

Faculty of Civil Engineering / / BUILDING MATERIALS AND PRODUCTS

Course:	BUILDING MATERIALS AND PRODUCTS			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
11976	Mandatory	1	4	2+0+1
Programs				
Prerequisites	None			
Aims	Familiarization with methods of testing and evaluation of material properties. Selection of appropriate materials for various applications in construction.			
Learning outcomes	After passing this exam, students can: 1. Determine the necessary characteristics of materials and choose a suitable material according to its purpose. 2. Understand the common behaviors of some important materials and their properties. 3. They recognize possible problems when using certain materials and propose solutions.			
Lecturer / Teaching assistant	Associate prof. Radmila Sindić Grebović, CE			
Methodology	Lectures, exercises, laboratory exercises, tests, review class.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction – Concepts. Explanations of regulations and basic standards.			
I week exercises	Introduction – Concepts. Explanations of regulations and basic standards.			
II week lectures	Classification of materials. Basic parameters for material selection; properties and application.			
II week exercises	Classification of materials. Basic parameters for material selection; properties and application.			
III week lectures	Cement. Cement-based mixtures - concrete.			
III week exercises	Computational and laboratory exercises.			
IV week lectures	Aggregate, Additives, Properties of fresh concrete.			
IV week exercises	Computational and laboratory exercises.			
V week lectures	Mechanical properties of concrete, volumetric changes in concrete.			
V week exercises	Mechanical properties of concrete, volumetric changes in concrete.			
VI week lectures	Durability of concrete and concrete structures.			
VI week exercises	Mortar and concrete testing.			
VII week lectures	Concrete mix design.			
VII week exercises	Calculation and laboratory exercise.			
VIII week lectures	COLLOQUIUM I			
VIII week exercises	COLLOQUIUM I			
IX week lectures	Ceramic products in buildings and constructions.			
IX week exercises	Computational and laboratory exercises.			
X week lectures	Glass in buildings and construction.			
X week exercises	Calculation exercise.			
XI week lectures	The use of wood in constructions and structures.			
XI week exercises	Calculation exercise.			
XII week lectures	Polymers/plastics in building objects and constructions.			
XII week exercises	Calculation exercise.			
XIII week lectures	Metals and their use in construction. Steel products.			
XIII week exercises	Computational and laboratory exercises.			
XIV week lectures	Corrosion and protection of steel structures.			
XIV week exercises	Calculation exercise.			

XV week lectures		COLLOQUIUM II				
XV week exercises		COLLOQUIUM II				
Student workload						
Per week			Per semester			
4 credits x 40/30=5 hours and 20 minuts 2 sat(a) theoretical classes 1 sat(a) practical classes 0 excercises 2 hour(s) i 20 minuts of independent work, including consultations			Classes and final exam: 5 hour(s) i 20 minuts x 16 =85 hour(s) i 20 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 5 hour(s) i 20 minuts x 2 =10 hour(s) i 40 minuts Total workload for the subject: 4 x 30=120 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 24 hour(s) i 0 minuts Workload structure: 85 hour(s) i 20 minuts (cources), 10 hour(s) i 40 minuts (preparation), 24 hour(s) i 0 minuts (additional work)			
Student obligations			Attendance at lectures and exercises, preparation of laboratory exercises, taking tests and colloquiums.			
Consultations						
Literature			1. Mihailo Muravljov: Građevinski materijali, Građevinska knjiga, Beograd, 2000. 2. Construction Products Regulation (CPR-305/2011) 3. Michael S. Mamlouk, John P. Zaniewski: "Materials for Civil and Construction Engineers", Pearson Education, 2011.			
Examination methods			-Activity 5 points - Laboratory and tests - max 15 points -Two colloquiums - max 25 points each -Final exam - max 30 points			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points