

Course description

1 General information

Course name	CAD Design
Course code	
Level of study (B.Sc, M.Sc., Ph.D.)	B.Sc.
ECTS	5
Course manager	Mariusz Domagala, PhD
Course length	One (1) semester
Coordinator for international programs	erasmus@mech.pk.edu.pl

2 Prerequisites

Fundamentals of 3D modelling

2 Program

Type	Lectures	Classes	Labs	Computer labs	Project	Seminar
Hours	15			15		

3 Contents

Lectures		
No.		Hours
1	An introduction to 3D CAD parametric modelling	1
2	Solid modeling in CAD systems. Basic features: extrude, revolve, loft, sweep, shell, etc. Working with sketches, relations and parameters.	3
3	Modelling of sheet metal parts	2
4	Modeling of welded parts	2
5	Modelling of assembly. Relations in assembly. Animation	3
6	Creating 2D drawing	2
7	Engineering simulation in CAD systems	2

Computer labs		
No.		Hours
1	Working with sketches: fundamentals of sketches, relations and requirements.	1
2	Creating parts with the use of features including sketches	2
3	Creating parts using sweep, loft features	2
4	Creating sheet metal and welded parts	2
4	Creating assembly models	2
5	Creating 2D drawing	2
6	Basic FEM structural simulation of simple part	2
7	Individual task	2

3 Learning Outcomes (skills and knowledge):

- understanding design process using 3D parametric modelling systems
- ability in modelling parametric models
- ability in modelling geometry in engineering practice

4 Assessment policy (examination):

- evaluation of individual task

5 Literature

1. A. Reyes, Beginner's Guide to SOLIDWORKS 2017, SDC publications
2. SOLIDWORKS 2017 A Power Guide For Beginners and Intermediate Users, 4th Edition, CADArtifex
3. P. J.. Schilling, R. H. Shih, Parametric modelling with SOLIDWORKS 2017, SDC publications