

<b>Study program:</b> Environmental Protection			
<b>Course title:</b> Engineering Drawing			
<b>Professor/assistant:</b> Miloš S. Ristić			
<b>Type of course:</b> compulsory			
<b>ECTS credits:</b> 7			
<b>Pre-requisites:</b> -			
<b>Aims of the course:</b> Prepare students to: understand the point and its projections in the space (octant), as well as define the lines (edges) and the solids and design them on three orthogonal planes, as well as determine the right size of the lines, read and understand technical documentation, as well as develop certain positions and assemblies, adopt concepts such as 2D drawing commands, commands for object editing, CAD dimensioning commands.			
<b>Learning outcomes:</b> Student will be able to: projects a point, line and solid on three orthogonal planes in space, make a physical model of a complex body created by intersection of two solids, orthographically project machine part or solid according to SRPS EN ISO 12100, create and interpret technical documentation of a position and assembly according to ISO 7200, use CAD tools in creating technical documentation.			
<b>Syllabus</b>			
<u>Theoretical part</u> Fundamentals of descriptive geometry and modes of presenting objects. Orthographic projection of geometric solids. Standards and rules of drawing in mechanical engineering. Harmonized standards - Directives for a new and global EU approach. Orthographic projection. Elements of dimensioning. Tolerance. Intersections. Technical drawings. Technical documentation. The process of assessing product compliance assessment "CE" mark. Mechanical sketch - modeling. General principles for construction according to EN 292 and SRPS EN ISO 12100: 2012. Developed surfaces. Elements of vertical and horizontal signaling. Dimensioning vehicle positioning. Sketching of mechanical parts. Application and importance of CAD tools. Drawing and modifying 2D objects.			
<u>Practical part</u> Projection of a point, line and solid. Intersection of a solid and a plane (a pattern of newly created object). Interpenetration of two solids (penetration model). Product technical documentation - ISO 7200. Sketching the machine part by processing stages. Working area and CAD tools. User environment and the use of drawing tools for 2D objects. Section lining. Text on the drawing. Creating and modifying blocks. Dimensioning a solid and its position.			
<b>Literature</b>			
<ol style="list-style-type: none"> <li>1. Ristić S., <i>Tehničko crtanje sa nacrtom geometrijom, Visoka tehnička škola strukovnih studija Niš, Niš 2010</i></li> <li>2. Ristić S., Dakić N., Cvetanović B., Ristić M., <i>Praktikum iz tehničkog crtanja sa nacrtom geometrijom III dopunjeno izdanje, Visoka tehnička škola strukovnih studija Niš, Niš, 2007.</i></li> <li>3. Simmons C., Maguire D., <i>Manual of Engineering Drawing, Elsevier, 2005.</i></li> </ol>			
<b>Number of active classes</b>			Other forms of teaching:
Lectures: 2	Practical classes: 3	Research work:	
<b>Teaching methods</b> Interactive with presentations. Practical classes: sketching models on paper drawings, exercises on the computer using modern software tools, sketching the model is done on the field (production plants, traffic flow).			
<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-exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
activity during theoretical lectures	<b>10</b>	written exam	<b>50</b>
practical training	<b>20</b>	oral exam	-
colloquium(s)/seminar papers	<b>20</b>		
<b>Sum</b>	<b>50</b>	<b>Sum</b>	<b>50</b>