SYLLABUS

1. Course title:

Water, fuel and lubricants

2. Code:

do not fill

3. Cycle of study:

1

4. ECTS credits:

3

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:	1
9.3. Laboratory/Practice classes:	0

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Energy department

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 of theoretical knowledge and practical skills in the field of Technology for water, fuel and lubricants.

16. Learning outcomes:

At the end of completion of the course is expected to know how to differentiate between physical and chemical properties of water, tested and categorize requirements for water quality and compare some of the processes of water treatment, to test some of the basic characteristics as fuel and lubricants ...

17. Course content:

- Physical and chemical properties of water.
- Industrial and process water.
- Basic methods of water.
- Quality requirements for water in industrial and power plants.
- Process wit water: sedimentary processes, processes with ion exchangers and membranes with water.
- The creation, classification and description of solid fuels. Processing solid fuels and coke production.
- Methods to getting gaseous fuels, their properties and processing, the sources of obtaining liquid fuels, the properties of oil, oil processing technology, the basic characteristics of some types of fuel derived from oil, the basic characteristics of the base oils.
- The formulation of the additive with application of certain types of additives.
- The classification of the lubricant viscosity, and the conditions of use in lubrication. The importance of regeneration lubricants.

18. Learning methods:

- Lectures using multimedia means, and active learning techniques with the active participation and discussion of students;
- Laboratory exercises: - at least two visits during the semester where students will be familiar with the ways of water treatment as well as methods of storage and preparation of fuel
- reeling laboratory exercises will be done in the thermal plant (chemical water treatment and storage of fuel) , example of beer plant in Tuzla (water treatment).

19. Assessment methods:

- As part of the preexam students are required to make individual who 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 35 points.
- Two visits to production sites and reports on completed visits to carry 10 points.
- The test of the theory in the last week of the semester before the final exam (50 points) for those who want it.
- For those who do not pass a writing period in the laying of the final exam or the optional feature and oral examination.
- In order for the student to pass the subject must achieve a minimum of 54 cumulative points.

20. Assessment components:

Exam consists of up to 50 points:
- The attendance continues: 5 points
- Reports of visits to plants : two 2x5 = 10 points
- Seminar work during the semester: 35 points
-The final exam or oral exam: 50 points.

21. Required reading list:

1. Jugoma: Maziva i podmazivanje, Zagreb, 1996
2. Krstulović R.:Tehnološki procesi anorganske industrije, Školska knjiga,Zagreb 1982.
3. Zima V.:Goriva i maziva,Tehnički fakultet, Rijeka
4. Šilić Đ, Stojković V., Mikulić D.: Goriva i maziva, 2012.

22. Web sources:

23. Applicable starting from the academic year:

2015/16

24. Adopted in the Faculty/Academy session:

01.06.2015