Course Unit Descriptor

Study Programme: Civil Engineering

Course Unit Title: Building materials 2

Course Unit Code: GG09

Name of Lecturer(s): Malešev Mirjana, Šupić Slobodan

Type and Level of Studies: bachelor

Course Status (compulsory/elective): mandatory

Semester (winter/ summer): summer

Language of instruction: english

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 7

Prerequisites: none

Course Aims:.

Knowledge acquisition about the procedures for manufacturing, the most important properties, investigation methods and application of the most often used construction materials and materials for special applications.

Learning Outcomes:
Student possesses theoretical and practical knowledge about studied building materials and applies them in other professional courses and in engineering practice after graduation. Student independently specifies and analyzes properties of building materials during the design and organizes control of quality of these materials during building.

Syllabus.
Manufacturing, most important properties, and application possibilities in construction practice of the following traditional and contemporary materials: Construction stone and aggregates for mortars and concrete; Masonry (fired clay bricks and blocks, roof tiles, wall and floor tiles); Inorganic binders (lime, gypsum, cements); Calcium-silicate materials; Mortars for plastering, masonry mortars, special mortars, mortar mix design; Concrete – basic terms and definitions, plane concrete units (precast elements); Wood and wood-based products, structure and basic properties of timber, timber durability and protection; Construction glass; Materials with special application (hydro insulation materials, thermal insulation materials, paints, lacquers and glues); Technical specifications and quality control of building materials. Illustration of the application of traditional and contemporary building materials through review of the famous structures in specific historical periods.

Required Reading:
Relevant literature in English, tbd

Weekly Contact Hours:2	**Lectures: 4**	**Practical work:**

Teaching Methods:
Lectures, auditory and laboratory practice, visiting civil engineering fair and consultations. During lectures, presentations with photos, tables, diagrams, formulas and appropriate text – definitions are used to explain the students the course content predicted by the curriculum. In laboratory practice, students can observe or do by themselves the standard testings of building materials. A part of the practice is used for computing, where students through different tasks connect the presented course content with the construction practice. Professional excursions (civil engineering fair and building material factories) are obligatory for all students. Students are evaluated during lectures and exercises as well as their home and laboratory tasks. The exam consists of a theoretical and practical - written part. The written part of the exam is eliminatory. Parts of the lectures can be taken through two colloquiums during semester. The theoretical part is taken orally in examination term.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			