

POLITECHNIKA KRAKOWSKA IM. TADEUSZA KOŚCIUSZKI

KARTA PRZEDMIOTU

obowiązuje studentów rozpoczynających studia w roku akademickim 2021/2022

Wydział Inżynierii Lądowej

Kierunek studiów: Budownictwo

Profil: Ogólnoakademicki

Forma studiów: stacjonarne

Kod kierunku: BUD

Stopień studiów: I

Specjalności: Bez specjalności - studia w języku angielskim

1 INFORMACJE O PRZEDMIOCIE

NAZWA PRZEDMIOTU	Grafika inżynierska
NAZWA PRZEDMIOTU W JĘZYKU ANGIELSKIM	Computer Graphics for Engineers
KOD PRZEDMIOTU	WIL BUD oIS C16 21/22
KATEGORIA PRZEDMIOTU	Przedmioty kierunkowe
LICZBA PUNKTÓW ECTS	2.00
SEMESTRY	1

2 RODZAJ ZAJĘĆ, LICZBA GODZIN W PLANIE STUDIÓW

SEMESTR	WYKŁAD	ĆWICZENIA AUDYTORYJNE	LABORATORIA	LABORATORIA KOMPUTERO- WE	PROJEKTY	SEMINARIUM
1	0	0	0	30	0	0

3 CELE PRZEDMIOTU

Cel 1 Capability to create 2D drawing.

Cel 2 Capability to define dynamic blocks.

Cel 3 Capability to prepare template and plot the drawing.

Cel 4 Capability to visualize 3D model.

4 WYMAGANIA WSTĘPNE W ZAKRESIE WIEDZY, UMIEJĘTNOŚCI I INNYCH KOMPETENCJI

1 None.

5 EFEKTY KSZTAŁCENIA

EK1 Umiejętności Student is capable of creating 2D drawing. Uses basic drawing tools, such as Grid, Snap, Ortho. Draws using cartesian and polar coordinate systems in relative and absolute coordinates. While drawing uses relative location with respect to objects, polar tracking, tracking relative to objects. Is capable of using Move, Erase, Trim, Break, Offset, Array, Mirror, Copy, Envelope, Area commands.

EK2 Umiejętności Student uses blocks and links. Is capable of defining standard block. Can draw objects with parametric, geometric and dimensional constraints. Can define a dynamic block with attributes. Is capable of editing block attributes. Can extract block data and create a table containing extracted data.

EK3 Umiejętności Student is capable of creating a drawing template with layers and lineweights, according to technical drawing's requirements. Student is also capable to properly prepare drawing's layout, using Viewport and Scale commands. Student uses correct paper sheets and knows how to plot the effects of his work.

EK4 Umiejętności Student is capable of drawing 3D objects. Can manage views and local coordinate systems. Knows visual styles. Can create projections and sections of a 3D model.

6 TREŚCI PROGRAMOWE

LABORATORIA KOMPUTEROWE		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
K1	Organization of class. Requirements to pass the course. Basics of computer graphics. Basics of AutoCAD drawing environment. File operations. Display. Zoom command and its parameters. Grid, snap, ortho. Relative and absolute coordinates.	2
K2	Drawing basic objects (line, circle) using location and tracking. Location and tracking.	2
K3	Drawing objects: arc, polyline, polygon, points, spline, text, hatching. Divide and measure commands.	2
K4	Managing drawing objects using layers. Dimensioning and annotating a drawing. Dimension styles. Editing text. Object properties.	2
K5	Modifying objects. Methods to create indicator sets. Modify operations: Erase, Move, Rotate, Copy (by offsetting, single, multiple; using axial and central symmetry), Trim, Lengthen, Chamfer, Fillet. Questions.	2
K6	Modifying objects - continued.	2
K7	Test no 1 - drawing and modification of 2D geometry (45'). Drawing using parametric, geometrical and dimensional constraints.	2

LABORATORIA KOMPUTEROWE		
LP	TEMATYKA ZAJĘĆ OPIS SZCZEGÓŁOWY BLOKÓW TEMATYCZNYCH	LICZBA GODZIN
K8	Preparation of plotting sheet with one viewport of drawing. Dimensioning, scale.	2
K9	Block definition, inserting blocks. Dynamic blocks.	2
K10	Preparation of plotting sheet with several viewports of drawing. Dimensioning in viewports. Data extraction. Tables.	2
K11	Preparation of plotting sheet with several viewports of drawing - continued.	2
K12	Test no 2 - Plotting the sheet with several viewports (90').	2
K13	Introduction to 3D modelling - surfaces and solid modelling. Managing viewports and coordinate systems in 3D. Visual styles. Exercises in solid modelling: solid primitives, simple extrusion, rotation, basic editing (union, difference, sum).	2
K14	Exercises in 3D modelling, continued. Section and Slice. Complex extrusion. Creating projections and sections based on the 3D model. Dimensioning in 3D.	2
K15	Solid modelling, creating projections and sections based on the 3D model. Summary of the course.	2

7 NARZĘDZIA DYDAKTYCZNE

N1 Ćwiczenia laboratoryjne

N2 Konsultacje

N3 Dyskusja