SYLLABUS

1. Course title:

INDUSTRIAL ECOLOGY

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

○ Mandatory ◉ Elective

6. Prerequisites:

None

7. Class restrictions:

None

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 Engineering

12. Lecturer:

Indira Buljubašić, Associate Professor

13. Lecturer's e-mail:

indira.buljubasic@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

The goal of this course is to introduce students to the concept which requires that the industrial system is seen as a part of the environment, with appropriate measures to be taken towards environmen protection.

16. Learning outcomes:

At the end of the semester/course students, who during the entire semester continuously perform their obligations, will:
- learn about the importance of mechanical engineers in the industrial system and how to design an appropriate process in accordance with sustainable development.
-be able to carry out the assessment of working period, products, processes and equipment.
-Find out main determinants of industrial ecology and how to apply them in practice.

17. Course content:

-Introduction to Industrial Ecology (description and role of industrial ecology).
-Application of industrial ecology in the strategic sustainable development at the global level.
- Strategies of sustainable development in manufacturing industrial systems.
-Interaction between production and consumption.
- Differences between ecosystems and industrial systems and industrial symbiosis.
- Risk management.
- Analysis of environmental systems.
- Environmental management.
- Clean production.
- Waste management.
- Sustainable technologies.
- Modeling of environment.

18. Learning methods:

Attendance (lectures and exercises) is required. Exercises and lectures are compatible, and exercises are created as preparation for exams.

19. Assessment methods:

Exam is passed through tests, seminar papers and final examination, as follows: two theoretical tests in written form, one essay with .ppt and oral presentation, the exam - orally.

20. Assessment components:

The student must receive at least 50% of points on each test in order to pass the test.
If not satisfied, the tests can be redone again, before the final exam takes place.
Attendance: 5 points, tests 50 points (2x25), essay 15 points, final exam 30 points.

21. Required reading list:

1. Lowe, E.A., Discovering Industrial Ecology, Battelle Press, Columbus, 1997.
2. Gradel, T.E., Allenby B.R., Industrial Ecology, Second Ed., Pearson Education Inc., Upper Saddle River, 2003.

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