TECHNICAL UNIVERSITY OF VARNA

Ratified by:
Rector: ……
/Prof. Dragomir Dimitrov, PhD/

C U R R I C U L U M

Proffesional orientation: **COMMUNICATIONS AND COMPUTER ENGINEERING**
Educational and qualification degree: **BACHELOR**
Programme: **COMPUTING (in English Language)**
Proffesional qualification: **COMPUTER ENGINEER**
Form of study: **FULL - TIME**
Term of study: **4 YEARS / 8 SEMESTERS**

Number	Subject name	Types of term control				Auditorium load						Unsupervised load	Total work hours	ECTS credits
		Examination	Progressive assesment	Course project	Approved	Lectures	Seminars			Laboratories	Total load			
							Seminar exercises	Course project	Course work					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Mathematics, part 1		*			30	30				60	120	180	7
2	Computer Systems Fundamentals		*			15				30	45	120	165	6
3	Programming Fundamentals	*				30	30			30	90	130	220	8
4	Electrical Engineering		*			30				30	60	100	160	6
5	Foreign Language		*				30				30	30	60	2
6	*Elective Subject*				*							30	30	1
a	Specialized Sport Activities, part 1													
b	Adapted Physical Activity*													
	Total for the 1 semester:	**1**	**4**	**0**	**1**	**105**	**90**	**0**	**0**	**90**	**285**	**530**	**815**	**30**
7	Mathematics, part 2	*				30	30				60	120	180	7
8	Algorithms and Data Structures	*				30				30	60	120	180	7
9	Digital Logic	*				30	15			30	75	120	195	7
10	Electronics		*			30				30	60	120	180	7
11	Practical Training, part 1				*							30	30	1
12	*Elective Subject*				*							30	30	1
a	Specialized Sport Activities, part 2													
b	Adapted Physical Activity*					(30)	(15)				(45)	(75)	(120)	(4)
	Total for the 2 semester:	**3**	**1**	**0**	**2**	**120**	**45**	**0**	**0**	**90**	**255**	**540**	**795**	**30**
13	Discrete Structures	*				30	30				60	100	160	6
14	Electrical Measurements	*				30				30	60	80	140	5
15	Object-Oriented Programming Fundamentals (C++)	*				30				30	60	120	180	7
16	Web Design		*			15				30	45	75	120	4

Number	Subject name	Types of term control				Auditorium load						Unsupervised load	Total work hours	ECTS credits
		Examination	Progressive assesment	Course project	Approved	Lectures	Seminars			Laboratories	Total load			
							Seminar exercises	Course project	Course work					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
17	Computer Organization	*				30				30	60	120	180	7
18	Practical Training, part 2				*							30	30	1
19	*Elective Subject*				*							30	30	1
a	Specialized Sport Activities, part 3													
b	Adapted Physical Activity*													
	Total for the 3 semester:	**4**	**1**	**0**	**2**	**135**	**30**	**0**	**0**	**120**	**285**	**555**	**840**	**31**
20	Advanced Object-Oriented Programming (Java)	*				30				30	60	100	160	6
21	System Analysis	*				30	30				60	80	140	5
22	Microprocessors	*				30				30	60	100	160	6
23	Programming Systems	*				30				30	60	80	140	5
24	Digital Systems		*			30				30	60	80	140	5
25	*Elective Subject - project*			*				30			30	30	60	2
a	Object-Oriented Programming Fundamentals (C++)													
b	WEB Design													
c	Computer Organization													
d	Discrete Structures													
e	Electronics													
26	*Elective Subject*				*							30	30	1
a	Specialized Sport Activities, part 4													
b	Adapted Physical Activity*													
	Total for the 4 semester:	**4**	**1**	**1**	**1**	**150**	**30**	**30**	**0**	**120**	**330**	**500**	**830**	**30**
27	Computer Graphics and Virtual Reality		*			30				30	60	80	140	5
28	Software Engineering	*				30				30	60	100	160	6
29	Data Bases	*				30				30	60	80	140	5
30	Computer Architectures	*				30				30	60	100	160	6
31	Computer Communications Fundamentals	*				30				30	60	100	160	6
32	*Elective Subject - project*			*				30			30	30	60	2
a	Advanced Object-Oriented Programming (Java),													
b	Microprocessors													
c	Programming Systems													
d	Digital Systems													
e	System Analysis													
	Total for the 5 semester:	**4**	**1**	**1**	**0**	**150**	**0**	**30**	**0**	**150**	**330**	**490**	**820**	**30**
33	Artificial Intelligence	*				30				30	60	80	140	5
34	Microprocessor Systems	*				30				30	60	100	160	6
35	Computer Networks	*				30				30	60	100	160	6
36	Computer Peripherals		*			30				30	60	80	140	5
37	Operating Systems	*				30				30	60	100	160	6
38	Specialized Practice				*						0	150	150	5
39	*Elective Subject - project*			*				30			30	30	60	2
a	Software Engineering													

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		Examination	Progressive assesment	Course project	Approved	Lectures	Seminars			Laboratories	Total load			
							Seminar exercises	Course project	Course work					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Data Bases													
c	Computer Architectures													
d	Computer Communications Fundamentals													
e	Computer Graphics and Virtual Reality													
	Total for the 6 semester:	**4**	**1**	**1**	**1**	**150**	**0**	**30**	**0**	**150**	**330**	**640**	**970**	**35**
40	*Elective Subject*	*				30				30	60	120	180	7
a	Compilers and Interpreters													
b	Multi-User Operating Systems													
41	Networks Administration	*				30				30	60	140	200	8
42	Embedded Systems	*				30				30	60	140	200	8
43	*Elective Subject*	*				15				30	45	75	120	4
a	Web Programming													
b	Human Computer Interaction													
44	Practical Training, part 3				*							30	30	1
45	*Elective Subject - project*			*				30			30	30	60	2
a	Artificial Intelligence													
b	Microprocessor Systems													
c	Computer Networks													
d	Computer Peripherals													
e	Operating Systems													
	Total for the 7 semester:	**4**	**0**	**1**	**1**	**105**	**0**	**30**	**0**	**120**	**255**	**535**	**790**	**30**
46	*Elective Subject 1*	*				30				30	60	140	200	8
47	*Elective Subject 2*	*				30				30	60	140	200	8
48	*Elective Subject 3*	*				30				30	60	140	200	8
	Elective Subject:													
1	Block-chain Technologies and Applications													
2	Natural Language Processing													
3	Embedded Microcontrollers													
4	Cryptography and Data Protection													
5	Corporate Management													
6	Script Languages													
7	Programmable Logic Design													
8	Data Modeling and Analysis													
9	Programming for Mobile Devices													
10	Object-Oriented Applications													
11	E-commerce													
12	Computer and Network Security													
	Total for the 8 semester:	**3**	**0**	**0**	**0**	**90**	**0**	**0**	**0**	**90**	**180**	**420**	**600**	**24**
	Totals for the whole course of education:	**27**	**9**	**4**	**8**	**1005**	**195**	**120**	**0**	**930**	**2250**	**4210**	**6460**	**240**

Number	Subject name	Types of term control				Auditorium load						Unsupervised load	Total work hours	ECTS credits
		Examination	Progressive assesment	Course project	Approved	Lectures	Seminars			Laboratories	Total load			
							Seminar exercises	Course project	Course work					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Facultative Subjects													
1	Business Entrepreneurship	7				30	30				60	60	120	4
2	Creativity and Methods for Generating New Ideas	6				30	30				60	60	120	4
3	Intellectual Property Law	6				30	30				60	60	120	4
4	Commercial Law	5				30	30				60	60	120	4
5	Team Management	4				30	30				60	60	120	4
6	Introduction in Competitive Programming		3				15			45	60	60	120	4
7	Competitive Programming		4				15			45	60	60	120	4
8	Advanced Competitive Programming		5				15			45	60	60	120	4
9	Bulgarian Language				1,2		60				60	60	120	4

Types of graduation	Semester	Unsupervised load	ECTS credits
Preparation of Diploma Thesis / Preparation for State Examination	8	300	10
Defence of Diploma Thesis / State Examination			

Note:

* The discipline "Adapted Physical Activity" is an alternative to "Specialized Sport Activities", it is studied in the second semester and is intended for students who cannot do sports for health reasons.

Approved by the Academic Board of TU-Varna:

Protocol № 22 / 28.10.2024

Modified with Protocols:

Valid from the 2024/2025 academic year.

The weekly allocation of the classes is fixed according to the "Structure of the Learning Process" Academic Board adopted for the current academic year.

Head of Department:
/ Prof. V. Aleksieva, PhD/

Dean of Faculty:
/Assoc. Prof. M. Alexandrova, PhD /