SYLLABUS

1. Course title:

FUNDAMENTAL MINING

2. Code:

LRUDOR

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 | 2

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	0		Individual work:	94,08
9.3. Laboratory / Practice classes	1		In total:	150,3

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Kemal Gutić Full Professor

13. Course aims:

• To introduce first-year students to the significance and application of mining science in the context of surface and underground exploitation of mineral resources. In the practical part, students will gain basic practical knowledge about facilities, working techniques, and equipment used in surface mines and underground shafts.

- To enhance their intellectual skills in applying acquired knowledge to solve various problems.
- To improve their communication skills.
- To improve students' skills related to continuous work throughout the entire academic year.

14. Learning outcomes:

By the end of the semester, successful students who have consistently fulfilled their obligations throughout the entire course period will be equipped to:

- Use available literature to solve various problems related to this course.
- Apply the knowledge acquired in later years of study in the field of mining.
- Solve problems of varying complexity, both individually and in teams, and present them.
- Understand the significance and applicability of this course in relation to practical work in the industry.

15. Course content:

Lecture Content (Total: 60 hours):

1. Definition of Mining (4 hours)
2. Basics of Surface Exploitation, Types of Deposits for Surface Exploitation, Classification of Surface Mines (4 hours)
3. Contouring and Opening of Surface Mines by Cuts, Geometry of Surface Mines (4 hours)
4. Processes of Surface Exploitation (Discontinuous and Continuous): Drilling and Blasting, Excavation and Loading (4 hours)
5. Processes of Surface Exploitation (Discontinuous and Continuous): Transport, Dumping, Reclamation (4 hours)
6. Exploitation Systems and Alternative Exploitation Methods (4 hours), Application of Information Technologies in Mining (4 hours)
7. Basics of Underground Exploitation, Basic Terms of Mine Shafts and Terminology (4 hours)
8. Order of Excavating Mine Field Parts and Opening Deposits (4 hours), Opening of Mine Fields (4 hours)
9. Preparation of Mine Fields (4 hours)
10. Exporting Facilities (4 hours), Underground Excavation Methods (4 hours), Narrow and Wide Stope Excavation Methods (4 hours)
11. Closing of Mines and Environmental Impact (4 hours)

Exercise Content (Total: 15 hours):

- Basic Calculations in Underground Exploitation (7 hours)
- Basic Calculations in Surface Exploitation (8 hours)

16. Learning methods:

Teaching Methods:

- Interactive lectures
- Conducting exercises
- Consultations and email communication with students
- Preparation of seminar papers

17. Assessment methods:

Knowledge Assessment for Students:

- Students will take a test according to the scheduled dates during the semester.
- The course instructor monitors the students' activity and attendance in class.
- After the lectures are completed for the semester, students will take the final exam.

18. Assessment components:

Total Points Calculation:

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

- Attendance: 5 points
- Activity in class: 5 points
- Test: 40 points
- Pre-exam obligations: 50 points
- Final exam: 50 points
- Total: 100 points

Final Grading (according to the ECTS scale):

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

19. Mandatory reading list:

1. Knežiček T., Projektovanje površinskih rudnika, Tuzla 2007.
2. Z. Ibrišimović, A. Adilović, K. Gutić, N.Alić, Eksplozivni materijali, udžbenik, Univerzitet Tuzla 2006.
3. Živković, Vrkljan, Površinska eksploatacija mineralnih sirovina, Zagreb 2002.
4. Knežiček T., Nurić S., Osnove površinske eksploatacije, Tuzla 2015.

20. Additional reading list:

Slijepčević S., Podzemna eksploatacija uglja, otvaranje i priprema jamskih polja,Tuzla 2007.

21. Web sources:

www.osmre.gov
www.greatmining.com
www.esri.com
www.gccoal.com

22. Applicable from the academic year:

2025/26

23. Adopted in the Faculty/Academy session: