

Study program: Industrial Engineering – Mechanical Engineering			
Course title: Technical drawing with computer graphics			
Professor/assistant: Vrekić M. Snežana			
Type of course: Compulsory			
ECTS credits: 6			
Prerequisites: none			
Aims of the course: Students acquire knowledge and skills about technical drawing, use software package AutoCAD for creating technical drawings and explore modern software packages for 3D design (CATIA).			
Learning outcomes: The student independently creates technical drawings applying standards and rules of technical drawing and uses software for drawing and 3D design (AutoCAD, CATIA).			
Syllabus: <i>Theoretical part:</i> Designing and drawing mechanical parts on three orthogonal planes in space. Axonometric display of machines and parts. Cross-section of a body and plane, mutual cross-sections of a body with a grid of developed surfaces. Dimensioning and defining surface roughness. Tolerance. Display of mechanical parts. Mechanical sketching and scanning of mechanical parts. Designing assemblies and their parts/details. Basics of CAD. Designing machines and other shapes on projection plane and space. The use of software packages for drawing. Basic elements of computer graphics. Raster and vector graphics. Programs for drawing manipulation. 2D and 3D graphics. Methods of designing 3D models. CATIA V5 – basic settings and handling. <i>Practical part:</i> Auditory exercises			
Literature: 1. Dušan Đorđević, Tehničko crtanje sa nacrtnom geometrijom, 1983. 2. Scott Onstott, AutoCAD 2014 i AutoCAD LT 2014 Osnove, Mikro Knjiga, Beograd, 2014.			
Total number of active classes: 60		Lectures: 30	Practical classes: 30
Teaching methods: Lectures, auditory exercises, practical computer exercises.			
Grading system (maximum 100 points) grading scale from 5 to 10: below 51 points – student fails the exam, 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 lectures	max 5	Written exam	50
Practical training	max 5		
Written test(s)	max 20		
Term paper	max 20		
Minimum requirement for the final exam	30		