SYLLABUS

1. Course title:

Electricity Market

2. Code:

EEMS008

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 8

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. Suad Halilčević, full prof.

13. Lecturer's e-mail:

suad.halilcevic@untz.ba

14. Web site:

15. Course aims:

To qualify the students for work in the electricity markets, regulatory commissions and other power market bodies.

16. Learning outcomes:

At the end of the semester/course, successful students who continuously fulfilled their duties throughout the teaching period, will be able to work in the electricity markets.

17. Course content:

Fundamentals of Electricity Market. Market Design. Carnot Power Market Model. The Nash's Equilibrium. The Power Market Subjects. State Energy Regulatory Commission. Independent System Operator. Distributors and Suppliers. Transmission Operator. Marginal and Average Cost. Price Spikes and Investment. Fixed Cost. Generator Start-up Cost. Variable Cost. Limiting the Price Spikes. Value-of-Lost-Load Pricing. Operating-Reserve (ancillary service) pricing. Market Dynamics and Profit Function. Requirements for Installed Capacity. A Two-Settlement System. Day-Ahead Market Design. The Real-Time Market. Market Clearing Price. Power Market Pools. Pensylvania-New Jersy-Maryland pool model. Auctions. Power Market Exchange. The Market for Operating Reserves. Market Power. Power Transmission Losses and Market. Physical Transmission Limits. Congestion. Congestion Pricing Methods. Zonal pricing. Transmission Rights. The example of Electric Reliability Council of Texas (ERCOT) as one of eight independent system operators in Nort America. The Business Strategy of the Power Plants in the Power Market. Uncertainties in the Power Market.

18. Learning methods:

Observation and reflection, creation of abstract concepts and active experimentation, concrete experience.
The most important learning methods are:
- Lectures with the use of multimedia resources, active learning techniques and with active participation and discussion of students;
- Auditive exercisers;
- Preparation and presentation of group and individual seminar papers.
Styles of learning: visual style, auditive, verbal, kinesthetic, logical-mathematical, social and independent.

19. Assessment methods:

Continuous assessment during the semester is performed through two periodical tests and final verbal exam.

20. Assessment components:

Arithmetic mean of assessment methods grades.

21. Required reading list:

S.Halilčević, Upravljanje energijom, Univerzitet u Tuzli, 2000.
S.Stoft, Power System Economics – design markets for electricity , IEEE Press, 2002.
G.Rothwell, T.Gomez, Electricity Economics: Regulation and Deregulation, IEEE Press, 2003.
S. Halilčević, Tržište električne energije – funkcioniranje tržišta, investicije i rizici, Univerzitet u Tuzli, 2007.

22. Web sources:

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session:

04.04.2016