

SYLLABUS

1. Course title:

Introduction to energy

2. Code:

do not fill

3. Cycle of study:

1

4. ECTS credits:

4

5. Type of course: Mandatory Elective**6. Prerequisites:**

no

7. Class restrictions:

no

8. Duration / semester:

1

6

9. Weekly contact hours:

9.1. Lectures:

2

9.2. Seminars:

0

9.3. Laboratory/Practice classes:

1

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Department of Production

12. Lecturer:

Ph.D. Sandira Eljsan, professor

13. Lecturer's e-mail:

sandira.eljsan@untz.ba

14. Web site:

www.untz.ba

15. Course aims:

Getting basic theoretical knowledge in the field of thermal, hydro, nuclear energy. The aim of the course is to obtain basic information, review the situation in the energy sector, as well as basic knowledge of processes in thermal power and hydroelectric power plants.

16. Learning outcomes:

At the end of completion of the course is expected to know how to differentiate energy sources : renewable and non-renewable, identify the energy situation in the world and in our country, to solve and analyze problems easier process in thermal and hydro power plants, analyze basic processes in heat exchanger and IC engines.

17. Course content:

- The current energy situation (energy review in the B&H and energy problems in the world).
- Growth power system . Energy conversion, operation of power plants in the power system.
- Process in Thermal Power Plants (all the power plants using fossil fuels, main elements in plants, heating exchangers, thermodynamics process)
- Hydropower plant and methods of utilization (work HPP in the power system and a description plant work)
- Nuclear energy in the world. Nuclear power plant.
- Renewable sources of energy.

18. Learning methods:

- Lectures using multimedia means and active learning techniques with the active participation and discussion of students;
- Preparation and presentation of group and individual seminar works.
- The combination of auditory and laboratory exercises and visits thermal power plant and a tour of the plant.

19. Assessment methods:

After half of the semester, students take the writing test (the first mid-term), which includes previously treated topics with lectures and exercises. The test consists of tasks and simple theoretical questions without deriving equations. A student on the first prelim and homework assignments can achieve a maximum of 15 points. After the end of the semester students take the writing test (second mid-term) . Student on the second prelim and homework assignments can achieve a maximum of 15 points. Both tests taken by all students in the course at the same time thereby achieving uniformity of the level of knowledge that is being tested, as well as the conditions under which the student takes the exam. As part of the pre-exam students are required to make individual or group seminar that will cover specific topics from the contents of the subject. Seminar in writing teaches the subject teacher for review and evaluation, and then presented orally. In the preparation and presentation of group seminar work involved all students groups, whose participation is valorized individually. For done and presented seminars student can achieve from 0 to 10 points. Also, for continuous activity on the lectures and exercises throughout the semester, the student can achieve 0-6 points.

The final exam is oral. The right exit on the final exam is given to students who are from each individual checks received 50% of the total anticipated points. At the oral exam students answer three questions drawn from the program of the subject treated in lectures and exercises. The maximum number of points a student can achieve at the oral exam is 50.

Check the expressions of knowledge are recognized as the examination if the cumulative result is achieved upon positive verification of the individual and is at least 50% of the scheduled and / or the required knowledge and skills.

In order for the student to pass the subject must achieve a minimum of 54 cumulative points. For those who do not collect the check by 50% points for transience, go to the appointments final or additional examinations.

20. Assessment components:

Exam consists of up to 50 points:

- The attendance of teaching: 3 points of lectures and 3 points of exercises = 6 points
- Report of the visit: 4 points
- Seminar work during the semester: 10 points
- tests 2x 15 points
- The final exam or corrective: 50 points

21. Required reading list:

1. Požar H.: Osnove energetike I i II, Zagreb 1978.god.
2. Smajević I., Hodžić N.: Kotlovi, ložišta i peći – izvodi iz teorije i zadaci, Univerzitetski udžbenik, Mašinski fakultet Sarajevo, 2002.
3. Smajević I, Hanjalić K.: Toplotne turbomašine,

22. Web sources:**23. Applicable starting from the academic year:**

2015/16

24. Adopted in the Faculty/Academy session:

01.06.2015