SYLLABUS

1. Course title:

ANALYSIS OF MATERIALS

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

NO

7. Class restrictions:

NO

8. Duration / semester:

1 5

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 2

10. Faculty:

Faculty of Technology

11. Department/study program:

Chemical Engineering and Technologies/Chemistry and Engineering of Materials

12. Lecturer:

dr. sc. Mersiha Suljkanović, doc.

13. Lecturer's e-mail:

mersiha.suljkanovic@untz.ba

14. Web site:

www.untz.tf

15. Course aims:

To learn the basic theoretical principles and to acquire effective practical skills required for independent resolving of different theoretical and practical tasks in the field of characterization and analysis of different organic and inorganic materials.

16. Learning outcomes:

The proposed program should enable students to connect the acquired knowledge with the knowledge gained from the program of professional subjects. Based on the information obtained, the students should be able to evaluate the quality of the tested materials according to standard requirements.

17. Course content:

The significance of examination and analysis of the real samples. Systematic approach to chemical analysis.
Statistical methods for processing and evaluation of the experimental results. Performance of measurement process.
Natural and synthetic organic and inorganic materials.
Sampling of solid materials. Preparation of representative sample for analysis. Sample digestion, separation from matrix and transformation of specific components in suitable form for chemical analysis.
Strategy for method selection considering the type and the purpose of analysis.
Methods for examination of some significant materials in industry, such as: ores, alloys, silicate materials, construction materials, polymers, etc.

18. Learning methods:

- Lectures / discussions through visits to industrial laboratories
- Experimental / laboratory practice in: sampling, sample preparation, chemical analysis and characterization of different materials, processing of obtained results, quality assessment of materials (field practice)

19. Assessment methods:

After the first half of the semester, students take first test which consists of theoretical questions related to the topics previous discussed through the lectures. Maximum number of points which student can achieve at this test is 40.
After the second half of the semester, students take the second test, which also consists of theoretical questions. Maximum number of points which student can achieve at the second test is also 40.
For continuous activity throughout the semester, students can achieve maximum of 20 points: 15 points from activities in laboratory and 5 points from active involvement in discussions and attendance at lectures.
Knowledge assessment of all kinds are recognized as cumulative exam only if the achieved result is positive after every individual test. In order to pass this course, student must achieve minimum of 54 points.

20. Assessment components:

Rating is based on the accumulated points from pre-exam activities and tests, according to quality of aquired knowledge and skills.
Student can achieve maximum of 100 points, according to following scale:

Student obligations	Points (min-max)
Attendance	3 - 5
Activities in laboratory	7- 15
Tests	44 - 80

21. Required reading list:

1. M.Kaštelan-Macan, Kemijska analiza u sustavu kvalitete, ŠK, Zagreb (2003)
2. S.Jovanović, K.Jeremić, Karakterisanje polimera, Tehnološko-metalurški fakultet Beograd (2007)
3. H.Pašalić, Instrumentalne metode-opći principi, Off-set,Tuzla, (2013)

22. Web sources:

(max. 687 characters)

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session:

(max. 10 char.)