

Study program: Civil Engineering			
Course title: Road Design			
Professor/assistant: PhD Dragan Ž. Perić/Nenad Stojković			
Type of course: compulsory			
ECTS: 6			
Pre-requisites: none			
Aims of the course			
The main aim of the course is to prepare the student to:			
<ul style="list-style-type: none"> - acquire the basic principles in road design, - acquire the basic knowledge about the elements of horizontal and vertical curves of the road, and also the elements of cross sections, - apply acquired knowledge in solving practical examples. 			
Learning outcomes			
After successfully finishing the course the student is capable of:			
<ul style="list-style-type: none"> - calculating the horizontal axis of the road elements - calculating the vertical axis of the road elements - calculating the elements of the cross sections of roads - using modern software packages for development of project documentation - interpreting projects and applying knowledge during work 			
Syllabus:			
<u>Theoretical part</u>			
General concepts of traffic: the concept of traffic, traffic and transport means, types of traffic, characteristics of certain types of traffic. Roads: historical road development, importance and classification of roads. Projected parameters: projected traffic, projected speed, projected vehicle. Traffic profile and free profile. Elements of the horizontal axis of the road: directions, circular curves, transient curves and cross slope. Elements of the vertical axis of the road: longitudinal tilt, vertical curves, sight distance. Elements of the cross-sectional profile of the road: driving lanes and a stop lane. Bankings, rgol, bera, dividing strip, curbs, protective fences and hulls of the hull. Crossroads: reinforcement and division. Areas and lengths of the intersection. Elements of drainage of roads. Maintenance of roads. Computer design. Getting to know the design programs. Urban roads: functional classification, planning characteristics, project elements, programming conditions for design, type geometric cross sections of the primary urban road network.			
<u>Practical part</u>			
Solving practical examples from the areas covered by lectures and continuous evaluation through the production of seminar papers. Exercise no. 1 - calculation of the elements of the horizontal axis of the road. Exercise no. 2 - calculation of the elements of the vertical axis of the road. Exercise no. 3 - calculation of the elements of the cross-sectional profile of the road. Practical instruction on the field facilities. Road design using the "Survey" and "Pythagoras" software system.			
Literature			
<ol style="list-style-type: none"> 1. Cvetanović, A., <i>Osnovi puteva</i>, Naučna knjiga, Beograd, 1989. 2. Uzelac, Đ., <i>Putevi i gradske saobraćajnice</i>, FTN, 2015 3. Zlatanović, M., Matejević, B., <i>Osnovi saobraćajnica – zbirka rešenih zadataka sa izvodima iz teorije</i>, GAF, Niš, 2005. 			
Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30	Research work:	
Teaching methods			
Interactive classes incl. solving practical examples.			
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-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	30
practical training		oral exam	20
colloquium(s)/seminar papers	20/20		
Sum	50	Sum	50