SYLLABUS

1. Course title:

Measurements in Electrical Engineering

2. Code:

EEMS003

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

-

7. Class restrictions:

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

8. Duration / semester:

1 3

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 Konjić, assoc. prof.

13. Lecturer's e-mail:

tatjana.konjic@untz.ba

14. Web site:

(max. 50 characters)

15. Course aims:

Course goal is to introduce students to the main aspects of electrical measuring, analog and digital devices, methods of measuring electrical values, basic principles of sensors operation and application to measuring non-electrical values and computer-aided-measurements.

16. Learning outcomes:

At the end of the course students that continuously perform their duties throughout the teaching period will be able to:
- explain working principles of analog measurement devices
- chose appropriate measurements equipment
- connect needed equipment base on electric scheme
- chose correct measurement methodology
- measure electrical parameters
- calculate errors.

17. Course content:

- Basics of metrology: SI - International system of units, technical characteristics of measurements equipment.
- Measurements errors
- Analog measurement devices: structure, operation principles, characteristics.
- Digital measurement devices: structure, operation principles, characteristics.
- Basic methods of the electrical values measurements.
- Power and energy measurements.
- Measuring transformers.
- Sensors: model of sensor, characteristics.
- Electrical measurement of non-electrical values.
- Computer-aided-measurements.

18. Learning methods:

- Direct lectures
- Numerical exercises
- Laboratory practice
- Consultation

19. Assessment methods:

- The exam is written and oral. Tests 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 3 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 III 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 3 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 (8 points) + homework (2 points) + tests (test 1 (30 points) + test2 (30 points)) and final exam (30 points).
Total number of points is 8+2+30+30+30=100.

21. Required reading list:

Slides and notes prepared by professor
A. Muharemović: Električna mjerenja, ETF Sarajevo 2005.
V. Bego: Mjerenja u elektrotehnici, Tehnička knjiga, Zagreb, 1975.
A. Muharemović, I. Turković: Električna mjerenja, Elpi inžinjering, 1997.

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.