Faculty of Civil Engineering / CIVIL ENGINEERING / TECHNICAL DRAWING

Course:	TECHNICAL DRAWING			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
1031	Mandatory	1	3	2+0+0
Programs	CIVIL ENGINEERING			
Prerequisites	There is no conditionality by other exams.			
Aims	To acquire basic knowledge of the elements of technical drawing; understanding/reading and independent production of technical drawing; presenting 3D objects on 2D media (paper or computer monitor), using classic drawing tools or the Auto Cad software package.			
Learning outcomes	After passing this exam, the student will be able to: 1. Draw a clear, precise, unambiguous and aesthetically appropriate technical drawing, and imagine the drawn object in space, as well; 2. Know all elements of the technical drawing, as a basis for the preparation of project documentation and independently drawing and understanding of it; 3. Graphically represent 3D objects and details using standards and rules of technical drawing, with the help of classic tools or computer-aided drawing.			
Lecturer / Teaching assistant	Marija Jevrić			
Methodology	Lectures and consultations			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction to technical drawing; classic drawing tools; types of technical lines; scale; standards in technical drawing			
I week exercises				
II week lectures	Type and purpose of lines; technical letters; graphic markings and symbols in engineering drawings.			
II week exercises				
III week lectures	Methods of 3D object representation: orthogonal and central projection and axonometry.			
III week exercises				
IV week lectures	Types of dimensioning and dimension elements; dimensioning rules; hatching.			
IV week exercises				
V week lectures	Types of construction projects, their content and requirements; project composition			
V week exercises				
VI week lectures	Drawing of roads, buildings, construction sites, installations...			
VI week exercises				
VII week lectures	Basic geometric constructions and transformations			
VII week exercises				
VIII week lectures	1st part of the exam			
VIII week exercises				
IX week lectures	Introduction to Auto Cad; interface, elements and initial settings			
IX week exercises				
X week lectures	Coordinate systems, grid and OSNAP functions			
X week exercises				
XI week lectures	Basic commands for drawing lines, polygons, curves and polylines			
XI week exercises				
XII week lectures	Basic commands for modifying and transforming objects			
XII week exercises				
XIII week lectures	Dimensioning, text entry, hatch			
XIII week exercises				

XIV week lectures	Blocks, layers, preparation for printing
XIV week exercises	
XV week lectures	Basics of BIM
XV week exercises	
Student workload	Weekly 3.0 credits x 40/30 = 4 hours Total workload to the course: 3.0 x 30 = 90 hours

Per week	**Per semester**
3 credits x 40/30=4 hours and 0 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 0 excercises **2 hour(s) i 0 minuts** of independent work, including consultations	Classes and final exam: **4 hour(s) i 0 minuts x 16 =64 hour(s) i 0 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **4 hour(s) i 0 minuts x 2 =8 hour(s) i 0 minuts** Total workload for the subject: **3 x 30=90 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **18 hour(s) i 0 minuts** Workload structure: **64 hour(s) i 0 minuts (cources), 8 hour(s) i 0 minuts (preparation), 18 hour(s) i 0 minuts (additional work)**
Student obligations	To attend lectures, do graphic papers and sit their exams.
Consultations	Thu, 12-13 h
Literature	1.https://www.researchgate.net/publication/275642194_Technical_Drawing_Presentation_and_Practice 2. https://images-na.ssl-images-amazon.com/images/I/C1BxaOC0-IS.pdf
Examination methods	The forms of knowledge testing and grading: Assessment is carried out continuously throughout the semester and the final exam. If the student shows a minimally sufficient level of knowledge during the semester can earn 51/100 points.
Special remarks	
Comment	Additional information can be obtained at the present teaching staff, Head of the study program, and at Vice Dean for academic affairs.

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points