SYLLABUS

1. Course title:

MECHANICAL EXTRACTION OF MINERAL RAW MATERIALS

2. Code:

LRUDMDMS

3. Cycle of study:

1

4. ECTS credits:

4

5. Type of course:

Elective

6. Prerequisites:

No

7. Class restrictions:

No

8. Duration / semester(s):

1 7

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:	68,58
9.3. Laboratory / Practice classes	1			In total:	102,33

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Tihomir Knažićek Full Professor, PhD Kemal Gutić Full Professor

13. Course aims:

• Introduce 4th-year mining students to the significance and application of mining machinery as a key method for obtaining mineral raw materials in surface and underground mining operations. In the practical part, students will acquire basic practical knowledge about equipment and capacities in surface mines and mining shafts. • Improve their

intellectual skills in applying acquired knowledge to solve various problems. • Enhance their communication skills. • Improve students' skills related to continuous work throughout the entire year.

14. Learning outcomes:

At the end of the semester, successful students who have continuously fulfilled their obligations throughout the entire academic period will be able to:

- **Use the available literature to solve various problems of this course.**
- **Apply acquired knowledge 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 terms of practical work in the industry.**

15. Course content:

Lecture Content (Total 30 hours)

1. **Characteristics of machinery for surface mining (4 hours)**
2. **Digging resistance in mineral extraction using discontinuous and continuous machinery (2 hours)**
3. **Working organs in mechanized mineral extraction (6 hours)**
4. **Management of mechanized mineral extraction in surface mining (3 hours)**
5. **Characteristics of machinery for underground mining (3 hours)**
6. **Mechanized digging with continuous machinery in underground mining (6 hours)**
7. **Innovative approaches to mineral extraction in underground mining (3 hours)**
8. **Management of mechanized mineral extraction in mine exploitation (3 hours)**

Exercise Content (Total 15 hours)

Basic calculations of machinery capacity in underground mining (7 hours), and surface mining (8 hours)

16. Learning methods:

Interactive Lectures, conducting exercises, consultations, and e-mail communication with students, as well as the preparation of seminar papers.
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17. Assessment methods:

The methods of evaluating students include the following criteria:

- **Attendance and participation in lectures and exercises**
- **Test**
- **Final exam**

18. Assessment components:

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

- **Attendance in lectures and exercises: 5 points**
- **Participation in lectures and exercises: 5 points**
- **Test: 40 points**
- **Pre-exam obligations: 50 points**
- **Final exam: 50 points**
- **Total: 100 points**

The final grade of the student, after all the forms of knowledge assessment, is evaluated and graded according to a system comparable to the ECTS grading scale as follows:

- **10 (A) – Exceptional performance with no or minor errors, 95-100 points**
- **9 (B) – Above average with a few errors, 85-94 points**
- **8 (C) – Average with noticeable errors, 75-84 points**
- **7 (D) – Generally good, but with significant shortcomings, 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:

1. Knežiček T., Nurić S., Osnove površinske eksploatacije, Tuzla 2015.
2. Slijepčević S., Podzemna eksploatacija uglja, otvaranje i priprema jamskih polja,Tuzla 2007.
3. Ibrišimović Z., Vidanović N., Kemal G. Izrada podzemnih rudarskih objekata-Rušenje radne sredine bez upotrbe eksploziva, Tuzla, 2007.

20. Additional reading list:

21. Web sources:

22. Applicable from the academic year:

2025/26

23. Adopted in the Faculty/Academy session: