SYLLABUS

1. Course title:

MINE CLOSURE AND RECLAMATION

2. Code:

LRUDZRRK

3. Cycle of study:

1

4. ECTS credits:

4

5. Type of course:

Mandatory

6. Prerequisites:

No

7. Class restrictions:

No

8. Duration / semester(s):

1 8

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)	
9.1. Lectures	2		Classes:	33,75	
9.2. Seminars	0		Individual work:	69,23	
9.3. Laboratory / Practice classes	1		In total:	102,98	

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Omer Musić Full Professor

13. Course aims:

The course objectives are:

- To familiarize students with basic knowledge in the field of mine closure and reclamation.
- To transfer theoretical and practical knowledge and experiences related to mine closure and reclamation.

- **To develop students' intellectual skills in applying the acquired knowledge to solve various engineering problems.**
- **To improve their communication skills in both written and verbal forms.**
- **To enhance their skills related to individual and team/group work.**
- **To improve students' abilities for continuous work throughout the academic year.**
- **To prepare students for teamwork and open communication with professors, thus improving the teaching process and the absorption of new knowledge.**

14. Learning outcomes:

By the end of the semester/course, successful students who have continuously completed their obligations throughout the course will be able to:
- **Use available (written/electronic) literature related to solving various problems in the field of mine closure and reclamation, in a scope appropriate for the course.**
- **Solve simple, as well as relatively more complex problems that can be addressed with knowledge from mine closure and reclamation.**
- **Solve problems of varying complexity, both individually and in teams, and present them in written or verbal form.**
- **Understand the importance of this course for solving various problems in mining engineering practice.**
- **Pass the final exam in the first available exam sessions at the end of the semester.**

15. Course content:

Introductory Session:
Course and Syllabus Presentation: Introduction to the course on Mine Closure and Reclamation.
Introductory Considerations: Overview of the course objectives, importance, and content.
Reasons for Mine Closure: Discussing the environmental, social, and economic factors driving mine closure.
Mine Closure Issues: Highlighting the challenges involved in mine closure and reclamation processes.
Outline of Mine Closure Program: A comprehensive framework for planning and executing mine closure.
Mine Closure Works: Detailed review of tasks and procedures involved in closing both underground and surface mining operations.
Closing Underground Facilities: How to safely and effectively close mine shafts, tunnels, and related underground infrastructure.
Closing Surface Mining Sites: Addressing the closure of open-pit mines, including the handling of remaining waste, waste piles, and other environmental concerns.
Hydrogeological Issues and Pit Flooding: Examining water management challenges such as groundwater inflows and flooding during mine closure.
Potential Reuse of Mine Facilities: Exploring the possibilities for repurposing underground mine structures for other uses, such as energy storage or recreation.
Surface Mining and Waste Disposal: Managing tailings and waste disposal during the closure process, ensuring environmental safety.
Closing the Surface Mine: Techniques and strategies for effective closure of open-pit mines, including waste handling and environmental restoration.
Preparation and Shaping of Surface Mine Infrastructure for Reclamation: Planning and transforming the surface mining area and waste disposal sites for reclamation purposes.
Reclamation Phases: Understanding the different stages in the reclamation process, from preparation to the final rehabilitation of the land.
Restoration and Repurposing of Excavated Areas in Quarries and Mines: Approaches to reshape mined-out areas for future land use, such as agriculture, recreation, or conservation.
Sustainable Development of Surface Mines: Ensuring that the reclamation process contributes to sustainable land use and environmental preservation.

16. Learning methods:

In order to effectively conduct the course and achieve the expected goals and competencies by the end of the semester, various teaching methods are employed during the course:
- **Lectures**
- **Seminar Papers**
- **Consultations**

Throughout the semester, students are required to attend lectures as outlined in the University's Regulations or Statutes of the University of Tuzla. The right to earn a signature for the course is defined by the applicable Regulations or Statutes of the University of Tuzla. The instructor will track the student's attendance using a specially designed form throughout the semester.

17. Assessment methods:

The methods of evaluating students include the following criteria:
1. **Attendance and participation in lectures**
2. **Oral/written mini exams or tests**
3. **Final exam**

Based on the above factors, at the end of the course, the instructor will assign a final grade by evaluating individual activities and assigning points accordingly.

18. Assessment components:

The total number of points is obtained by summing the maximum possible points from all activities during the semester: attendance and participation in classes, written/oral exams. The points are assigned as follows:

- **Attendance: 5 points**
- **Participation: 5 points**
- **Test: 40 points**
- **Pre-exam obligations: 50 points**
- **Final exam: 50 points**

Total: 100 points

The final grade is evaluated and assigned using a system comparable to the ECTS grading scale, as follows:

- **10 (A) – Exceptional performance, no or minimal mistakes, 95-100 points**
- **9 (B) – Above average, with some mistakes, 85-94 points**
- **8 (C) – Average, with noticeable mistakes, 75-84 points**
- **7 (D) – Generally good, but with significant deficiencies, 65-74 points**
- **6 (E) – Meets the minimum criteria, 54-64 points**
- **5 (F, FX) – Does not meet the minimum criteria, less than 54 points.**

19. Mandatory reading list:

O. Musić, Autorizovana predavanja

20. Additional reading list:

1. Tehnička dokumentacija, GRP, DRP Likvidacije rudnika Stara jama Kakanj, Rudnik Tušanj, Rudnik Idrija, Rudnik urana Žirovski vrh. RMU Hrasnik-Trbovlje

21. Web sources:

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session: