

Faculty:	Faculty of Geosciences	
Name of study program:	Materials and Metallurgy	
Department:	Materials and Metallurgy	
Level:	Bachelor	
The code of subject:	5	
Subject:	Corrosion and corrosion protection	
Subject Status:	Compulsory / winter	(Winter / Summer)
Semester:	IV	(According to approved programe)
Total hours:	2+2	(According to approved programe)
ECTS:	5	(According to approved programe)
Schedule / Hall		
Academic year:		
Professor:	Afrim Osmani	
Assistants:	Lecturer:	
Email:	Afrim.osmani@umib.net	
Telefon:		
Course description:	Thermodynamic and kinetic causes of corrosion reactions on the basis of electrochemical processes: Corrosion (uniform or localized corrosion) Passivity of metals, stress corrosion cracking and high temperature corrosion. The corrosion protection includes inhibition and cathodic corrosion protection, non-metallic and metallic coatings and organic coatings.	
Course objectives:	- Familiarization of students with the basic concepts of corrosion theory - acquaintance of students with the main methods of corrosion protection, - training students to choose the appropriate method of corrosion protection, - training of students for independent use of professional literature and other resources in the field of corrosion and protection of metal materials,	
Learning outcomes:	After completing this course (course) the student will be able to: 1. know the degradation processes of the structure, 2. to know the phenomena of corrosion, 3. draft a corrosion protection plan, 4. compare corrosion phenomena.	
Designed study plan:	Week	Lectures which will be held
	First week:	Generalizations
	Second week:	Types of corrosion
	Third week:	Dry corrosion. Thermodynamic aspects
	Fourth week:	Kinetic aspects. Layer formation and growth
	Fifth week:	The effect of temperature
	Sixth week:	The action of different gases
	Seventh week:	First intermediate assessment
	Eighth week:	Corrosion protection in dry and wet
	Ninth week:	and corrosion protection of materials Edition II
	Tenth week:	Electronic processes. Electrochemical series
	Eleventh week:	passivization
	Twelfth week:	Galvanic corrosion. Selective corrosion

		Thirteenth week:	Surface condition. Internal tensions																																																	
		Fourteenth week:	Second intermediate evaluation																																																	
		Fifteenth week:	The oxidizing power of the environment																																																	
Literature	Basic	1.Milajete Shala-Mehmeti, Manfred Paul, H. Mehmeti Korrozioni dhe mbrojtja e materialeve nga korrozioni Botimi i II 2.Hamit Mehmeti, H. Oettel, Milajete Shala-Mehmeti Shkenca e Materialeve , Prishtine-Freiberg, 2000 3. Gian Mario Paolucci, „ “Leksione të Metalurgjisë” “, Vëll. I (Përkthyer nga Arian Deshiri, Tiranë 2006																																																		
	Additional																																																			
Teaching methods		Interactive lectures, numerical and exercises. Tests during lectures																																																		
Contribution on student load	<table><tr><td>Activity</td><td>Hours</td><td>Days/week</td><td>Total</td></tr><tr><td>Lectures</td><td>2</td><td>15</td><td>30</td></tr><tr><td>Exercise theoretical/laboratory</td><td>2</td><td>15</td><td>30</td></tr><tr><td>Practice work</td><td></td><td></td><td>-</td></tr><tr><td>Contact with lecturer/consultations</td><td>3</td><td>2</td><td>6</td></tr><tr><td>Field exercises</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Mid-terms, seminars</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Homework</td><td>4</td><td>3</td><td>12</td></tr><tr><td>Individual time spent studying (at the library or home)</td><td>2</td><td>15</td><td>30</td></tr><tr><td>Final preparation for the exam</td><td>2</td><td>1</td><td>2</td></tr><tr><td>Time spent in evaluation (tests, quiz, final exam)</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Projects, presentations, etc.</td><td>1</td><td>3</td><td>3</td></tr></table>				Activity	Hours	Days/week	Total	Lectures	2	15	30	Exercise theoretical/laboratory	2	15	30	Practice work			-	Contact with lecturer/consultations	3	2	6	Field exercises	2	2	4	Mid-terms, seminars	2	2	4	Homework	4	3	12	Individual time spent studying (at the library or home)	2	15	30	Final preparation for the exam	2	1	2	Time spent in evaluation (tests, quiz, final exam)	2	2	4	Projects, presentations, etc.	1	3	3
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Academic policies and rules of conduct:		Regular attendance is required of students in lectures and exercises. Rules of conduct as quieting learning, access to the hall of learning time, turn off cell phones, etc. are also mandatory.																																																		