

SYLLABUS

1. Course title:

DRAINAGE

2. Code:

LRUDODV

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

4

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: 94,75
9.3. Laboratory / Practice classes	1			In total: 128,5

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Sunčica Mašić Full Professor

13. Course aims:

To provide knowledge on the basic methods of mine drainage. To improve students' skills related to continuous work throughout the entire year.

14. Learning outcomes:

At the end of the semester/course, successful students who have continuously fulfilled their obligations throughout the entire instructional period will be capable of applying the acquired knowledge in explaining phenomena in the areas covered by the program.

15. Course content:

Syllabus Presentation. Basic concepts in hydrology and hydrogeology; Basic concepts in the dynamics of groundwater; Fundamentals of hydrostatics; Hydrodynamics; Fluid flow in pipes; Open channels; Sizing of culverts; Required pump capacities for draining open-pit mines; Required number of pumping units; Calculation checks for selected pumps; Determining pipeline characteristics; Steel and rubber pipelines; Types of pumps for drainage in mining; Cavitation; Hydraulic shock; Stable pumping stations in mining; Floating pumping stations in mining; Analysis of the impact of relevant factors for efficient drainage of open-pit mines; Characteristic examples of deposits; Prevention of surface water infiltration into underground; Open-pit drainage systems; Calculation of basic parameters for drainage wells; Impermeable curtains; Methods of drainage in open-pit mining using traditional mining methods; Drainage methods in open-pit mining using channels and water catchment in the pit; Underground drainage in mining.

16. Learning methods:

- Lectures, exercises, consultations
- Individual programs
 - Lectures and exercises are interactive and practical in nature.

17. Assessment methods:

- The methods of evaluating students include the following criteria:
1. Attendance and participation in lectures
 2. Participation in lectures
 3. Tests
 4. Final exam

18. Assessment components:

GRADING

- Attendance at lectures: up to 5 points
- Attendance at exercises: up to 5 points
- Participation in lectures: up to 5 points
- Tests: up to 35 points
- Pre-exam obligations: 50 points
- Final exam: up to 50 points

Total: 100 points

The final success of the student, based on all forms of knowledge assessment, will be evaluated and graded according to a system comparable to the ECTS grading scale as follows:

- a) 10 (A) - Exceptional success, without errors or with minor errors, earns 95-100 points
- b) 9 (B) - Above average, with a few mistakes, earns 85-94 points
- c) 8 (C) - Average, with noticeable mistakes, earns 75-84 points
- d) 7 (D) - Generally good, but with significant shortcomings, earns 65-74 points
- e) 6 (E) - Meets minimum criteria, earns 54-64 points
- f) 5 (F, FX) - Does not meet the minimum criteria, less than 54 points

19. Mandatory reading list:

1. S. Hodžić S. Mašić «Odvodnjavanje u rudarstvu», (udžbenik) Univerzitet u Tuzli, 1996. godina
2. V. Jovičić:Odvodnjavanje rudnika, RGF Univerzitet u Beogradu, 1985.

20. Additional reading list:

M. Ivković: Odvodnjavanje u rudarstvu, Rudarski radovi, specijalno izdanje 2008-1

21. Web sources:

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session: