Study program: Electrical and Computing Engineering – Module: Industrial Power Engineering

Type and level of studies: Undergraduate Academic studies (first degree academic studies)

Course unit: Computer aided design in power engineering

Course lecturer: Marko M. Rosić

Language of instruction: English

ECTS: 6

Prerequisites: /

Semester: Winter

Course unit objective

Introduction to modern approaches in modelling and simulation of different physical phenomena and technical aspects in electrical engineering using computer. Students will become acquainted with different types of modern software which are used for realization of various technical calculations, modelling and solving transient states in electrical systems and preparation of graphical documentation of the project.

Learning outcomes of Course unit

After completing the course students will be able to:

- recognize the problem and chose appropriate software which will help them to solve the task using computer
- solve different transient state problems in various electrical systems – defining mathematical model
- use appropriate CAD software to develop graphical project documentation in 2D and 3D engineering perspective
- use appropriate CAE software for project planning, documentation and management of automation projects

Course unit contents

Theoretical classes

- Introduction to modelling and simulation options with computers in engineering
- EMTP-ATP software
- AutoCAD software
- EPLAN/Engineering base software

Practical classes

- pair work at computer stations

Literature:

[1] Zlatan Stojkovic, *Computer- Aided Design in Power Engineering: Application of Software Tools*, Springer, 2012
[2] K. M. Vishnu Murthy, *Computer-Aided Design of Electrical Machines*, BS Publications, 2008.

Number of active teaching hours				**Other classes**
Lectures: 2	*Practice: 2*	*Other forms of classes:* 0	*Independent work:* Case study	

Teaching methods: ex cathedra classes, consultations, independent individual home and laboratory work

Examination methods (maximum 100 points)

Exam prerequisites	**No. of points:**	**Final exam**	**No. of points:**
Student's activity during lectures	**5**	oral examination	**/**
Practical classes	**65**	written examination	/
Seminars/homework	**10**	.....	
Project	**25**		

Grading system

Grade	**No. of points**	**Description**
10	**91-100**	Excellent
9	**81-90**	Exceptionally good
8	**71-80**	Very good
7	**61-70**	Good
6	**51-60**	Passing grade
5	**less than 50**	Failing grade