

(faculty stamp)

**COURSE DESCRIPTION**

Z1-PU7

WYDANIE N1

Strona 1 z 2

<b>1. Course title:</b> CAD		<b>2. Course code</b>		
<b>3. Validity of course description:</b> 2012/2013				
<b>4. Level of studies:</b> BA, BSc programme / MA, MSc programme-				
<b>5. Mode of studies:</b> intramural studies / extramural studies				
<b>6. Field of study:</b> POWER ENGINEERING (E)		(FACULTY SYMBOL)		
<b>7. Profile of studies:</b>				
<b>8. Programme:</b> SUSTAINABLE ENERGY ENGINEERING				
<b>9. Semester:</b> 2				
<b>10. Faculty teaching the course:</b> Institute of Turbomachinery and power Engineering				
<b>11. Course instructor:</b> dr hab. inż. Sławomir Dykas, prof. nzw. w Pol. Śl.				
<b>12. Course classification:</b> directional subjects/subjects of specialization other <sup>1</sup>				
<b>13. Course status:</b> compulsory / elective				
<b>14. Language of instruction:</b> English				
<b>15. Pre-requisite qualifications:</b> : Engineering Graphics				
<b>16. Course objectives:</b> Acquainting of the students with modern CAD modeling				
<b>17. Description of learning outcomes:</b>				
Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	She/he makes the sketches of 2D drawings using basic principles	Colloquium	Laboratory	K_W07 K_U02 K_U10
2.	She/he knows the rules of precise drawing with the transformation of the coordinate system	Colloquium	Laboratory	K_U02 K_U10
3.	She/he makes the dimensions of drawings prepared in accordance with the dimension styles and applicable rules	Colloquium	Laboratory	K_W07 K_U02 K_U10
4.	She/he knows the basic rule of 3D modeling in AutoCAD	Colloquium	Laboratory	K_U02 K_U10 K_U15
5.	She/He knows the concepts: parts, assemblies, technical drawing in SolidWorks	Colloquium	Laboratory	K_U02 K_U10
6.	She/he can model of operations using sketches	Colloquium	Laboratory	K_U02 K_U10 K_U15
7.	She/he creates an assembly with pre-assembled parts	Colloquium	Laboratory	K_U02 K_U10 K_U15
8.	She/he can prepare the technical documentation 2D model using AutoCAD and SolidWorks	Colloquium	Laboratory	K_U02 K_U03 K_U10
9.	She/He make visualization of the objects	Colloquium	Laboratory	K_U02 K_U10
10.	She/he examines parts and assemblies in terms of strength or flow analysis using SolidWorks	Colloquium	Laboratory	K_U02 K_U10 K_U15
<b>18. Teaching modes and hours</b>				
<b>Lecture / BA / MA Seminar / Class / Project / Laboratory</b>				
3				
<b>19. Syllabus description:</b>				
<b>Laboratory:</b>				
AutoCAD: introduction to CAD, CAM, communication with AutoCAD, drawing setup, drawing layers, 2D drawing elements and fundamental principles of 3D modeling, methods of determining the position of the figure, drawing precise coordinate system transformations, modify drawing elements, subtitles, style of writing, hatch, dimensioning drawings, dimensional style, editing dimensions, blocks, drawing, text attributes, blocks				

with attributes, its own template drawing, composition and printing of drawing from the model, obtaining information from AutoCAD, AutoCAD usage examples for solving technical issues..

SolidWorks: creating parts (performing sketches, definition of the relationships in the sketch, the introduction of functional dependencies between dimensions, learning the basic operations used for 3D modeling operations on solids, creating new planes, configuration and configuration tables), create assemblies (the binding part of the pre-prepared to create an assembly, use the Toolbox, the study of movement, collision detection, computer animation), the creation of 2D technical drawings of parts and assemblies, creating realistic appearances of parts and assemblies using PhotoView 360, a simple analysis of the strength and flow with additives Simulation and Flow Simulation.

**20. Examination:** yes / no

**21. Primary sources:**

1. The laboratory instructions available on the website of the Institute (<http://www.imiue.polsl.pl>)
2. J. Czepiel, „AutoCAD. Ćwiczenia praktyczne 2D”, Wydawnictwo Politechniki Śląskiej, Gliwice 2007
3. M. Babiuch, „SolidWorks 2009 PL. Ćwiczenia”, Helion, 2009

**22. Secondary sources:**

1. M. Lombard, „Solidworks 2011 Parts Bible”, John Wiley & Sons, 2011
2. M. Lombard, „Solidworks 2011 Assemblies Bible”, John Wiley & Sons, 2011

**23. Total workload required to achieve learning outcomes**

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	/
2	Classes	/
3	Laboratory	45/30
4	Project	/
5	BA/ MA Seminar	/
6	Other	15/
	Total number of hours	60/30

**24. Total hours: 90**

**25. Number of ECTS credits: 3**

**26. Number of ECTS credits allocated for contact hours: 2**

**27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 3**

**26. Comments:**

Approved:

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(date, Instructor's signature)

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(date, the Director of the Faculty Unit signature)