SYLLABUS

1. Course title:

PROTECTION FROM FIRE AND EXPLOSIONS

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 6

9. Weekly contact hours:

9.1. Lectures:	3
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	3

10. Faculty:

Faculty of Technology

11. Department/study program:

Environmental Protection Engineering

12. Lecturer:

Franc Andrejaš, associate professor

13. Lecturer's e-mail:

franc.andrejas@untz.ba

14. Web site:

www.tf.untz.ba

15. Course aims:

The educational aim of the course is to introduce students with basic knowledge of fires and explosions as physico-chemical phenomena of mass and heat transfer under certain conditions of their development. During the course, students will be able to acquire specific knowledge of fires and explosions, and the possibilities of their prevention and stopping.

16. Learning outcomes:

After completing the course, students will be trained to identify and assess the danger of fire and explosion.

17. Course content:

Basic concepts and definitions of uncontrolled combustion processes. Fire and explosion conditions. Combustion of gases. Burning of liquids. Incineration of solid flammable materials. Self-igniting. Classification of fire (according to the place of formation, by the nature of the material's durability during combustion, according to the development phase, the rate of release of heat, size ...). Fire parameters (flame, heat, temperature). Combustion products. Explosive combustion. The heat of formation and heat of reaction. The heat of the explosion. Explosion temperature. Pressure of the explosion. Detonation theory. Division of explosive substances (by aggregate state, by purpose, by chemical composition ...). Fire and explosion protection.

18. Learning methods:

Teaching methods are based on multimedia lectures and laboratory exercises. In the lectures, the frames of the problems are given, and the facts and theoretically approaches to the problem are analyzed, and the exercises are done in interactive form and through practical work within laboratory exercises. Teaching methods include active participation of students, work in the laboratory and visits to manufacturing and service organizations.

19. Assessment methods:

Throughout the course, students are required to regularly attend lectures and exercises. Students' attendance records will be regularly kept. On a special form, the subject teacher will continuously monitor the presence of each student. During the semester, the student can be absent with 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 throughout the semester, for the oral part of the exam. Each test for the oral part of the exam, consists of 20 short theoretical questions related to the previously processed material and carries 15 points (for a passing grade, one should achieve a minimum of 8 points). Tests are usually conducted after every six weeks of lectures, whereby the subject teacher will announce them to the students at least two weeks before each test.

• LABORATORY EXERCISES: the student is obliged to do all laboratory exercises, and based on activity in exercises can achieve a maximum of 25 points (for a passing grade should achieve a minimum of 12 points).

• FINAL PART OF THE EXAM - Students who have collected the required number of points by all criteria (54 points), have the option of additional (verbally or in writing exam) for a higher final grade. The maximum number of points that can be obtained on the final exam is 30. The minimum number of points, which must be reached on the final exam is 18.

All the students who did not meet the conditions in one of the tests or who are not satisfied with the grade, but who have completed all other obligations of the course (have the signature of the subject teacher in the index) take the final exam. The student can not get a final grade if he has not passed all the tests.

• SEMINAR WORK OF STUDENTS: student has the opportunity to do one seminar work. Successfully prepared and verbaly performed 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 prerequisites and the final exam, according to the quality of the acquired knowledge and skills. It has a maximum of 100 points, according to the following scale:
Regularity of teaching attendance (lectures + exercises): 5 points
Activity in laboratory exercises: 25 points
Tests (theory): 30 points
Seminar paper: 10 points
Final exam: 30 points

21. Required reading list:

Kleut N (2013). Požari i njihova dejstva, AGM knjiga, Beograd.
Kocijan S (2009). Opasnost od požara i eksplozije. IPROZ, Zagreb.
Pavelić Š (1996). Gorenje i sredstva za gašenje. MiStar, Zagreb.

22. Web sources:

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: