SYLLABUS

1. Course title:

THERMAL TURBOMACHINES

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester:

1 7

9. Weekly contact hours:

9.1. Lectures: 2

9.2. Seminars: 1

9.3. Laboratory/Practice classes: 1

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Energy Engineering

12. Lecturer:

dr.sc.Sead Delalić, Full Professor

13. Lecturer's e-mail:

sead.delalic@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

Acquisition of theoretical knowledge and practical skills in the field of thermal turbomachines.

16. Learning outcomes:

At the end of the semester / course successful students, who during the entire period of teaching continuously perform their duties, will have basic knowledge in the field of pumps, compressors and fans, and will be able to analyze examine and evaluate the state of the given systems, etc.

17. Course content:

- Division, characteristics, application area,
- Basic terms (fluid flow basic, forces on working stage, steam expansion in nozzles),
- Energy transformation (action and reaction working stages)
- Loses in working stages of the thermal turbomachines,
- Calculation on the working stage,
- Utilization degree on the scope of the working stage,
- Calculation of impellers,
- Multistage steam turbines with regulated steam extraction for regeneration.
- Construction and calculation of rotor strength, disks, diaphragms, screws, seals, etc.
- Start-up and stopping of of thermal turbomachines.

18. Learning methods:

Teaching units of this course will be presented to students through :

- classical lectures with video presentations,
- presentation of individual and group semester works.

19. Assessment methods:

Assessment methods include:

- Theoretical and problem solving tests;
- Written/oral Report on performed seminar work.
- Written/oral exam.

20. Assessment components:

• Presence in classes - 5 points,
• Presence in exercises - 3 points,
• Semester work - 7,5-15 points,
• Tests with issues of theory and assignments - 15-30 points,
• Final exam- 24-47 points.

21. Required reading list:

1. Smajević I., Hanjalić K. : Toplotne turbomašine, Sarajevo, 2007.
2. Krsmanović, Gajić: Turbomašine, Beograd, 1992.
3. Delalić S., Alić I.: Zbirka riješenih zadataka iz pumpi, kompresora i ventilatora sa osnovnim izvodima iz teorije, UNTZ.

22. Web sources:

(max. 687 characters)

23. Applicable starting from the academic year:

2015/16

24. Adopted in the Faculty/Academy session:

01.06.2015