Study program: Civil Engineering

Course: Construction Materials 2

Professor/Assistant: PhD Danijela Zlatković / Simona Smiljković

Status of course: elective

ECTS credits: 5

Pre-requisites: none

Aims of the course:

Preparing the student to:

- understand the basic technological properties of the most important building materials for finishing works in construction;
- study construction materials for special purposes;
- learn about repair, as well as protective materials.

Learning outcomes:

After taking the course, students will be able to:

- apply independently and correctly different building materials in everyday building practice;
- apply engineering principles in selection of materials when designing buildings;
- determine the properties and practical application of materials for special works in construction.

Syllabus:

Theoretical part

Study of basic technological as well as physical-mechanical characteristics: mineral binders and mortars of special purpose, light and heavy concrete, metals - steel and non-ferrous metals, hydrocarbon binders and materials based on hydrocarbon binders, polymers and plastics, materials for thermal protection and sound protection, waterproofing materials, fire resistance and material behavior at high temperatures.

Practical part

Calculations of the composition of mortars based on mineral binders, Calculation of light concrete compositions, Calculations based on the results of steel testing, Calculations based on wood testing, Calculations based on bitumen testing.

Literature:

1. M. Muravljov, D. Jevtić, *Građevinski materijali*, Građevinska knjiga, Belgrade, 2004.
2. Muravljov, M., Živković, S, *Zbirka rešenih zadataka*, Građevinska knjiga, Belgrade, 2001.
3. Grdić, Z., *Zbirka rešenih zadataka iz građevinskih materijala*, GAF, Niš, 2003.

Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 2	Laboratory classes: 0	

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 and practical	5	written exam	30
practical training	5	oral exam	-
colloquium(s)	20 + 20		
seminar papers(s)	20		
Sum	**70**	**Sum**	**30**