SYLLABUS

1. Course title:

INDUSTRIAL TOXICOLOGY

2. Code:

do not fill in

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

no prerequisites

7. Class restrictions:

no restrictions

8. Duration / semester:

1 4

9. Weekly contact hours:

9.1. Lectures:	2
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	2

10. Faculty:

Faculty of Technology

11. Department/study program:

Environmental protection engineering

12. Lecturer:

Abdel Đozić, Ph.D., associate professor

13. Lecturer's e-mail:

abdel.dozic@untz.ba

14. Web site:

www.tf.untz.ba

15. Course aims:

Understanding the toxic properties of chemicals and their effect on human organisms.
Understanding industrial poisoning and poisoning that occur in production conditions.
Mastering the methods of interpretation of the maximum permissible concentrations of toxic substances and protection measures.

16. Learning outcomes:

Identifies and uses the legal regulation concerning maximum permissible concentrations of toxic substances in the working atmosphere.
Identifies the sites of toxic substances in certain industrial branches.
Comments the action of various toxic substances and establishes the relationship between the dose and the toxic substance.
Identifies methods for the analysis of harmful substances in the working atmosphere
Analyzes based on the results of the test of the degree of toxicity of the working environment

17. Course content:

Introduction to Industrial Toxicology, Chemical Structure and Toxicity. Definition of poison. The way toxins are produced in the industry. Dosage and Toxicity Relationship (Toxic Substance Effect). Ways of injecting different toxic substances in the body. Accumulation of poison in the body. Maximum Permissible Concentrations (MPCs) of Toxic Substances in Working Atmospheres. Interpretation (MPCs) for the working atmosphere. Methods for Determining harmful matter in the working atmosphere. Physical properties of toxic substances (absorption, distribution and elimination ...). The chemical properties of toxic substances. Toxic substances, metals and metalloids. Organic and inorganic compounds of mercury. Acid, Alkalis, anhydrides and halogen compounds. Fluorination. Inorganic carbon compounds. Organic solvents. Nitroamino and halogen benzene derivatives and their homologues. Industrial dust (total, respirable and inhalable).
Pneumoconiosis caused by organic and inorganic dust. Personal protective equipment.

18. Learning methods:

The following activities of successful learning planned are: concrete experience and reflection. Preferred learning styles are: visual style, auditory, logical-mathematical and stand-alone. 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;
- Experimental exercises

19. Assessment methods:

Throughout the course, students are required to attend lectures and exercises on a regular basis, which will be monitored by the subject teacher and associates and, on special forms, keep records. During the semester, the student can be absent from a maximum of three lectures and three exercises, being obliged to bring proof of justification of absence (medical certificate, etc.). In the case of more unexcused absences, the student loses the right to the signature of the teacher.
• TESTS - Two tests during the semester for the oral exam. Each oral exam test consists of 20 shorts
Theoretical questions related to the material being studied and carrying 15 points (minimum passing 8 points). Tests are performed roughly after every six weeks of teaching, whereby the subject teacher will announce them to the students at least two weeks before every test.
• LABORATORY EXERCISES: The student is obliged to undertake all laboratory exercises and can exercise up to 25 points (minimum 12 points) on the basis of exercise activities.
• FINAL PART OF THE EXAM - Students who have compiled the required number of points according to all criteria (54 points) have the possibility to additionally (verbally or in writing) correspond to a higher closing score. The maximum number of points that can be reached on the final exam is 30. The minimum number of points to be compulsory on the final exam is 18.
All the students who did not meet one of the tests or who are not satisfied with the grade and who have completed all the obligations on the subject (have the signature of the subject teacher in the index) approach all exams. A student can not enter a grade if no tests have been passed.
• SEMINAR WORK OF STUDENTS: students have the opportunity to do one seminar work. Successfully prepared and defended seminar work is evaluated with a maximum of 10 points (minimum 6 points), which are added to the total number of points achieved on other bases in the formation of the final grade.

20. Assessment components:

The final grade is based on the total number of points obtained through pre-requisites and passing the final exam, According to the quality of acquired knowledge and skills. It has a maximum of 100 points, according to the following scale:
Classroom attendance (P + V): 5 points
Activity in laboratory exercises: 25 points
Tests (theory): 30 points
Seminar work: 10 points
Final Exam: 30 points

21. Required reading list:

Hodgson, E. (2004). A Textbook of Modern Toxicology Third Edition: New Jersey. North Carolina State University. John Wiley & Sons
Zagorac, M. (1978). Industrial Toxicology

22. Web sources:

http://www.tih.sagepub.com
http://www.oregonstate.edu/ehs/sites/.../pdf/osuhazcombook.pdf
http://www.atsdr.cdc.gov/MHMI/mhmi-v2-2.pdf

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: