SYLLABUS

1. Course title:

UNDERGROUND EXPLOITATION OF NON-BEDDED DEPOSITS

2. Code:

LRUDPENL

3. Cycle of study:

1

4. ECTS credits:

6

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	4		Classes:	56.25	
9.2. Seminars	1		Individual work:	97,83	
9.3. Laboratory / Practice classes	0		In total:	154,08	

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Omer Musić Full Professor

13. Course aims:

To familiarize students with basic knowledge in the field of underground exploitation of non-stratified deposits:
- To transfer all previous theoretical and practical knowledge and experience in the domain of underground exploitation of non-stratified deposits,

- To develop students' intellectual skills in the application of acquired knowledge for solving various engineering problems,
- To improve their communication skills in written and verbal forms,
- To enhance their skills related to individual and team/group work,
- To improve students' skills related to continuous work throughout the year,
- To prepare students for teamwork and open communication between professors and students, thereby enhancing the teaching process and the absorption of new knowledge.

14. Learning outcomes:

At the end of the semester/course, successful students who have continuously fulfilled their obligations throughout the entire teaching period will be capable of:

- Using available (written/electronic) literature related to solving various problems in the field of underground mine design, within the scope appropriate for the course,
- Solving simple, as well as relatively more complex problems for which knowledge of mine design is sufficient,
- Solving problems of varying complexity, both individually and in teams, and presenting them in written or verbal form,
- Understanding the significance of this course for solving various problems in mining engineering practice,
- Passing the final exam in the first available exam sessions at the end of the semester.

15. Course content:

Introduction Session: Presentation of the Course and Syllabus for Underground Exploitation of Non-Layered Deposits
Terms, Definitions, and Specifics of Underground Exploitation of Metal and Non-Metal Ores
Main Characteristics of Metal and Non-Metal Deposits
Basic Characteristics of Opening and Preparing Deposits
Drilling and Mining Operations in Excavation, Loading, and Transportation of Ore (Types, Calculations, Mechanization)
Support of Excavations: Excavation Pressure, Selection of Support, Mechanization for Support
Filling of Excavated Space: Materials for Filling, Filling Technologies
Methods of Underground Excavation: Classification and Method Selection
Methods for Open Excavations
Chamber-and-Pillar Methods
Sublevel Methods
Excavation Methods with Filling
Methods with Support and Filling
Methods with Support of Open Excavations
Methods with Caving of the Roof
Methods with Caving of Ore and Surrounding Rocks
Methods for Retreat Vertical Caving (VCR)
Technical and Economic Parameters of Excavation

16. Learning methods:

In order to efficiently conduct the course and achieve the expected course goals and student competencies by the end of the semester, various teaching methods are used in the course:

- Lectures,
- Programming task development, exercise creation,
- Consultations.

Throughout the semester, students are required to attend lectures as defined by the University of Tuzla's Rules and Regulations. The right to receive credit for the course is defined by the valid Rules and Regulations of the University of Tuzla. The instructor will monitor student attendance throughout the semester using a specially created form.

17. Assessment methods:

1. Attendance and participation in lectures
2. Development of programming/project tasks
3. Oral/written mini exams or parts of the exam
4. Final oral/written exam

Based on the mentioned criteria, at the end of the course, the instructor will form the final grade by scoring the individual activities.

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 awarded as follows:

- Attendance in classes: 5 points
- Participation in classes: 5 points
- Defense of the project task: 40 points
- Pre-exam obligations: 50 points

- **Final exam: 50 points**

Total: 100 points
The final success of the student, after all forms of knowledge assessment, is evaluated and graded according to a system comparable to the ECTS grading scale as follows:
a) 10 (A) - Excellent performance with no errors or with minor errors, earns 95-100 points;
b) 9 (B) - Above average, with some errors, earns 85-94 points;
c) 8 (C) - Average, with noticeable errors, earns 75-84 points;
d) 7 (D) - Generally good, but with significant deficiencies, earns 65-74 points;
e) 6 (E) - Meets the minimum criteria, earns 54-64 points;
f) 5 (F, FX) - Does not meet the minimum criteria, earns fewer than 54 points.

19. Mandatory reading list:

1. Branko Glušlčević: "Otvaranje i metode otkopavanja rudnih ležišta"
2. S. Torbica, N. Petrović: "Metode i tehnologija podzemne eksploatacije neslojevitih ležišta"
3. O. Musić; "Autorizovana predavanja"

20. Additional reading list:

21. Web sources:

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session: