

## CURRICULUM

Code of the course according to ECTS

- **FTE No** – fundamental subjects;
- **TBE No**
- **T** – type of course: **B** - “bachelor”, **M** - “master”;
- **CS** - “Computer systems and technologies”;
- **No** – sequence number of the subject;

Lectures (L), tutorials (Tut), labs (Lab) weekly; Exam (E), Continuous Assessment (CA); Semester Project (SP), Semester Assignment /course work/ (SA)

No	SUBJECT	Week load					Assessment				ECTS Code	ECTS credits
		L	Tut	Lab	Acad total	Self study	Total	E	CA	SP		

### SEMESTER I

1	Introduction to the specialty	(1)	0	0	(1)							FBE01	0
2	Mathematics I	3	2	0	5	5	10	1				FBE02	7
3	Physics I	2	0	1	3	5	8	1				FBE03	5
4	Chemistry	1	0	1	2	5	7	1				FBE04	4
5	Programming and Computer Applications – I	2	0	2	4	6	10		1		1	FBE05	6
6	Bases of engineer design -1	1	0	2	3	5	8		1*		1	FBE06	4
7	Economics	2	1	0	3	4	7		1			FBE07	4
8	Foreign Language	0	(2)	0	(2)	(4)	(6)		1*			FBE08	0
9	Sport	0	(3)	0	(3)	(3)	(6)					FBE09	0
TOTAL		11	3	6	20	30	50	3	3		2		30

### SEMESTER II

10	Mathematics II	3	2	0	5	5	10	1				FBE10	6
11	Physics II	2	1	1	4	6	10	1				FBE11	5
12	Materials Science	2	0	1	3	3	6	1				FBE12	4
13	Mechanics	2	0	1	3	3	6	1			1	FBE13	5
14	Programming and Computer Applications – II	2	0	2	4	6	10		1		1	FBE14	6
15	Technology practicum	0	1	(2)	1	0	1					FBE15	1
16	Bases of engineer design - part II	1	0	2	3	4	7		1*			FBE16	3
17	Foreign Language	0	(2)	0	(2)	(4)	(6)		1*			FBE17	0
18	Sport	0	(3)	0	(3)	(3)	(6)					FBE18	0
TOTAL		12	4	7	23	27	50	4	2		2		30

\* continuous assessment with one grade for two semesters

No	SUBJECT	Week load						Assessment				ECTS Code	ECTS credits
		L	Tut	Lab	Acad total	Self study	Total	E	CA	SP	SA		

### SEMESTER III

19	Mathematics III	2	2	0	4	6	10	1				FBE19	6
20	Electrical Engineering Theory – Part 1	3	2	1	6	5	11	1			1	FBE20	7
21	Electrical measurements	2	0	1	3	6	9	1				FBE21	5
22	Semiconductor elements	3	0	2	5	5	10	1				FBE22	6
23	Programming and Usage of Computers Part III	2	0	2	4	6	10		1			FBE23	6
24	Foreign Language	0	(2)	0	(2)	(4)	(6)		1			FBE24	0
25	Sport	0	(3)	0	(3)	(3)	(6)					FBE25	0
TOTAL		12	4	6	22	28	50	4	2		1		30

### SEMESTER IV

26	Technical safety	2	0	1	3	4	7		1			BCS26	3
27	Operating systems	2	0	2	4	5	9		1		1	BCS27	5
28	Discrete structures	2	1	1	4	5	9	1				BCS28	5
29	Synthesis and analysis of algorithms	2	0	2	4	5	9	1				BCS29	6
30	Signals and systems	2	0	2	4	4	8	1				BCS30	5
31	Analysis and design of logic circuits	2	0	2	4	4	8	1				BCS31	6
32	Foreign Language	0	(2)	0	(2)	(4)	(6)					FBE32	0
33	Sport	0	(3)	0	(3)	(3)	(6)					FBE33	0
TOTAL		12	1	10	23	27	50	4	2		1		30

### SEMESTER V

34	Computer organization	2	0	2	4	4	8	1				BCS34	5
35	Microprocessors	2	0	2	4	4	8	1				BCS35	5
36	Computer peripherals	2	0	2	4	4	8		1			BCS36	5
37	Databases	2	0	2	4	5	9	1			1	BCS37	5
38	Programming languages	2	0	2	4	5	9		1		1	BCS38	5
39	Digital circuits	2	0	2	4	4	8	1				BCS39	5
TOTAL		12	0	12	24	26	50	4	2		2		30

No	SUBJECT	Week load						Assessment				ECTS Code	ECTS credits
		L	Tut	Lab	Acad total	Self study	Total	E	CA	SP	SA		

### SEMESTER VI

40	Computer architectures	2	0	2	4	4	8	1				BCS40	5
41	Programming environments	2	0	2	4	4	8	1				BCS41	4
42	Compulsory elective subject (List 2)	2	0	2	4	4	8	1				BCS42	4
43	Compulsory elective subject (List 3)	2	0	2	4	4	8	1				BCS43	5
44	Compulsory elective subject (List 4)	2	0	2	4	4	8		1		1	BCS44	5
45	Optional management subject (List 1)	2	2	0	4	4	8		1			BCS45	4
46	Project (selection of subj. 34 ÷ 39)	0	0	0	0	2	2			1		BCS46	3
TOTAL		12	2	10	24	26	50	4	2	1	1		30

### SEMESTER VII

47	Computer networks	2	0	2	4	4	8	1				BCS47	5
48	Parallel programming	2	0	2	4	4	8	1				BCS48	5
49	Compulsory elective subject (List 5)	2	0	2	4	4	8		1			BCS49	4
50	Compulsory elective subject (List 6)	2	0	2	4	4	8	1				BCS50	5
51	Computer graphics	2	0	2	4	4	8	1				BCS51	5
52	Optional subject (List 7)	2	0	2	4	4	8		1		1	BCS52	4
53	Project (selection of subj. 40 ÷ 44)	0	0	0	0	2	2			1		BCS53	2
TOTAL		12	0	12	24	26	50	4	2	1	1		30

### SEMESTER VIII – 10 weeks

54	Compulsory elective subject (List 8)	3	0	2	5	6	11	1				BCS54	5
55	Compulsory elective subject (List 9)	3	0	2	5	6	11	1				BCS55	4
56	Compulsory elective subject (List 10)	3	0	2	5	6	11	1				BCS56	4
57	Compulsory elective subject (List 11)	3	0	2	5	6	11	1				BCS57	4
58	Project (selection of subj. 47 ÷ 57)	0	0	0	0	6	6			1		BCS58	3
Diploma project – 15 weeks		Diploma Project Defense										10	
TOTAL		12	0	8	20	30	50	4		1			30

## Lists of optional subjects

### **List 1 Optional management subject (ECTS 4)**

Industrial management	BCS45.1
Small firm management	BCS45.2
Marketing	BCS45.3
Management	BCS45.4

### **List 2 Compulsory elective subject (ECTS 4)**

Microprocessor systems	BCS42.1
Object-oriented programming	BCS42.2
Expert systems	BCS42.3

### **List 3 Compulsory elective subject (ECTS 4)**

Information and Control Systems	BCS43.1
Technology of programming	BCS43.2
Agent-based technology	BCS43.3

### **List 4 Compulsory elective subject (ECTS 4)**

Object-oriented programming	BCS44.1
Design and testing of software	BCS44.2
Information and Control Systems	BCS44.3

### **List 5 Compulsory elective subject (ECTS 4)**

Computer system design	BCS49.1
Analysis of operations and application programming	BCS49.2
Cryptographic methods for data protection	BCS49.3

### **List 6 Compulsory elective subject (ECTS 4)**

Test and diagnostics of computer systems	BCS50.1
Theory of formal languages	BCS50.2
Computer modeling	BCS50.3

### **List 7 Optional subject (ECTS 4)**

Tools and systems for processing of analog information	BCS52.1
Industrial micro-controllers	BCS52.2
Applied information systems	BCS52.3

### **List 8 Compulsory elective subject (ECTS 4)**

High-performance computer systems	BCS54.1
Functional programming	BCS54.2
Computer intelligence	BCS54.3

### **List 9 Compulsory elective subject (ECTS 4)**

Reconfigurable logic	BCS55.1
Language processors	BCS55.2
Digital image processing	BCS55.3

### **List 10 Compulsory elective subject (ECTS 4)**

System programming	BCS56.1
Component programming	BCS56.2
Management of IT projects	BCS56.3

**Note:** lists of optional subjects can be changed prior to every corresponding semester