SYLLABUS

1. Course title:

Introduction to Energy Systems

2. Code:

EEMS001

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 1

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 1

9.3. Laboratory/Practice classes: 0

10. Faculty:

Faculty of Electrical Engineering Tuzla

11. Department/study program:

Electrical Engineering and Computer Science

12. Lecturer:

Dr.sc. Nedžmija Demirović, associated profes

13. Lecturer's e-mail:

nedzmija.demirovic@untz.ba

14. Web site:

15. Course aims:

The goal is to introduce students to the global scale of energy, energy strategy goals, and the fact that energy resources are limited, mostly non-renewable and unevenly distributed. Students will learn about the basic characteristics of renewable and nonrenewable energy resources, their basic characteristics, restrictions, reservations, and methods of application.

16. Learning outcomes:

At the end of the semester students, who continuously were performing their obligations during the entire teaching period , will be able to: know the importance energy development and security of energy supply, to know the ecological and technological aspects of production and consumption and energy conversion, to know the basic characteristics of primary energy resources and the method of exploitation and transformation in industrial processes, to know the basics of renewable energy resources, possibilities and limitations of use.

17. Course content:

The problem of energy supply and classification of forms of energy. Transformation of forms of energy. Useful forms of energy. The term reserves. Renewable and nonrenewable energy sources. Energy Policy. The primary forms of energy. Coal. Oil. Application and preparation of fuel. Water masses. Nuclear fuel. Wind energy. Solar energy. Geothermal energy. Fuel cells. Utilization of energy. Energy balance. Energy and Environment.

18. Learning methods:

Lectures - Obligatory attendance. The power presentation is shown, the board and chalk are used for additional explanations.
Auditory Exercises - obligatory attendance of students and active participation during the class lessons. On exercises, students will learn the proper way to prepare a seminar paper whose theme is dependent on the material that is treated in lectures. After the prepared papers, students present their work and actively participate through questions asked after the presentation.

19. Assessment methods:

Exam is taken written and orally. The written exam is a combination of theoretical issues and computational examples done on lectures and exercises. The final exam is oral exam consisting of essay and discussion of theoretical issues.

20. Assessment components:

Rating exam is based on the total number of points a student expansion by completing pre-exam and a final exam.
The student can achieve a maximum of 100 points according to the following scale:
The presence of lectures: 2.5
The presence of exercises: 2,5
test 1:20
test 2:20
Seminar: 15
Total Prerequisites: 60
Final exam: 40
Total: 100

21. Required reading list:

Hrvoje Požar: “Osnove energetike 1“, Školska knjiga Zagreb, 1976.
B. Udovičić:“Elektroenergetika“, Školska knjiga Zagreb, 1983.
Hrvoje Požar: “Osnove energetike 2“, Školska knjiga Zagreb, 1978
Notes and slides from lectures

22. Web sources:

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session:

04.04.2016