SYLLABUS

1. Course title:

MATHEMATICS

2. Code:

LRUDMAT

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

Mandatory

6. Prerequisites:

No

7. Class restrictions:

No

8. Duration / semester(s):

1 | 1

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)
9.1. Lectures	2		Classes:	45
9.2. Seminars	2		Individual work:	86,13
9.3. Laboratory / Practice classes	0		In total:	131,1 2

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

Faculty of Science and Mathematics Tuzla

13. Course aims:

To acquire basic knowledge in the field of higher mathematics as previously mentioned, to develop the student's ability to logically and visually understand phenomena, problems, and figures in space, to acquire the necessary knowledge of linear algebra with the aim of applying it to solve systems of linear equations, and to acquire basic knowledge in the fields of vector algebra and analytic geometry, and their applications

14. Learning outcomes:

At the end of the semester/course, successful students who have continuously completed their responsibilities throughout the entire teaching period will be able to:
- Acquire knowledge in new areas that they have not studied before.
- Broaden their perspective and understanding in some areas of higher mathematics.
- Master the theory of matrices and determinants and their applications in solving systems of linear algebraic equations.
- Independently apply certain parts of the material to technical problems, e.g., the area of vector algebra and analytic geometry.

15. Course content:

Algebra of expressions, set theory, relations, functions, basic algebraic structures, sets of natural, integer, rational, and real numbers, the set of complex numbers, matrices and determinants, and solving systems of linear algebraic equations. Basic concepts of vector algebra, vector products, equations of planes and lines, the relationship between a line and a plane, numerical sequences and series, limits of sequences, convergence criteria for numerical series.

16. Learning methods:

Direct lecture by the instructor on the teaching topic, interactive work with students while solving examples and exercises.

17. Assessment methods:

The methods of evaluating students include the following criteria:
- Attendance in lectures and exercises.
- Pre-exam obligations, i.e., tests during the course, which students will take in written form.
- The final exam can be conducted in written, oral, or a combination of both methods.

18. Assessment components:

The total number of points is obtained by summing the maximum possible points from all activities during the semester:
- Attendance in lectures: 5 points
- Attendance in exercises: 5 points
- Test I: 20 points
- Test II: 20 points
- Pre-exam obligations: 50 points
- Final exam: 50 points
- Total: 100 points

The final success of the student, after all the planned forms of knowledge verification, is evaluated and graded according to a system comparable with the ECTS grading scale as follows:
a) 10 (A) - exceptional performance with no errors or minor errors, carries 95-100 points;
b) 9 (B) - above average, with some errors, carries 85-94 points;
c) 8 (C) - average, with noticeable errors, carries 75-84 points;
d) 7 (D) - generally good, but with significant shortcomings, carries 65-74 points;
e) 6 (E) - meets the minimum criteria, carries 54-64 points;
f) 5 (F, FX) - does not meet the minimum criteria, less than 54 points.

19. Mandatory reading list:

1. S. Drpljanin,Matematika, Tuzla,2007. god
2. R. Vugdalić, Predavanja iz predmeta Matematika I, Skripta, Tuzla, 2009.
3. B. Stojanović, Zbirka zadataka iz matematika, Sarajevo, 1981.

20. Additional reading list:

21. Web sources:

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session:
