SYLLABUS

1. Course title:

FLOTATION AND AGGLOMERATION

2. Code:

FIA

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 | 3

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)
9.1. Lectures	2		Classes:	22,50
9.2. Seminars	0		Individual work:	87,83
9.3. Laboratory / Practice classes	0		In total:	110,33

10. Faculty:

Mining, Geology and Civil Engineering

11. Department/study program:

Mining Engineering

12. Lecturer:

PhD Nedžad Alić Full Professor

13. Course aims:

Familiarizing students with the basics of mineral processing through flotation and aggregation methods, as well as their application in various industries. Students should understand the changes in the education system, where they are at the center of the learning process, as opposed to the traditional teacher-centered approach. From the very beginning of the course, they are expected to actively participate in all teaching activities and responsibilities and establish two-way communication with the professor/assistant.

14. Learning outcomes:

Familiarizing students with the fundamentals of mineral processing through flotation and aggregation methods, as well as their application in various industries. Students should understand the changes in the education system, where they are at the center of the learning process, as opposed to the traditional teacher-centered approach. From the very beginning of the course, they are expected to actively participate in all teaching activities and responsibilities and establish two-way communication with the professor/assistant.

15. Course content:

Flotation concentration; Physico-chemical fundamentals of the flotation process; Phases in the flotation process: liquid, solid, and gaseous phase; Elementary flotation flow; Mineral surface properties; Surface hydration of the solid phase; Dissolution of mineral surfaces in water; Interphases of flotation pulp; Flotation reagents; Flotation technology; Classification of minerals based on flotation behavior.
Material grain size in flotation; Selection of flotation schemes; Conditioners; Flotation machines; Attrition machines; Reagent feeders.
Fundamental aggregation processes; Structural aggregation; Press agglomeration; Aggregation by drying; Briquetting – process and equipment; Pelletizing – process and equipment; Pellet hardening; Sintering; Technological aggregation processes.
Team project development.

16. Learning methods:

Lectures, through the development of a team project in laboratory conditions, consultations
- Activities are interactive and of a practical nature.

17. Assessment methods:

Attendance and participation in lectures and exercises
- Individual projects/seminar papers
- Team/group projects
- Tests
- Final exam

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 class: 5 points
- Individual project/seminar paper: 10 points
- Team/group project: 35 points
- Pre-exam activities: 50 points
- Final exam: 50 points
- Total: 100 points

The final success of a student, after all prescribed forms of knowledge assessment, is evaluated using a system comparable to the ECTS grading scale as follows:
a) 10 (A) – Outstanding performance with no or minor 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:

M. Petrovic, Priprema mineralnih sirovina – osnove aglomeriranja, Tuzla 2007.

20. Additional reading list:

aslav Jevremović: Priprema mineralnih sirovina (Tuzla 1984.g.)

21. Web sources:

22. Applicable from the academic year:

2025/26.

23. Adopted in the Faculty/Academy session:
