Course title: BUILDING MATERIALS I

Course Basic Information	
Academic Unit:	**Faculty of Civil Engineering and Architecture**
Course title:	**BUILDING MATERIALS I**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of Study:	**I-(first)-Semester (II)**
Number of Classes per Week:	**2+2**
ECTS Credits:	**6**
Time /Location:	**$8.^{15}$-$10.^{00}$, Professor cabinet**
Teacher:	**Prof.Dr. Naser Kabashi**
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Course Description:	Basic knowledge and applications the Building Materials in different time periods in Civil Engineering. Properties of building materials: Physic, Chemical, mechanic and Technologic properties. Stone such Building Material and applications in Civil Engineering constructions. Aggregate, such product from stone and evaluations the properties of aggregate. Clay materials, production process and properties. Glass and applications in facades. Binder materials, properties and testing: Lime, Gypsum and Cement. Examinations and evaluations the properties of cement.
Course Goals:	Ability the students for new knowledge of building materials, testing and evaluations of properties in scope of applications in civil engineering works.
Expected Learning Outcomes:	-to know the building materials in scope of applications -to evaluate the properties of building materials; include the physic and mechanical properties -to apply the proper materials in proper positions of structures - to improve the materials in scope of technological development

Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	**Hours**	**Day/ Week**	**Total**
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work			
Preparation for intermediary test	4	2	8
Consultations with the teaher	1	10	10
Field Work	4	2	8
Test, seminar paper	2	2	4
Homework	2	4	8
Self-study (library or home)	4	4	16
Preparation for final exam	8	2	16
Assessment time (test, quiz, final exam)	2	2	4
Projects, presentations, etc.	2	1	2

Individual research work	4	1	4
Total			**150**
Teaching Methods:	- *Lectures presentation and demonstration of practical applications* - *Numerical and laboratory exercises* - *Seminars with proposal topic* - *Discussions during the lectures* - *Group work*		
Assessment Methods:	Limit of passing the exam: 55 % Presence in lectures and exercises: 15% Individual assignments completed in class 5%; Individual assignments completed at home 10%; Evaluations the tests: 15 % Final Exam: 55%.		
Primary Literature:	N.Kabashi- Materialet Ndertimore I (dispense) Fisnik Kadiu: Teknologjia e Materialeve te Ndërtimit		
Additional Literature:	N Kabashi: Materialet Ndertimore(Ligjerata +Ushtrime) Neil Jackson and Ravindra K. Dhir: Civil Engineering Materials K.van Breugel: Simulation of hydration and formation of structure in hardening cement-based materials Schaffler/Bruz/Schelling: Bausstofkunde A.M.Neville: Properties of Concrete Zijad Pasic: Staklo u gradjevinarstvo		

Designed teaching plan		
Week	**Title of the Lecture**	**Exercise**
Week 1:	Building Materials , classifications and requested parameters according the Standards EN	Introduction to the laboratory and equipment in the laboratory
Week 2:	Properties of Building Materials: • Physics properties • Chemical Properties • Mechanical properties • Physico-mechanics properties	Examination of physical characteristics: • Mass volume • Specific measures • Density rate • Porosity
***Week 3*:**	Thermal conductivity in positions of constructions: • Walls • Floors	The concept of heat conductivity through layers-examples
Week 4:	Acustic conductivity and acustic properties of the building materials	The concept of acoustic conductivity through layers-examples
Week 5:	Mechanical properties of Building Materials • Behaviour the materials under loads • Typical points-diagram : Stress-Strain; during the load applcations	Examination of mechanical properties: • Compressive strength • Tensile strength • Bending resistance • Impact resistance
***Week 6*:**	Stone such Building Material and properties • Physics properties • Mechanical properties	Examination of physical and mechanical properties of the stone
Week 7:	Aggregate-such building materials • Type of aggregates • Properties of aggregates	Examination of aggregate properties: • Form examination • Water absorption

		• Aggregate sieving
Week 8:	Clay Materials, types and prperties of clay materials • Technological process of productions clay materials • Brics and blocs • Examinations the clay materials	Examination of bricks and blocks: • Geometric features • Examination of physical properties • Compressive strength • Evaluation of Bricks and Blocks
Week 9:	Roof Tiles-types and properties of the roof tiles • Examinations the water tightness • Examinations in deflection • Examinations in impact	Examination of tiles: • Bending resistance • Impact resistance • Water absorption
Week 10:	Clay Materials with high density: -Examinations the Ceramic tiles - Porcelain materials -Ceramic tube	Ceramic tile examinations and evaluations
***Week 11*:**	Glass-such building Material • Technological process of production the glass • Types and applications the glass in facades and other destinations	Glass Examinations: • Resistance to bending • Impact resistance
***Week 12*:**	Binder Materials-properties of binder materials • Lime • Apply the Lime in Construction works	Lime examinations - Extinguishing activity • Fineness of grinding • Mechanical properties
***Week 13*:**	Gypsum-binder material, properties : • Setting time • Applications the gypsum board in civil engineering works	Gypsum Examinations: • Connection deadlines • Imtesiae grinding • Pastertia • Mechanical properties
***Week 14*:**	Cement –Binder materials Technological production process	Cement and cement examinations
***Week 15*:**	Types of Cement Examinations the properties of cement: • Setting time • Consistency • Class of cement	Cement Examinations: • Bonding times • Standard Consistency • Bending and compressive strength - after 2 days • Bending and compressive strength after 28 days

Academic Policies and Code of Conduct
We start and finish class on time. *Tools used during class must be cleaned and stored away at the end of class.* *Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.* *Laptop and tablet computers are not allowed* *Other activities such as checking personal e-mail or browsing the Internet are prohibited.* *Ethic Code is applicable in time of lectures and exercises*