SYLLABUS

1. Course title:

Transmission and Distribution Power Networks

2. Code:

EEMS102

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

◉ Mandatory   ○ Elective

6. Prerequisites:

[ESKE002] Fundamentals of of Electrical Engineering II

7. Class restrictions:

Students from the Faculty of Electrical Engineering, study program Electrical Engineering and Computer Science that

8. Duration / semester:

1   4

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. Tatjana Konjic, assoc. prof.

13. Lecturer's e-mail:

tatjana.konjic@untz.ba

14. Web site:

(max. 50 characters)

15. Course aims:

Course goal is to give students indispensable theoretical and practical knowledge about structure and main characteristics of transmission and distribution networks as well as to introduce students with basic principles of the calculations in the networks.

16. Learning outcomes:

At the end of the course students that continuously perform their duties throughout the teaching period will be able to:
- explain electrical power system organizations and each of its subsystems
- identify basic elements in the systems
- calculate overhead line parameters
- make equivalent scheme of basic elements in the network
- calculate different states at the overhead lines
- apply different methods for network calculation
- calculate voltage, current and power in electrical distribution network.

17. Course content:

1. The power system: structure, components
2. Basic principles in single and three-phases circuits
3. Symmetrical Components. Connection between symmetrical components and line and phase values
4. Short circuits and interruptions.
5. Transmission network: overhead lines and cables, line parameters, line models, generator and transformer models.
6. Electric circuits with two poles. Analysis of electric circuits with distributed parameters.
7. Per Unit System
8. Distribution network: structure, characteristic, basic calculations
9. Introduction to Power Quality
10. Introduction to Tariff system
max. 1500 characters)

18. Learning methods:

- Direct lectures
- Numerical exercises
- Laboratory practice
- Consultation

19. Assessment methods:

- The exam is written and oral. Tests (2) are written exams that are combination of theoretical questions and numerical problems. Tests are two times during semester. The final exam is written-oral exam that includes only theoretical questions. Students are able to correct Tests and final exam during correctional final exams.
- The student is obliged to submit reports on laboratory exercises in continuity during semester and to discus it with assistant.
- During semester students will have two tests that includes 2 numerical problems and 4 theoretical questions which were presented during lectures and practice hours. Test 1 will be hold in VIII or IX week of the semester, while Test 2 will be hold in XV week of IV semester. Exact time and place of Tests will be featured ten (10) days before the Tests.
- After the end of the Course students that got signature of the professor are able to access the final exams.
- At the final exam students get 4 theoretical questions, write concept and orally present answers.
- To form the final grade students are obliged to collect min 50% points at the final exam and min 50% at the tests.
- During correctional final exams students are able to correct tests and/or final exam - theory.
- Final exam and correctional final exams are organized according the calendar of final exams adopted by Senate of The University of Tuzla at the beginning of schooling year.

20. Assessment components:

Final number of points is formed by cumulative collections of points for lecture attendance (7 points) + homework (2 points) + tests (test 1 (24 points) + test2 (27 points)) and final exam (40 points).

Total number of points is 7+2+24+27+40=100.

21. Required reading list:

1. Notes and slides prepared by professor
2. M.Ozegovic, K.Ozegovic, Elektroenergetske Mreže, I,II I III Dio, Split, 1982.
3. S. Milojković, Teorija električnih kola, Svijetlost, Sarajevo, 1985.
4. H. Sadat, Power System Analysis, MC Graw-Hill, 1999.

22. Web sources:

(max. 687 characters)

23. Applicable starting from the academic year:

2016/17

24. Adopted in the Faculty/Academy session:

04.04.2016.