



Subject card

Subject name and code	, PG_00069215						
Field of study	Civil Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2026/2027		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		5.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Structural Mechanics -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Paweł Kłosowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	0.0	45
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	45		10.0		70.0	125
Subject objectives	The course is to teach the student how to use AutoCAD to create three types of three-dimensional objects: linear, surface and solid. The use of AutoCAD to create surface and solid finite element meshes will be presented. In addition, the automatic generation of drawings using various programming techniques will be shown. Object rendering will be discussed.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.		Student is able to use AutoCAD program for creation finite element meshes		[SK5] Assessment of ability to solve problems that arise in practice		
	[K6_K03] Can effectively, clearly and unambiguously convey information, describe activities and communicate their results/ outcomes to engineers or a wider audience using appropriate communication methods and tools.		Student is creating 3D drawings in AutoCAD program		[SK2] Assessment of progress of work		

Subject contents	Course content – lecture		
	1. Prepare your AutoCAD environment for 3D space. Types of three-dimensional objects. Coordinate systems, ways to change the view. Object selection modes. Use of handles. Navigation bar and command window. 2. Level and thickness. Region and boundary gear as an example of the use of regions, physical parameters of the object. 3. Viewports and the use of model and paper space. Dimensioning in model and paper space. Associative dimensions to an object. 4. POWIERZCHNIA3D element definition (3WPOW, 3DFACE), mesh model, smoothness levels. Import to FEM programs. 5. Definition of Simple Solids 6. Editing solids 7. Sphere with hole FEM mesh 8. Transferring solids to FEM programs 9. Creating and using scripts 10. LISP language use of ready-made programs in LISP 11. LISP websites 12. Additional instructions for organising the drawing 13. Rendering Basics (1) 14. Rendering materials, lighting in rendering 15. Examples of professional renderings		
	Course content – exercises		
	1. Drawing a Cottage as a Linear Model 2. Structural covering of the port of Lagos 3. Region shelf 4. Dimensioning Spatial Objects on Viewports 5. Mesh Creation Instructions , Mesh Edge Visibility 6. Create a solid model 7. Solid Model Editing (1) 8. Animations Editing a solid model (2) 9. Spiral model , spiral staircase 10. Use of the EXPRESS TOOLS module 11. Prepare the model for rendering 12. Rendering with materials 13. Rendering with light and background 14. Add objects to rendering 15. Defending projects		
Prerequisites and co-requisites	Ability of AutoCAD usage on basic level		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	creation of a project and defending it.	50.0%	100.0%
Recommended reading	Basic literature	1. S. Świszczowski AutoLISP dostosowanie programu AutoCAD do potrzeb użytkownika Mikom W-wa 2001	
	Supplementary literature	1. Matthews B. AutoCAD 2000 3D Helion Gliwice 2001	
	eResources addresses	Supplementary http://forums.autodesk.com - AutoCAD users forum	
Example issues/ example questions/ tasks being completed	Draw and dimension a chair		
Practical activites within the subject	Not applicable		

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