

SYLLABUS

1. Course title:

Protection in industry

2. Code:**3. Cycle of study:****4. ECTS credits:****5. Type of course:** Mandatory Elective**6. Prerequisites:**

No prerequisites

7. Class restrictions:

No class restrictions

8. Duration / semester:**9. Weekly contact hours:**

9.1. Lectures:

9.2. Seminars:

9.3. Laboratory/Practice classes:

10. Faculty:

Faculty of Technology

11. Department/study program:

Environmental protection engineering, Occupation safety

12. Lecturer:**13. Lecturer's e-mail:**

14. Web site:

www.tf.untz.ba

15. Course aims:

Develop active knowledge of sources of danger when working with manual portable and stable tools and devices.
Development of active knowledge on design and use of protection system on different production facilities.
Develop active knowledge about organizing training for safe work on devices.

16. Learning outcomes:

to identify and use legal regulations in the field of safe working on machines.
to master the theoretical and practical knowledge in the application of protection on industrial devices.
to apply different technical solutions for safe work on machines and production lines.
to estimate the installation requirement for the protection system on the devices.
to master the basic principles of risk assessment of the device by working person.

17. Course content:

General dangers in the work on manufacturing devices (danger zones on machines). Assessment of installation requirements for protection systems on devices (blocking and protection from rotating parts). Protection systems on devices where the production process is carried out exclusively by manual means. The basics of protection during design and making the device (safety aspect of the control system, protection against mechanical hazards). Risk assessment of device hazards and elimination of risk by constructional design. Machinery directive and machine safety. Protection systems on equipment for: mills, grinders, drills, scrapers, clasps. Analyze the degree of risk on devices. Protection systems on woodworking machines. Compressor and pump protection systems. Mechanical constructions as a source of danger. Protection systems on material handling equipment with deformation and two-way command. Protection in the design of the device. Legislation on working with appliances.

18. Learning methods:

The following activities of successful learning are planned: concrete experience and reflection. Learning styles are preferred:

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 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 verbally 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:

Miroslav N. Drezgić, Žarko M. Janković. Zaštita na mašinama i uređajima, Fakultet zaštite na radu, 1994.

22. Web sources:**23. Applicable starting from the academic year:**

2015/2016

24. Adopted in the Faculty/Academy session: