SYLLABUS

1. Course title:

Technology of metal materials

2. Code:

3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

No prerequisites

7. Class restrictions:

No class restrictions

8. Duration / semester:

1 5

9. Weekly contact hours:

9.1. Lectures: 2

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 0

10. Faculty:

Faculty of Technology

11. Department/study program:

Chemical Engineering and Technologies/Chemistry and Engineering of Materials

12. Lecturer:

Sabina Begic, ass.prof; Sead Ćatić,full professor

13. Lecturer's e-mail:

sabina.begic@untz.ba; sead.catic@untz.ba

14. Web site:

www.tf.untz.ba

15. Course aims:

The aim of the course is to give students necessary knowledge in the field of production and processing of metall materials. The chemical and physical properties and their characteristics in relation to their position in the periodic system. Constructive characteristics and their presence in the process industry.

16. Learning outcomes:

By successfully mastering this course, students will identify the principles and techniques of of application of industrial processes. Non-ferrous metallurgy. Copper metallurgy. Lead metallurgy. Zinc metallurgy. Mercury metallurgy. Metallurgy of gold and silver. Metallurgy of cobalt. Metallurgy of nickel. Metallurgy of tungsten. Metallurgy of vanadium. Metallurgy of molybdenum. Metallurgy of zirconium. Metallurgy of niobium and tantalum.

17. Course content:

Innovations in structural shaping of products and in production processes are fundamentally determined by the properties of technical materials. Experiences from the most developed countries show that the application of new materials and related high technologies has significant market advantages. Research, development and application of new materials and related technologies is - in addition to genetics and biotechnology, information technology and communications - in the "generic" science and technology disciplines. The science and engineering of materials creates a very large number of innovations, important for a number of other branches of technique. The application of modern materials provokes the development of improved product characteristics, particularly in the following industrial branches: industry of machines and tools, the automotive industry, the energy and process plants, the oil and gas industry, the aerospace industry, household appliances, medicine, electronics, optics and optoelectronics, as well as new areas in the field of microsystems, technology, sensors, bionics, microelectronics and others.

18. Learning methods:

Auditorial lectures, using multimedia resouces (power point presentations), favoring the active participation and discussion of students.
Practical work on the preparation and public pesentation of individual and group seminar papers.

19. Assessment methods:

Knowledge and skills are continually evaluated throughout the semester, through: partial exams - tests - T1 and T2, and final exam. Students are obliged to approach all forms of knowledge checking during the semester.
Partial exam I includes knowledge checking after the first seven teaching units, adopted through lectures.
Partial exam II includes knowledge checking, adopted through lectures (teaching units from 8 to 15).
Partial exams I and II are in written form and each consists of 10 questions. At each partial exam, the student can win a maximum of 20 points.
As part of the prerequisites, the student can prepare a seminar work on the topics of the course content, which he submits in written form for review and assessment and can achieve a maximum of 5 points.
The presence at lectures is evaluated with a maximum of 5 points (lectures are mandatory). The student can earn up to 50 points on pre-exam activities.
The final exam covers the entire course. At the final exam, the student can win a maximum of 50 points.

20. Assessment components:

The rating on the exam is based on the total number of points the student has achieved by fulfilling the prerequisites and completing the final exam, and it contains a maximum of 100 points and is determined according to the following scale: Attendance at the lectures 5 points; Seminar work 5 points; Partial test I and II -40 points. Prerequisites total 50 points and final exam total 50 points.

21. Required reading list:

1. Zdenka Lenhard, Metalurgija obojenih metala I, Sisak 2008.
L.L. Hench, J.K. West, Chemical Processing of Advanced Materials, John Wiley & Sons, Inc., New York, 1992.

22. Web sources:

http://www.unep.fr/scp/cp/publications/ (10.04.2015)

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: