

Study program: Mechanical engineering			
Type and level of studies: Bachelor studies			
Course unit: Engineering Graphics 2			
Teacher in charge: Goran Marković, Marko Todorović			
Language of instruction: English			
ECTS: 4			
Prerequisites: None			
Semester: Summer semester			
Course unit objective: Acquiring a higher level of knowledge in the field of making and displaying machine parts and assemblies on technical drawings, visualisation and exchange of information with other users in the project team.			
Learning outcomes of the Course unit: The student's ability to model, either directly or by using appropriate software packages machine parts and entire assemblies so that they are completely shaped, dimensionally and processed defined. Mastering special drawing and modelling techniques that allow easy reorientation between programs and performing a wide range of tasks			
Course unit contents			
<i>Theoretical classes</i> The student's ability to model, either directly or using appropriate software packages of machine parts and entire assemblies so that they are completely shaped, dimensionally and processed defined. Mastering special drawing and modelling techniques that allow easy reorientation between programs and performing a wide range of tasks internal graphic communication in modelling. Formation and function of object blocks. Block export and facilities. Defining and applying attributes. Linking objects via external references to draw. Hyperlinking of drawings and Excel data. Various calculations of mechanical elements by industry standards. Spatial coordinates, coordinate system and structural planes. Defining the user coordinate system in space. Drawings with more views and standard projection schedules. Defining and using named views. Interactive dynamic visualisation of the model. Creation of three-dimensional surface models. Modelling of solids. Constructive solid geometry. Editing, sections and viewing three-dimensional models. Visualisation. Engineering model analysis.			
<i>Practical classes</i> Modelling of complex machine parts and assemblies with visualisation. Calculation of mechanical elements following industry standards. Quantitative analysis of the model. All tasks are done using suitable software packages.			
Literature			
Bethune, J.: Engineering Graphics with AutoCAD 2020, Adobe Press, 2019 AutoCAD Mechanical 2020: Essentials: Autodesk Authorized Publisher, Ascent, Center for Technical Knowledge, 2020 Letić, D.: Engineering Graphics for AutoCAD, 2004-2005., Kompjuter biblioteka, 2005. Letić, D., Desnice, E., Davidović, B.: AUTOCAD MECHANICAL 2011, Kompjuter biblioteka, Beograd, 2011 Petrović, D., Đorđević, S., Stoimenov, M., Miladinović, LJ.: Engineering Graphics, Mašinski fakultet Beograd, 2013 Đorđević, S., Petrović, D.: Engineering Graphics – Practicum for exercises, Mašinski fakultet Beograd, 2009			
Number of active teaching hours			Other classes
Lectures: 1	Practice: 0	Other forms of classes: 2	Independent work:
Teaching methods Theoretical teaching in the form of lectures. On exercises using suitable software programs (e.g. AutoCAD, AutoCAD Mechanical, etc.) and printers, students make examples of elements and procedures heard in lectures.			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	5	oral examination	
Practical classes	5	written examination	40
Seminars/homework			
Project			
Tests	50		
Grading system			
Grade	No. of points	Description	
10	91-100	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	Less than 51	Failing	