



## TECHNICAL UNIVERSITY OF VARNA

**Ratified by:**  
**Rector**.....

/Prof. Rosen Vasilev, DSc/

## CURRICULUM

Professional orientation: **ELECTRICAL ENGINEERING, ELECTRONICS AND AUTOMATION**

Educational and qualification degree: **MASTER**

Programme: **ELECTRONICS**

Professional qualification: **MASTER - ENGINEER**

Mode of study: **FULL - TIME**

Length of study: **1,5 years / 3 semesters**

For holders of educational and qualificational degree "Bachelor" in specialities of professional orientation 5.2.Electrical Engineering, Electronics and Automation, 5.3. Communications and Computer Engineering and 5.4.Energetics

Number	Subject Name	Forms of assessment				Weekly auditorium load						Unsupervised load	Whole load of students	ECTS credits
		Exams	Inter-semester Evaluation	Course project	Accepted	Lectures	Seminars			Laboratory Exercises	Total load			
							Seminar Exercises	Course project	Assignment					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	(v)HDL - Based Design		*			30				30	60	105	165	6
2	Mobile and Wireless Technologies		*			30				30	60	130	190	7
3	Reliability of Electronic Equipment	*				30				30	60	130	190	7
4	<i>Optional Subject</i>	*				30				30	60	130	190	7
a	Electronic Converters for Renewable Energy Sources													
b	Biomedical Signal Processing													
c	Microelectronic Circuits													
5	<i>Optional Subject, project</i>			*				30			30	60	90	3
a	Electronic Converters for Renewable Energy Sources, project													
b	Biomedical Signal Processing, project													
c	Microelectronic Circuits, project													
<b>Total for the 1 semester:</b>		<b>2</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>120</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>120</b>	<b>270</b>	<b>555</b>	<b>825</b>	<b>30</b>
6	Certification of Electronic Equipment and "CE" marking		*			30				30	60	105	165	6
7	Digital System Design with FPGA	*				30				30	60	105	165	6
8	Virtual Instruments in Electronics		*			30				30	60	105	165	6
9	Power Electronic Appliances	*				30				30	60	105	165	6
10	<i>Optional Subject</i>	*				30				30	60	105	165	6
a	Computer Modeling and Design of Power Electronic Converters													
b	Medical Electronic Equipment													
c	Design of Analogue Integrated Circuits													
11	<i>Optional Subject, project</i>			*				30			30	60	90	3
a	Computer Modeling and Design of Power Electronic Converters, project													
b	Medical Electronic Equipment, project													

Number	Subject Name	Forms of assessment				Weekly auditorium load						Unsupervised load	Whole load of students	ECTS credits
		Exams	Inter-semester Evaluation	Course project	Accepted	Lectures	Seminars			Laboratory Exercises	Total load			
							Seminar Exercises	Course project	Assignment					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	Design of Analogue Integral Circuits, project													
<b>Total for the 2 semesters:</b>		<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>150</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>150</b>	<b>330</b>	<b>585</b>	<b>915</b>	<b>33</b>
<b>Totals for the whole course of education</b>														
		<b>5</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>270</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>270</b>	<b>600</b>	<b>1140</b>	<b>1740</b>	<b>63</b>
<b>Facultative Subjects</b>														
1	Human Anatomy and Physiology		1			30				15	45	60	105	4
2	Environmental Electronics		1			30				15	45	60	105	4
3	Patents and Protection of Intellectual Property		1			30	15				45	60	105	4
4	Engineering Design in Electronics		1			30				15	45	60	105	4
5	Entrepreneurship		1			30	15				45	60	105	4

Types of graduation	Semester	Unsupervised load	ECTS credits
Preparation of Diploma Thesis	<b>3</b>	<b>450</b>	<b>15</b>
Defense of Diploma Thesis			

**Note:**

- The curriculum is valid for the training in Bulgarian and English
- Students are divided into no more than 2 of the optional subjects, with higher average success being a ranking advantage.
- The Students acquire "specialization" at studying optional subjects marked with indices:
  - Specialization "Industrial Electronics" (disciplines 4a, 5a, 10a, 11a)
  - Specialization "Medical Electronics" (disciplines 4b, 5b, 10b, 11b)
  - Specialization "Microelectronics" (disciplines 4c, 5c, 10c, 11c)

**Approved by the Academic Board of TU-Varna:**

Protocol № 11 / 06.06.2016

Modified with Protocols: № 24 / 30.10.2017

**Valid from 2017/2018 academic year**

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

Head of Department:

/Assoc. Prof. D. Kovachev, PhD/

Dean of Faculty:

/Assoc. Prof. N. Nikolov, PhD/