UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	

GENERAL INFORMATION	
Study program	Mechanical engineering BASIC ACADEMIC STUDIES
Study Module (if applicable)	
Course title	B.2.2-O.7 Electrical and Electronic Engineering
Level of study	☑Bachelor ☐ Master's ☐ Doctoral
Type of course	☑ Obligatory☐ Elective
Semester	☐ Autumn ☑Spring
Year of study	I
Number of ECTS allocated	6
Name of lecturer/lecturers	
Teaching mode	☑Lectures ☐Group tutorials ☐ Individual tutorials ☐Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other

PURPOSE AND OVERVIEW (max. 5 sentences)

Training for monitoring other courses that require foreknowledge spring for the electrical engineering and electronics..Basic theoretical knowledge in electrical engineering and electronics. Practical application of electrical engineering and electronics in mechanical engineering.

SYLLABUS (brief outline and summary of topics, max. 10 sentences)

- Introduction, electrical electronics and motherhood, the structure of matter.
- The electric field, potential and tightens, capacitors, piezoelectric phenomena. electrical current, electrical resistance, and resistors. Electromotive force. Electrical circuits and their solution.
- Electromagnetism, magnetic field, magnetic induction flux. Electromagnetic induction. Matter in the magnetic field. Magnetic materials. Energy fields and magnetic circuits.
- AC, circuits with AC power, impedance, polyphase electricity. Rotating magnetic field strength in the car alternating currents.
- Steady state and transient analysis, establishment and termination of the current in the RLC car, electromechanical analogy.
- Conversion of electrical energy into mechanical energy. Electrical machinery.

- **Semiconductors, PN junction, poluprovodniške components. The basic electronic circuits.Practical teaching Laboratory exercises and computer exercises.**

LANGUAGE OF INSTRUCTION

☑Serbian (complete course) ☐ English (complete course) ☐ Other _____ (complete course)

☐Serbian with English mentoring ☐Serbian with other mentoring _____

ASSESSMENT METHODS AND CRITERIA

Pre exam duties	**Points**	**Final exam**	**points**
Activity during lectures	**5**	**Written examination**	**50**
Practical teaching	**0**	**Oral examination**	**45+5**
Teaching colloquia	**25+25**	**OVERALL SUM**	**100**

***Final examination mark is formed in accordance with the Institutional documents**