

Faculty of Metallurgy and Technology / CHEMICALL TECHNOLOGY / TECHNOLOGY OF BIOACTIVE NATURAL COMPOUNDS

Course:	TECHNOLOGY OF BIOACTIVE NATURAL COMPOUNDS			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
10653	Mandatory	6	6	2+1+1
Programs	CHEMICALL TECHNOLOGY			
Prerequisites	Without conditions for lecture			
Aims	Getting to know the structure and physical-chemical properties of air and hydraulic binders, as well as the structure, properties and application of inorganic fillers and pigments			
Learning outcomes	After the student passes this exam, he/she will be able to: 1. Explain the basic differences between air and hydraulic binders 2. Differentiates the processes of decarbonization, dehydration and sintering when obtaining binders 3. Differentiates the purpose and areas of application of fillers 4. Recognizes the basic differences in raw materials for obtaining fillers and technological processes of obtaining them 5. Recognizes the application and classification of pigments			
Lecturer / Teaching assistant	Prof. dr Biljana Zlatičanin			
Methodology	Lectures, exercise (laboratory and calculus). Consulting.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction. Mineral binders.			
I week exercises	Laboratory exercises			
II week lectures	Air and hydraulic binders.			
II week exercises	Laboratory exercises			
III week lectures	Decarbonization of carbonates. Decarbonization temperature. Lime quenching and binding.			
III week exercises	Laboratory exercises			
IV week lectures	Dehydration of gypsum. Bonding and types of plaster.			
IV week exercises	Laboratory exercises			
V week lectures	Cement. Sintering of raw materials.			
V week exercises	Laboratory exercises			
VI week lectures	Moduli and degree of saturation. Special types of cement.			
VI week exercises	I test			
VII week lectures	Fillers and application of fillers.			
VII week exercises	Correctional first test			
VIII week lectures	Production of fillers.			
VIII week exercises	Calculus exercise.			
IX week lectures	Carbonate fillers.			
IX week exercises	Calculus exercise.			
X week lectures	Inorganic pigments, classification of inorganic pigments.			
X week exercises	Calculus exercise.			
XI week lectures	Origin of color in inorganic materials. Application of inorganic pigments			
XI week exercises	Calculus exercise.			
XII week lectures	Production of inorganic pigments by different methods: precipitation in solution, precipitation with subsequent thermal treatment of the precipitate			
XII week exercises	Laboratory exercises			
XIII week lectures	Obtaining pigments by reactions in the melt.			
XIII week exercises	Laboratory exercises			

XIV week lectures	Reactions of the formation of pigments in the gas phase. Formation of pigments by reactions in the solid state					
XIV week exercises	II test					
XV week lectures	Preparation for the final exam					
XV week exercises	Correctional second test					
Student workload	weekly: 6 credits x 40/30 hours=8 hours in semester: 6 X 30=180 hours					
Per week			Per semester			
6 credits x 40/30=8 hours and 0 minuts 2 sat(a) theoretical classes 1 sat(a) practical classes 1 excercises 4 hour(s) i 0 minuts of independent work, including consultations			Classes and final exam: 8 hour(s) i 0 minuts x 16 =128 hour(s) i 0 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 8 hour(s) i 0 minuts x 2 =16 hour(s) i 0 minuts Total workload for the subject: 6 x 30=180 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) 36 hour(s) i 0 minuts Workload structure: 128 hour(s) i 0 minuts (cources), 16 hour(s) i 0 minuts (preparation), 36 hour(s) i 0 minuts (additional work)			
Student obligations			Students are obligated to follow classes and to be present on both tests.			
Consultations			Thursday: 14-15h; Friday 14-15h			
Literature			Lj. Kostić Gvozdenović, R. Ninković, "Neorganska hemijska tehnologija", TMF, Beograd, 1997 M. Tecilazić-Stevanović, "Osnovi tehnologije keramike", TMF, Beograd, 1990 S. Isakovski, "Tehnologija neorganskih hemijskih proizvoda II", Univerzitet u Novom Sadu, Tehnološki fakultet Novi Sad, 1980 M. Krgović, Lj. Kostić Gvozdenović, R. Ninković, "Neorganska hemijska tehnologija-praktikum", Univerzitet Crne Gore, Podgorica, 2001			
Examination methods			- Activities during exercise and reports given: (0-5 pts) - I test: (0-20 pts) - II test: (0-25 pts) - Final exam: (0-50 pts). Student pass the exam if obtained at least 50 points accumulated			
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