



TECHNICAL UNIVERSITY OF VARNA

Ratified by:

Rector:

/Prof. Dragomir Dimitrov, PhD/

CURRICULUM

Professional orientation: **COMMUNICATIONS AND COMPUTER ENGINEERING**

Educational and qualification degree: **BACHELOR**

Programme: **SOFTWARE AND INTERNET TECHNOLOGIES (in English Language)**

Professional 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 assessment	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	45				75	115	190	7
2	Web Design		*			15				30	45	130	175	7
3	Programming Fundamentals	*				30	30			30	90	110	200	8
4	Electronics		*			30				30	60	115	175	7
5	<i>Elective Subject</i>				*							30	30	1
a	Specialized Sport Activities, part 1													
b	Adapted Physical Activity*													
Total for the 1 semester:		1	3	0	1	105	75	0	0	90	270	500	770	30
6	Mathematics, part 2	*				30	30			15	75	165	240	9
7	Algorithms and Data Structures	*				30				30	60	165	225	9
8	Digital Logic	*				30	30				60	140	200	8
9	Foreign Language		*				45				45	45	90	3
10	<i>Elective Subject</i>				*							30	30	1
a	Specialized Sport Activities, part 2													
b	Adapted Physical Activity*					(30)	(15)				(45)	(75)	(120)	(4)
11	Practical Training, part 1				*							30	30	1
Total for the 2 semester:		3	1	0	2	90	105	0	0	45	240	575	815	31
12	Discrete Structures		*			30	30				60	90	150	6
13	Data Bases		*			30				30	60	90	150	6

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							Seminar exercises	Course project	Course work					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
14	Object-Oriented Programming Fundamentals (C++)	*				30				30	60	115	175	7
15	Computer Organization	*				30				30	60	90	150	6
16	System Analysis	*				30	30				60	90	150	6
17	Elective Subject				*							30	30	1
a	Specialized Sport Activities, part 3													
b	Adapted Physical Activity*													
Total for the 3 semester:		3	2	0	1	150	60	0	0	90	300	505	805	32
18	Advanced Object-Oriented Programming (Java)	*				30				30	60	90	150	6
19	Web Design	*				30				30	60	90	150	6
20	Microprocessors		*			15				30	45	80	125	5
21	Programming Systems	*				30				30	60	65	125	5
22	Graphic Systems		*			30				30	60	90	150	6
23	Object-Oriented Programming Fundamentals (C++), project			*				30			30	30	60	2
24	Elective Subject				*							30	30	1
a	Specialized Sport Activities, part 4													
b	Adapted Physical Activity*													
25	Practical Training, part 2				*							30	30	1
Total for the 4 semester:		3	2	1	2	135	0	30	0	150	315	505	820	32
26	Operating Systems Principles	*				30				30	60	90	150	6
27	Software Requirements and Specifications		*			30				30	60	65	125	5
28	Database Programming	*				30				30	60	90	150	6
29	Computer Networks and Internet	*				30				30	60	90	150	6
30	Software Production Technology	*				30				30	60	90	150	6
31	Elective Subject , project			*				30			30	30	60	2
a	Programming Systems													
b	Advanced Object-Oriented Programming (Java)													
c	Web Programming													
d	Graphic Systems													
Total for the 5 semester:		4	1	1	0	150	0	30	0	150	330	455	785	31
32	System Programming	*				30				30	60	90	150	6
33	Internet Servers and Services	*				30				30	60	65	125	5
34	Software Projects Management		*			30				30	60	65	125	5
35	User Interface Design		*			15				30	45	80	125	5
36	Elective Subject	*				30				30	60	90	150	6
a	Script Languages and Functional Programming													
b	Internet Technologies													
37	Elective Subject, project			*				30			30	30	60	2
a	Operating Systems Principles													

Number	Subject name	Types of term control				Auditorium load						Unsupervised load	Total work hours	ECTS credits
		Examination	Progressive assessment	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	Computer Networks and Internet													
c	Software Production Technology													
d	Database Programming													
38	Specialized Practice				*						0	150	150	5
Total for the 6 semester:		3	2	1	1	135	0	30	0	150	315	570	885	34
39	Network Administration	*				30				30	60	90	150	6
40	Language Processors	*				30				30	60	90	150	6
41	Artificial Intelligence		*			30				30	60	90	150	6
42	Programming for Mobile Internet Devices	*				30				30	60	90	150	6
43	Elective Subject		*			30				30	60	90	150	6
a	Internet Information Retrieval													
b	Fundamentals of Cyber Security													
44	Practical Training, part 3				*							30	30	1
Total for the 7 semester:		3	2	0	1	150	0	0	0	150	300	480	780	31
45	Elective Subject 1	*				30				30	60	115	175	7
46	Elective Subject 2	*				30				30	60	115	175	7
47	Elective Subject 3	*				30				30	60	115	175	7
	Elective Subject:													
1	Office Technologies													
2	Distributed Processing in Internet													
3	Corporate Management													
4	Multimedia Systems and Technologies													
5	Object-Oriented Applications													
6	Information Systems													
7	Cloud Technologies													
8	E-commerce													
9	Team Management													
10	Cryptography and Data Protection													
11	Business Intelligence Systems													
12	Data Modeling and Analysis													
13	Renewable Energy Sources - Principles and Software Solutions													
14	Time Management													
15	Functional Programming Languages													
16	Fundamentals of Machine Learning													
Total for the 8 semester:		3	0	0	0	90	0	0	0	90	180	345	525	21
Totals for the whole course of education:		23	13	3	8	1005	240	90	0	915	2250	3935	6185	242

Number	Subject name	Types of term control				Auditorium load						Unsupervised load	Total work hours	ECTS credits
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Facultative Subjects														
1	Leadership and Teamwork		7			30	30				60	60	120	4
2	Principles of Law		5			30	30				60	60	120	4
3	Psychology of Stress		5			30	30				60	60	120	4
4	Business and Entrepreneurship		7			30	30				60	60	120	4
5	Creativity and Methods for Generating New Ideas		6			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:

/Assoc. Prof. H. Nenov, PhD/

Dean of Faculty:

/Assoc. Prof. M. Alexandrova, PhD /