanced Unix Programming	3	0	5	5
4	CSE4038	Introduction to Parallel Processing	3	0	5	5
5	CSE4040	Cloud Computing	3	0	5	5
6	CSE4044	Software Project Management	3	0	5	5
7	CSE4053	Information Systems: Analysis and Design	3	0	5	5
8	CSE4056	Management of Information Systems	3	0	5	5

NTE_2

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
1	BUS1003	Entrepreneurship and Innovation	2	0	3	3
2	BUS1004	Strategic Entrepreneurship	2	0	3	3
3	BUS2005	International Business	2	0	3	3
4	CAS1001	Self Management	2	0	3	3
5	CAS1010	Our Biosphere	2	0	3	3
6	CAS1061	Geometric Origami	2	0	3	3
7	CAS2001	Energy for Physical Activity	2	0	3	3
8	CAS2002	Human Performance and Nutrition	2	0	3	3
9	CAS2003	Cardiopulmonary Resuscitation and First Aid Basics	2	0	3	3
10	CAS2004	Interpersonal Relations and Communication	2	0	3	3
11	CAS2005	Trekking and Orienteering	2	0	3	3
12	CAS3001	Earthquake and Rescue Principles	2	0	3	3
13	CAS3044	Positive Thinking	2	0	3	3
14	COMM2060	Communication Models and Techniques	2	0	3	3
15	FNCE3003	Investment Planning	2	0	3	3
16	HR1013	Career Development	2	0	3	3

No	Ders Kodu	Ders Adı	T	U	Kredi	ECTS
9	CSE4057	Information Systems Security	3	0	5	5
10	CSE4058	Fundamentals of Electronic Commerce	3	0	5	5
11	CSE4059	Internet Programming	3	0	5	5
12	CSE4061	Compiler Design	3	0	5	5
13	CSE4062	Introduction to Data Science and Analytics	3	0	5	5
14	CSE4063	Fundamentals of Data Mining	3	0	5	5
15	CSE4065	Introduction to Computational Genomics	3	0	5	5
16	CSE4066	Introduction to Cryptography	3	0	5	5
17	CSE4067	Introduction to Blockchain Programming	3	0	5	5
18	CSE4070	Software Frameworks	3	0	5	5
19	CSE4075	Wireless and Mobile Networks	3	0	5	5
20	CSE4077	Advanced Data Structures	3	0	5	5
21	CSE4078	Introduction to Natural Language Processing	3	0	5	5
22	CSE4079	Introduction to Deep Learning	3	0	5	5
23	CSE4082	Artificial Intelligence	3	0	5	5
24	CSE4083	Computer Graphics	3	0	5	5
25	CSE4084	Multimedia Systems	3	0	5	5

16	HR1013	Career Development	2	0	3	3
17	HR4001	Career Orientation	2	0	3	3
18	HSS3002	Ethics in Engineering and Science	2	0	3	3
19	IKT1054	Industrial and Economic Sociology	2	0	3	3
20	INF1001	Information Literacy in Engineering	2	0	3	3
21	LAW2004	Labor Law	2	0	3	3
22	MAN1001	Principles of Managerial Economics & Financial Management	2	0	3	3
23	MGT1021	Design, Innovation and Entrepreneurship	2	0	3	3
24	MGT3082	Creativity and Innovation Management	2	0	3	3
25	MGT4083	Sustainability Management	2	0	3	3
26	MRK3082	Integrated Marketing Communication	2	0	3	3
27	MRK3084	Brand Creation/Branding	2	0	3	3
28	NTE1002	Effects of Human Behaviour on Environment	2	0	3	3
29	NTE1003	The Culture of Radiation Safety	2	0	3	3
30	NTE1004	World Cultures	2	0	3	3
31	NTE1006	Basic Principles of Accessibility in Informatics and Technology	2	0	3	3
32	NTE1008	Cinema	2	0	3	3
33	NTE1010	Introduction to Finance for Engineers	2	0	3	3

26	CSE4085	Human Computer Interaction	3	0	5	5
27	CSE4086	Mobile Device Programming	3	0	5	5
28	CSE4093	Special Topics in Computer Engineering I	3	0	5	5
29	CSE4094	Special Topics in Computer Engineering II	3	0	5	5
30	CSE4095	Special Topics in Computer Engineering III	3	0	5	5
31	CSE4096	Special Topics in Computer Engineering IV	3	0	5	5
32	CSE4217	Microprocessors	3	0	5	5
33	DP.TE1	Exchange Program Technical Elective-1	3	0	5	5
34	DP.TE2	Exchange Program Technical Elective-2	3	0	5	5
35	DP.TE3	Exchange Program Technical Elective-3	3	0	5	5
36	DP.TE4	Exchange Program Technical Elective-4	3	0	5	5
37	DP.TE5	Exchange Program Technical Elective-5	3	0	5	5
38	DP.TE6	Exchange Program Technical Elective-6	3	0	5	5
39	DP.TE7	Exchange Program Technical Elective-7	3	0	5	5

34	NTE1011	Business Communication	2	0	3	3
35	NTE1012	Introduction to Corporate Governance for Engineers	2	0	3	3
36	NTE1013	Business Intelligence for Managers	2	0	3	3
37	NTE1014	Introduction to Strategic Human Resources Management	2	0	3	3
38	NTE1015	Introduction to Leadership & Management for Engineers	2	0	3	3
39	NTE1016	Introduction to Strategy for Engineers	2	0	3	3
40	NTE1017	Marketing in a Technology Driven world for Engineers	2	0	3	3
41	NTE1018	Introduction to Business World for Engineers	2	0	3	3
42	NTE1019	Introduction to Programming with Python	2	0	3	3
43	NTE1020	Introduction to Angel Financing for Engineers	2	0	3	3
44	OB2040	Industrial Psychology	2	0	3	3
45	OB2041	Behavioral Sciences for Engineers	2	0	3	3
46	OB3043	Organizational Behaviour	2	0	3	3
47	SOC3082	Environmental Sociology	2	0	3	3
48	YDA1001	German for Beginners	2	0	3	3
49	YDA1002	German	2	0	3	3
50	YDA1003	German Communication	2	0	3	3
51	YDA2001	Seminars in German	2	0	3	3
52	YDAR1001	Arabic for Beginners	2	0	3	3
53	YDC1001	Chinese - I	2	0	3	3
54	YDC1002	Chinese - II	2	0	3	3
55	YDC1003	Chinese - III	2	0	3	3
56	YDF1001	French for Beginners	2	0	3	3
57	YDF1002	French	2	0	3	3
58	YDI1004	Report Writing in English	2	0	3	3
59	YDIS1001	Spanish for Beginners	2	0	3	3
60	YDIS1002	Spanish	2	0	3	3
61	YDJ1001	Japanese - I	2	0	3	3