SYLLABUS

1. Course title:

Electrical Drives

2. Code:

ESKE302

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

◉ Mandatory　　　◯ Elective

6. Prerequisites:

[ESKE101] Electrical Measurements, [ESKE203] Electrical Machines II

7. Class restrictions:

8. Duration / semester:

1　　7

9. Weekly contact hours:

9.1. Lectures: | 3

9.2. Seminars: | 1

9.3. Laboratory/Practice classes: | 1

10. Faculty:

Faculty of Electrical Engineering

11. Department/study program:

Electrical Engineering and Computer Science

12. Lecturer:

Ph.D. Vlado Madžarević, full professor

13. Lecturer's e-mail:

vlado.madzarevic@untz.ba

14. Web site:

15. Course aims:

Students education in the field of electric drives

16. Learning outcomes:

After completing the course and passing the exam students will be able to:
- basic design of electric drives
- the basic analysis of the impact load torque to the drive motor
- analysis of the static and dynamic states of electric drives
- loss calculation of electric drives
- selection of the drive motor for the typical industrial applications

17. Course content:

Base sheet of EMP, Character of load torque, mechanical characteristics of operating mechanisms and drive motors, EMP with DC independently excited motor, EMP with DC serial motor, EMP with induction motor, duration transients EMP, losses induction and DC motors in dynamic mode of work EMP, static stability EMP, Accommodating EMP working mechanism and source of energy, Connecting and setting the EMP with DC motor-operated working resistance, EMP-controlled voltage source, Setting speed of induction motor with resistance in the rotor circuit and pole switching, Connecting and setting the EMP with synchronous motor, Multi-engine EMP, electrical shaft, mechanical dynamic state of EMP with DC and induction motor, Forcing current excitation, Modes of loading, unloading and dynamic drop of speed EMP, dynamic state of heavy EMP, Change loads, pieces of cargo. Methods for reducing losses EMP.

18. Learning methods:

It is planned that the instruction is carried out by conventional method using the boards and chalk, because of basic condition that is necessary for students to adopt.

19. Assessment methods:

Two partial assessment (combination of theoretical questions and tasks) and the final exam.

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20. Assessment components:

21. Required reading list:

B. Jurkovic, "Electrical Drives" School books, Zagreb, in 1978.
V. Vuckovic, "Electric drives" Academic thought, Belgrade, 2002nd
A. Hodzic, N. Mehinović, "Electrical Drives and management-Solved Problems", University of Tuzla, 2006

22. Web sources:

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session:

04.04.2016.