

SYLLABUS

1. Course title:

MECHANICAL OPERATIONS

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

3

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

(max. 110 characters)

7. Class restrictions:

(max. 150 characters)

8. Duration / semester:

1

5

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 engineering

12. Lecturer:

dr.sc. Izet Alić, professor

13. Lecturer's e-mail:

izet.alic@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

Course objective is to introduce the laws of particle deposition, the processes of separation, mixing, blending and compression, fluidization and solid particle transport.

16. Learning outcomes:

At the end of the semester / course successful students, who during the entire period of teaching continuously perform their duties, will be trained to independently solve simple problems in the field of pneumatic and hydraulic transport.

17. Course content:

Introduction to the course and definitions of basic concepts: the size and shape of the particles, the structure of the rough dispersion systems, the equivalent diameters and the sphericity of the particles. Operation of separating the particles, code fineness, separation limit and fractional separation efficiency. Distribution of particles in the dispersion medium. Mixing and separation of disperse systems: physical principles, methods of calculation models for state change or changes in dispersion. The fluidized bed particles, the basic concepts. Fluidization. Pneumatic transport.

Hydraulic transport.

18. Learning methods:

The most important learning methods in the subject are:

- Lectures with the use of multimedia resources, active learning techniques and with active participation and discussion of students;
- Auditorial exercises
- Preparation and presentation of group and individual seminar papers.

19. Assessment methods:

In the seventh week of the semester students take the writing test, which includes previously treated topics with lectures and exercises. The test consists of 15 questions, where each issue contain the number of points that carries a specific question. The maximum score on the test is 30. 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. The maximum score on the essay 30. The final exam is oral. The right exit on the final exam is given to students who regularly attend classes (minimum 60% presence), to complete the minimum 15 points on the test and 15 points on the essay. The maximum score on the final exam is 35. In order for the student to pass the subject must achieve a minimum of 54 cumulative points of which a minimum of 10 points at the final oral exam.

20. Assessment components:

Rating exam is based on the total number of points a student earned by completing pre-exam requirements and exams, according to the quality of the acquired knowledge and skills, and contains a maximum of 100 points, and is determined according to the following scale:

The presence continues 5 points

Test 30 points

Seminar 30 points

Total pre-exam 65 points

Final exam 35 points

21. Required reading list:

1. Koharić, V.: Mehaničke operacije, Fakulteta strojarstva i brodogradnje, Zagreb, 1996;
2. N. Barbalić, E. Džaferović, „Transport čvrstih čestica fluidom”, Mašinski fakultet Sarajevo 2007
3. E. Džaferović, H. Hadžiahmetović: Pneumatski transport

22. Web sources:

(max. 687 characters)

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session:

01.06.2015