

TESTING AND CONTROL OF MATERIALS		
Faculty:	Faculty of Geosciences	
Name of study program:	Materials and Metallurgy	
Department:	Materials and Metallurgy	
Level:	Bachelor- Materials	
The code of subject:	4	
Subject:	TESTING AND CONTROL OF MATERIALS	
Subject Status:	Compulsory/ Winter	(Winter / Summer)
Semester:	V	(According to approved programe)
Total hours:	2+2	(According to approved programe)
ECTS:	4	(According to approved programe)
Schedule / Hall		
Academic year:	Afrim Osmani	
Professor:		
Assistants:	Lecturer:	Assistant
Email:	Afrim.osmani@umib.net	
Telefon:		
Course description:	This course introduces students to the destructive and nondestructive testing of materials through laboratory tests according to the certain standards, making accurate observation of phenomena and cover interpretation of results. The role and importance of material testing-basic concepts. Standardization, standards and technical normes in the field of materials testing. Tensile testing. Compression testing. Bending testing. Shear testing. Hardness testing with static load action. Hardness testing with dynamic load action. Impact fracture testing. Fatigue testing. Testing at high and low temperatures. Technological testing. Non destructive testing (defectoscopy). Testing and control of the welding joints	
Course objectives:	The program course aims to give to students: knowledge about the main methods of testing and control of materials in order to determine their quality and the relevant standards for testing and control of materials,	
Learning outcomes:	By the completion of this course, the students will be expected: -to select the appropriate testing and control for adequate cases, -to prepare testing/control report including all required data according to the relevant standard, -to compare the obtained results values with the specifications values of adequate standard, -to identify the cause of defects occurrence of the materials, -to identify type of material and production history, respectively preceding processing,	
Designed study plan:	Week	Lectures which will be held
	First week:	The role and importance of the materials testing-basic concepts
	Second week:	Standardization, standards and technical norms in the field of the materials testing
	Third week:	Tensile testing
	Fourth week:	Compression testing
	Fifth week:	Bending testing
	Sixth week:	Torsion testing
	Seventh week:	Shear testing
	Eighth week:	Hardness testing with static action of load
	Ninth week:	Hardness testing with dynamic load

		Tenth week:	Impact toughness testing																																																						
		Eleventh week:	Fatigue testing																																																						
		Twelfth week:	Testing in the high and low temperatures																																																						
		Thirteenth week:	Technological testing																																																						
		Fourteenth week:	Nondestructive testing																																																						
		Fifteenth week:	Welded joint testing																																																						
Literature	Basic	1.I.Vitez,Ispitivanje mehanickih svojtava metalnih materijala, Slavo. Brod , 2006. 2.W.F. Hosford, "Mechanical Behavior of Materials?", Cambridge, 2005. 3.Bajrush Bytyci, Rr Maksuti, Kontrolli i bashkësive të salduara, Prishtinë, 2009.																																																							
	Additional	1.M.Komlenovic, V.Djukic, Mehanicka ispitivanja metala, laboratorike i racunske vjezbe, Zenica, 2.H. Blamenauer, Werkstoffprüfung, 5.Auflage Deutscher Verlag für Grundstoffindustrie, Leipzig, 3.J.Martin, Materials for Engineering, London 4.Metals Handbook, ninth ed., Vol.8, Mechanical Testing, ASM,																																																							
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>2</td><td></td><td>2</td></tr><tr><td>Field exercises</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Mid-terms, seminars</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Homework</td><td>2</td><td>3</td><td>6</td></tr><tr><td>Individual time spent studying (at the library or home)</td><td>4</td><td>15</td><td>60</td></tr><tr><td>Final preparation for the exam</td><td>5</td><td>2</td><td>10</td></tr><tr><td>Time spent in evaluation (tests, quiz, final exam)</td><td>2</td><td>3</td><td>6</td></tr><tr><td>Projects, presentations, etc.</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Total</td><td></td><td></td><td>149</td></tr></table>					Activity	Hours	Days/week	Total	Lectures	2	15	30	Exercise theoretical/laboratory	2	15	30	Practice work				Contact with lecturer/consultations	2		2	Field exercises	-	-	-	Mid-terms, seminars	2	2	4	Homework	2	3	6	Individual time spent studying (at the library or home)	4	15	60	Final preparation for the exam	5	2	10	Time spent in evaluation (tests, quiz, final exam)	2	3	6	Projects, presentations, etc.	1	1	1	Total			149
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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.																																																							

