UNIVERSITY OF TUZLA UNIVERZITET U TUZLI

SYLLABUS

1. Course title:

Technical systems maintenance

2. Code:

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3. Cycle of study:

I

4. ECTS credits:

4

5. Type of course:

Mandatory

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester(s):

I	VIII

9. Weekly contact hours and student workload:

				(for two-semester courses)	Workload: (hours)	
	Semester (1)	I	Semester (2)			
9.1. Lectures		3			Classes:	56.25
9.2. Seminars		0			Individual work:	63.46
9.3. Laboratory / Practice classes		2			In total:	119.7

10. Faculty:

Faculty of Mechanical Engineering in Tuzla

11. Department/study program:

Manufacturing Engineering / Industrial Engineering and Production Management

12. Lecturer:

Dr. Slađan Lovrić, Associate Professor

13. Course aims:

"The primary goal of teaching the course 'Maintenance of Technical Systems' is to understand the concept, tasks, and role of maintaining technical systems, all with the aim of reducing downtime (frequency and duration) and maintenance costs (total costs), as well as mastering the necessary theoretical and practical skills related to the subject matter."

14. Learning outcomes:

"By the end of the semester/course, successful students who have continuously fulfilled their obligations throughout the entire teaching period will be able to understand the importance of technical systems maintenance. Students will know how and when to apply specific maintenance concepts (corrective, preventive, or combined maintenance), influence maintenance costs, and achieve maximum reliability and effectiveness of technical systems. In addition, students will be able to assess the condition and operational lifespan of technical systems, thereby contributing to the timely procurement of spare parts and taking preventive action to avoid system failures."

15. Course content:

The course will be conducted in accordance with the syllabus – covering course units according to the weekly schedule throughout the semester.

1. Introductory lecture – Introduction to technical systems maintenance
2. Systemic approach to technical maintenance
3. Effectiveness of technical systems
4. Maintainability of technical systems
5. Maintenance methods for technical systems
6. Technical diagnostics of system condition
7. Prognosis of component lifespan in technical systems
8. First continuous knowledge assessment
9. Maintenance organization
10. Maintenance technologies
11. Maintenance information systems
12. Maintenance costs
13. Spare parts management in maintenance
14. Monitoring and diagnostic systems in maintenance
15. Second continuous knowledge assessment

16. Learning methods:

Theoretical lectures (TL) using multimedia tools, chalk and board, and various video recordings; application of proactive learning techniques; Seminar work (TL) – independent exploration of specific topics and solving problems related to the course material; Consultations – clarification of any uncertainties related to the subject matter; Laboratory exercises (LE) – solving assigned tasks, active two-way communication between student and assistant, at least one visit to an industrial company, and submission of a report on the activities related to the company visit.

17. Assessment methods:

The requirements for obtaining a signature in the student's index include:
Attendance of at least 70% of lectures,
- Seminar paper defense (TL) – submitted seminar paper + responses to questions posed,
- Two continuous knowledge assessments (theoretical part) – the student answers assigned questions within a set time frame related to the course content,
- One continuous knowledge assessment (problem-solving) – the student solves assigned tasks within a set time frame during LE (Laboratory Exercises) under the supervision of the teaching assistant,
- Laboratory exercise report – independent student work on solving practical problems under the supervision of the assistant, related to the visit to an industrial company,
- Final, Make-up, and Additional Make-up Exam (oral or written).

Grading system:
Pre-exam obligations: 57.5 points + Final exam: 42.5 points = TOTAL: 100 points

Grade	Description	Letter	Points
5 (five)	Does not meet minimum criteria	F, FX	< 54
6 (six)	Meets minimum criteria	E	54 – 64
7 (seven)	Generally good, but with significant shortcomings	D	65 – 74
8 (eight)	Average, with noticeable errors	C	75 – 84
9 (nine)	Above average, with occasional errors	B	85 – 94
10 (ten)	Excellent performance with no or negligible errors	A	95 – 100

18. Assessment components:

Grading will be based on the following activities:
1. Attendance at lectures: 7.5 points
2. Seminar paper defense: 10 points (theoretical part)
3. Continuous knowledge assessment during the semester: 2 x 7.5 = 15 points (theoretical part)
4. Continuous knowledge assessment during the semester: 7.5 points (problem-solving tasks)

5. Attendance at laboratory exercises: 5 points
6. Laboratory exercise report: 12.5 points

Total pre-exam obligations: 57.5 points

7. Final exam (oral or written): 42.5 points

TOTAL: 100 POINTS

19. Mandatory reading list:

1. Brdarevic S.: Maintenance, Zenica 2013. godine
2. Avdic H., Tufekcic Dž.: Terotechnology I, Tuzlam 2007. godine
3. Instructor's authorized lectures compiled from various sources. (n.d.). [PDF document]

20. Additional reading list:

1. Sebastijanovic S., Tufekcic Dz.: Maintenance, Tuzla 1998. godine

21. Web sources:

https://www.scribd.com/document/92608942/Terotechnology

22. Applicable from the academic year:

2025./2026.

23. Adopted in the Faculty/Academy session:

April 2025