UNIVERSITY OF TUZLA UNIVERZITET U TUZLI

SYLLABUS

1. Course title:

WASTE DISPOSAL AND DEPOSITING

2. Code:

LRUDODP

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 | 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:	68,50
9.3. Laboratory / Practice classes	1		In total:	102,25

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Samir Nurić, Full Professor

13. Course aims:

- Introduce students to the basic knowledge of the disposal and deposition of overburden and mineral raw materials, and transfer theoretical and practical knowledge and experiences related to the temporary or permanent disposal and management of overburden and tailings, as well as the deposition of ore at the production facility deposits.

• Educate students about the principles of operation of machinery used for managing materials at disposal sites and tailings heaps, as well as mineral raw materials at deposits.
• Develop students' intellectual skills in applying acquired knowledge to solve various engineering problems related to the course content.
• Improve their communication skills in both written and verbal forms.
• Enhance their skills related to individual and team/group work.
• Improve students' skills related to continuous work throughout the entire year.
• Prepare students for effective communication with professors, thus improving the teaching process.

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 within the scope of this course.
• Select and align production equipment and machinery for surface mining operations related to disposal and deposition, according to the geomechanical properties of overburden, tailings, and mineral raw materials, as well as the characteristics of the working environment and the planned production capacities of the mine and mineral processing plants, or the consumption capacities of thermal power plants.
• Solve problems of varying complexity, both individually and in teams, and present their solutions in written or verbal form.
• Understand the significance of this course in solving various problems in mining engineering practice.
• Pass the final exam during the first exam periods at the end of the semester.

15. Course content:

General Overview of the Importance of Disposal and Deposit as a Production Process. Types of disposal sites. Formation of overburden and tailings disposal sites, as well as ore (mineral raw material) deposits. Conditions that an overburden disposal site must meet (location, spatial capacity, natural conditions, etc.). Classification of disposal sites based on their location. Systems of overburden disposal. Disposal in systems with continuous mass transport. Dumpers and transport bridges (application conditions, basic structural components, operating principle, and capacity calculation of dumpers and transport bridges). Basic advantages and disadvantages of disposal systems with dumpers and transport bridges. Disposal in systems with cyclic mass transport. Bulldozer disposal. Methods of disposal at internal disposal sites. Disposal in non-transport systems of exploitation. Progression of overburden disposal and ore (mineral raw material) deposits. Calculation of disposal sites and deposits (area, height, and capacity of disposal sites and deposits). Drainage of disposal sites (horizontal and vertical drainage). Deformations of disposal sites. Methods of stabilizing disposal sites. Reclaimers (basic structural elements, purpose, and capacities of combined machines in the disposal and reclaiming modes).

16. Learning methods:

To ensure the effective delivery of the course and achieve the expected course goals and student competencies, various teaching methods are used:
• Lectures,
• Project (programming) tasks or seminar papers, and
• Consultations.
Throughout the semester, students are required to attend lectures as defined by the Regulations or the Statute of the University of Tuzla. The right to sign for the given course is defined by the applicable Regulations or Statute of the University of Tuzla. During the semester, the instructor will monitor student attendance using a specially created form. The percentage of hours that must be attended in lectures and exercises is also defined by the applicable Regulations or Statute of the University of Tuzla.

17. Assessment methods:

The minimum number of points required to pass the exam is 54, including the points earned for attendance and participation in the lectures. The methods of evaluating students include the following criteria:
• Attendance and participation in lectures
• Oral/written mini-exams or test sections
• Final oral/written exam sections
Based on the above-mentioned facts, at the end of the course, the instructor will assign a final grade by evaluating the individual activities.

18. Assessment components:

The total number of points is obtained by summing the maximum possible points from all activities during the semester: attendance and participation in lectures, written/oral exam. The points are awarded as follows:
– Attendance: 5 points
– Participation: 5 points
– Test: 40 points
– Pre-exam obligations: 50 points
– Final exam: 50 points

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

19. Mandatory reading list:

1. S. Nurić, Kamionski transport u površinskoj eksploataciji, Univerzitet u Tuzli, 2009.
2. S. Nurić, T. Knežiček, Osnove površinske eksploatacije mineralnih sirovina, IN SCAN d.o.o. Tuzla, 2015.
3. T. Ratan, Surface and underground excavations: methods, techniques and equipment-2nd ed., CRC Press/Balkema, Leiden, The Netherlands, Taylor & Francis Group, London, UK 2013.
4. W. Hustrulid, M. Kuchta, Open Pit Mine Planning & Design, A.A. Balkema, Rotterdam, Brookfield, 2006.
5. B.A. Kennedy, Surface Mining, 2nd Edition, Society for Mining, Metallurgy and Eksploration, Inc. Littleton, Colorado, 1990.
6. N. Popović, Naučne osnove projektovanja površinskih kopova, NIRO 'Zajednica' – NIŠRO 'Oslobođenje', Sarajevo, 1984.
7. Kun, Površinska eksploatacija lignita I knjiga, Rudarski institut, Beograd, 1981.
8. J. Kun, Površinska eksploatacija lignita II knjiga, Rudarski institut, Beograd, 1982.

20. Additional reading list:

21. Web sources:

22. Applicable from the academic year:

2025/26

23. Adopted in the Faculty/Academy session: