

<b>Study program: Civil Engineering</b>			
<b>Course: Heavy Equipment and Construction Technology</b>			
<b>Professor/Assistant: PhD Milorad Zlatanović / Milan Protić</b>			
<b>Status of course: compulsory</b>			
<b>ECTS credits: 6</b>			
<b>Pre-requisites: none</b>			
<b>Aims of the course:</b> The aim of the course is to prepare the student to: <ul style="list-style-type: none"> <li>- get to know the processes of carrying out the work;</li> <li>- get acquainted with heavy equipment;</li> <li>- understand the principles of building technology and apply modern building technologies in construction of various buildings.</li> </ul>			
<b>Learning outcomes:</b> After successfully finishing the course, student is capable of: <ul style="list-style-type: none"> <li>- adopting technology and creating a flow diagram;</li> <li>- choosing a heavy equipment according to working conditions and workload;</li> <li>- calculate the number of construction machines in the given situation;</li> <li>- perform synchronization of machines;</li> <li>- find out which machine is optimal for the price and workload.</li> </ul>			
<b>Syllabus:</b> <i>Theoretical part</i> Introduction, origin and development of mechanization and construction technology. Principles and methods of scientific construction technology. Production preparation. Preliminary and preparatory work. Study of the technological process. Mechanization and technology of construction: earthworks, concrete works, precast concrete works, assembly works (various modern installation systems in concrete, steel and wood), bridges, etc. Methods of carrying out assembly work. The technological process of assembly (means and devices for assembly). Technology of building underground objects, objects under water, in difficult climatic conditions. Technology of carrying out works on the rehabilitation of facilities. <i>Practical part</i> Indicators of construction mechanization. Types of effects of construction mechanization. Measures to increase the effect of construction machinery. Synchronization of loading and transport vehicles. Wider, narrower and optimal choice of construction machinery. Site tour: familiarization with construction machinery for: earthworks, concrete works, installation of reinforcement and processing of timber, lifting and transfer of cargo and execution of prefabricated works.			
<b>Literature:</b> <ol style="list-style-type: none"> <li>1. Zlatanović, M., Upravljanje transportnim procesima izgradnje saobraćajnica, GAF, Niš, 1999.</li> <li>2. Stefanović, A., Građevinske mašine, Građevinska knjiga, Beograd, 1979.</li> <li>3. Milorad Zlatanović, Tehnologija i organizacija građenja - zbirka rešenih zadataka sa izvodima iz teorije, Građevinsko-arhitektonski fakultet, Niš, 2012.</li> <li>4. Mirković S., Građevinska mehanizacija, Građevinska knjiga, Beograd, 2005.</li> <li>5. Ćulibrk R., Plavšić M., Mehanizacija u građevinarstvu, FTN, GF Subotica, 2007.</li> </ol>			
<b>Number of active classes</b>			<b>Other forms of teaching:</b>
Lectures: 2	Practical classes: 2	Laboratory classes: 0	
<b>Teaching methods:</b> Interactive classes incl. solving practical examples.			
<b>Grading system</b> (maximum 100 points), <b>grading scale</b> 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.			
<b>Pre-commitments</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
activity during lectures	10	written exam	-
practical training	20	oral exam	30
colloquium(s)	10 + 10		
seminar paper(s)	20		
<b>Sum</b>	<b>70</b>	<b>Sum</b>	<b>30</b>