SYLLABUS

1. Course title:

DATABASES IN MINING

2. Code:

LRUDBPR

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	3		Classes:	33,75
9.2. Seminars	0		Individual work:	67,30
9.3. Laboratory / Practice classes	0		In total:	101,05

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Adila Nurić Full Professor

13. Course aims:

- Familiarize students with the basic knowledge of database creation and usage,
- Improve their knowledge of databases in mining,
- Train students in the basic application of databases,

- Train students in database creation,
- Enhance their intellectual skills in applying acquired knowledge to solve various engineering problems,
- Improve their written and verbal communication skills,
- Enhance their skills related to individual and team/group work,
- Improve students' skills in continuous work throughout the year,
- Prepare students for teamwork and open communication between professors and students, thereby improving 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 able to:
- Use available (written/electronic) literature related to solving various problems in this course,
- Use databases,
- Create databases,
- Solve problems of varying complexity, both individually and in teams, and present them in written or verbal form,
- Understand the significance of this course in solving various problems in engineering practice, and
- Pass the final exam in the first exam sessions at the end of the semester.

15. Course content:

Introduction to Databases. Basic Concepts in Databases. Data Modeling. Data Models. Entity-Relationship Model. Traditional Data Processing. Database Concept. Languages for Relational Databases. Relational Databases – Relations. Attributes. Domains. Keys. Constraints. Physical Structure of Databases. Implementation of Relational Operations. Relational Algebra. Transactions, Locking Mechanisms, Concurrent Execution. Data Integrity and Security. Database Recovery in Case of Failure. Database Administration. Examples of Database Construction – General Form. Examples of Database Construction in Mining.

16. Learning methods:

For the effective delivery of lectures and the achievement of the course's expected objectives and student competencies by the end of the semester, various teaching methods are used: lectures and consultations.
Lectures
Throughout the entire semester, students are required to attend lectures as defined by the Regulations of the University of Tuzla. The requirements for obtaining a signature for this course are also determined by the University's regulations. The instructor will monitor student attendance throughout the semester using a specially designed form.

17. Assessment methods:

Student evaluation includes the following criteria:
- Attendance at lectures
- Participation in exercises and lectures
- Test assignments
- Final exam – problem-solving tasks

Written assessment methods include knowledge verification through tests after specific sections of the curriculum.

18. Assessment components:

Student evaluation includes the following criteria:
- Attendance at lectures – 10 points
- Participation in exercises and lectures – 10 points
- Test assignments – 50 points
- Total (before the final exam) – up to 70 points
- Final exam – problem-solving tasks – up to 30 points

TOTAL – 100 points
Final Student Evaluation
The final student performance, after all forms of knowledge assessment, is graded using a system comparable to the ECTS grading scale, as follows:
10 (A) – Outstanding performance with no or minimal errors (95-100 points)
9 (B) – Above average, with some 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. Vladimir Blagojević, Relacione baze podataka I, ICNT Beograd, 2006
2. Robert Manger, BAZE PODATAKA, skripta, PMF, Sveučilište Zagreb, 2003

3. SQL kreiranje i modificiranje tablica, PMF, Sveučilište Zagreb

20. Additional reading list:

21. Web sources:

1. Gordana Pavlović-Lažetić, Uvod u relacione baze podataka, http://poincare.matf.bg.ac.rs/~gordana/FINALE.pdf
2. Oracle® Database Concepts 11g Release 2 (11.2) E40540-02, 2014, http://docs.oracle.com/cd/E11882_01/server.112/e40540.pdf
3. Marek Kręglewski, Databases for beginners 02-DBBA, http://www.staff.amu.edu.pl/~zcht/pliki/Databases%20for%20beginners.pdf

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session: