No. 8

Course syllabus for First cycle studies					
1.	**Course title**	Fundamentals of Engineering Technology 2			
2.	**Code**	FTM2M4			
3.	**Study Program**	Clothing Design and Engineering			
4.	**Study program organizer (unit, institute, department, division)**	Faculty of Technology and Metallurgy			
5.	**Degree (first, second, third cycle)**	First			
6.	**Academic year / semester**	1 year 2 semester	7.	**Number of ECTS**	7
8.	**Instructors**	Prof. Dr. Irena Mickova			
9.	**Prerequisites for course enrollment**				
10.	**Objectives of the course syllabus (competences):** The objective of the course is for students to acquire basic knowledge of electrical engineering. **Acquired skills (competences):**				
11.	**Course content:** Atomic structure and models. Electricity and electrical phenomena (electrostatic bonds between atoms, static electricity and methods of electrifying bodies, electrostatic instruments and machines, Coulomb's law, electric field, electric field lines, electrostatic induction, electric capacitors, etc.). Electric current, electrical resistance and types of resistors. Electric power systems (electrical plants and installations). Electric power generation. Sources of electric power (chemical sources - galvanic and fuel cells, electric generators and EMS, Kirchhoff's laws, etc.). Electric lighting. Electromagnetism (magnetic field and matter in a magnetic field, magnetic flux, electromotive force, and electromagnetic induction). Alternating current and variable voltage (elements of an alternating current circuit and three-phase alternating currents). Electrical measurements. Electrical machines (transformers, synchronous and asynchronous machines). Electrochemical processes. Electrothermics.				
12.	**Study methods:** Lectures, classroom and laboratory activities, office hours, projects (homework, research paper), self-study (exam preparation)				
13.	**Total available time**	210 hours			
14.	**Allocation of available time**				
15.	**Teaching activities**	15.1	Lectures-theoretical teaching	45 hours	
		15.2	Exercises (laboratory, practice classes), research paper, group activities	30 hours	

16.	**Other types of activities**	16.1	Projects	20 hours

		16.2	Independent work	35 hours
		16.3	Self-study	80 hours
17.	**Grading system**			
	17.1.	Exams		80 points
	17.2.	Successfully completed lab and lecture activities		10 points
	17.3.	Homework and/or research paper		10 points
18.	**Grading criteria(points/grade)**	Up to 61 points		5 (five) (F)
		From 61 to 69 points		6 (six) (E)
		From 70 to 79 points		7 (seven) (D)
		from 80 to 89 points		8 (eight) (S)
		From 90 to 95 points		9 (nine) (B)
		from 95 to 100 points		10 (ten) (A)
19.	**Prerequisites for taking the final exam**			
20.	**Language in which lectures are conducted**	English		
21.	**Method for monitoring the quality of lectures**	Anonymous survey of students		
22.	**LITERATURE**			

22.1. Compulsory literature

No.	Author	Title	Publisher	Year
1.	John Bird	Electrical and Electronic Principles and Technology	Newnes, Ofxord	2010
2.	Michael R. Lindeburg	Rapid preparation for the Fundamentals of engineering exam	PPI The Power to Pass, Professional Publications, Inc., Belmont California,	2011
3.	John A. Camara	Electrical and Electronics Reference Manual for the Electrical and Computer PE Exam	PPI The Power to Pass, Professional Publications, Inc., Belmont California	2010

22.2. Additional literature

No.	Author	Title	Publisher	Year
1.	R.L Timings	Basic Engineering Technology	Butterworth-Heinemann Ltd , Oxford	1995
2.				
3.				
4.				