Study program: Civil Engineering	

Study program: Civil Engineering

Course: Descriptive Geometry

Professor/Assistant: PhD Nataša Savić / Nemanja Petrović

Status of course: compulsory

ECTS credits: 6

Pre-requisites: none

Aims of the course:
- introduce students to the basics of descriptive geometry and its applications;
- enable students to understand spatial relations of drawn shapes and master the accuracy and precision of presentation through drawings;
- obtain the necessary knowledge to successfully follow vocational subjects.

Learning outcomes:
- ability of visualizing objects in space and in drawings, and using acquired knowledge for understanding the upcoming courses,
- application of theoretical and practical knowledge necessary for the use and production of technical project documentation,
- ability to draw the existing facilities and transfer ideas to paper projects as well as interpret and implement building design. Oduce students to the basics of descriptive geometry and its applications.

Syllabus:

Theoretical part
Quadrants and octants. Representation of straight lines, relative positions. Point, line and plane relations. Auxiliary projections, transformation and rotation. Rabatment of the plane. True length lines, true angles, true size and shape projections. Construction of geometric solids. Intersection of solid and plane. Intersection of a pair of solids. Roof planes projection. Isometric projection. Land contours and profiles. Cut-and-fill problems.

Practical part
Quadrants and octants. Representation of straight lines, relative positions. Point, line and plane relations. Auxiliary projections, transformation and rotation. Rabatment of the plane. True length lines, true angles, true size and shape projections. Construction of geometric solids. Intersection of solid and plane. Intersection of a pair of solids. Roof planes projection. Isometric projection. Land contours and profiles. Cut-and-fill problems.

Literature:
1. Anagnosti, P., *Nacrtna geometrija*, Naučna knjiga, Belgrade, 1976.
2. Popov, R., *Osnovi nacrtne geometrije*, Naučna knjiga, Belgrade, 1973.
3. Čučaković A., *Nacrtna geometrija*, Akademska misao, Belgrade, 2010.

Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 3	Research work: 0	

Teaching methods:
Combination of interactive approach with practical problem solving tasks.

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	30
activity during practical	5	oral exam	-
homework	20		
colloquium(s)	20 + 20		
Sum	**70**	**Sum**	**30**