

Study program: Civil Engineering			
Course: Construction Materials 1			
Professor/Assistant: PhD Danijela Zlatković / Simona Smiljković			
Status of course: compulsory			
ECTS credits: 6			
Pre-requisites: none			
Aims of the course: Preparing the student to: <ul style="list-style-type: none"> - get acquainted with the basic technological properties of the most important building materials that are regularly used in modern construction practice, as well as with their physical and mechanical characteristics; - get acquainted with the behavior of materials in mechanical load; - apply correctly different building materials in appropriate construction structures. 			
Learning outcomes: After taking the course, students will be able to: <ul style="list-style-type: none"> - apply independently and correctly different building materials in everyday building practice; - apply engineering principles in selection of materials when designing buildings; - determine the quality and applicability of various construction materials and their compliance with the needs of the profession. 			
Syllabus: <u>Theoretical part</u> Study of the basic technological as well as physical-mechanical characteristics: stone, ceramic materials, aggregates, mineral binders, autoclaving binders, organic binders, mortars, cement concrete with elements of concrete technology, additives for concrete, light concrete, heavy concrete, microarmed concrete, polymeric concrete, metals (steel), wood and plastic materials. <u>Practical part</u> Determination of the bulk density of the material, determination of the density of the material and calculation of the total porosity and density, water absorption, testing of brick products and calculations of the brick and block marking, determining the granulometric composition of aggregates, testing the strength of mineral binders and determining the cement class, testing the properties of fresh concrete, concrete strength and concrete class determination.			
Literature: <ol style="list-style-type: none"> 1. Muravljov, M., <i>Building Materials</i>, Građevinska knjiga, Belgrade, 2000. 2. Muravljov, M., Živković, S, <i>Collection of solved examinations</i>, Građevinska knjiga, Belgrade, 2001. 3. Grdić, Z., <i>Collection of solved tasks from building materials</i>, GAF, Niš, 2003. 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 2	Laboratory classes: 1	
Teaching methods: Combined, interactive with case management from practice.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-commitments	points	Final exam	points
activity during lectures	5	written exam	-
activity during practices	5	oral exam	30
colloquium(s)	20 + 20		
seminar paper(s)	20		
Sum	70	Sum	30