UNIVERSITI TEKNOLOGI MARA
IDE464: COMPUTER AIDED INDUSTRIAL DESIGN II

Course Name (English)	COMPUTER AIDED INDUSTRIAL DESIGN II `APPROVED`
Course Code	IDE464

MQF Credit	2

Course Description	This course is related with Industrial Design Studio based project and as in all other design fields there is a need to get ideas out quickly and accurately, it is literally the primary means with which students communicate, elaborate and projected their ideas in modeling form of digital presentation software. Its need student knowledge, ability and software-skills to understand in 3D perception and projection. This requires their 'know-how' software-skill to visualize, modeling and understand the design ideas itself

Transferable Skills	Demonstrate analytical skills using technology

Teaching Methodologies	Lectures, Lab Work, Demonstrations, Tutorial, Simulation Activity

CLO	CLO1	Adopt all the basic part of 3D modeling through idea from sketch into modeling in 3D digital presentation.
	CLO2	Construct a good quality of 3D modeling design, rendering and drawing presentation.
	CLO3	Provide best result, which may improve Studio Project work, individual skill and mature as a professional designer

Pre-Requisite Courses	No course recommendations

Topics
1. Manager menus, Feature Manager Design Tree 1.1) • Explanations of the course and topics of lecture. 1.2) • Basic introduction of the software commands and icons. 1.3) • Users interface, menus, keyboard shortcuts, toolbars, mouse button 1.4) • Test computer software skill
2. Basic Part Modeling 2.1) • Basic Modeling 2.2) • Terminology : Feature, Plane, Extrusion, Sketch, Boss, Cut, Fillets and Round
3. Modeling a Casting or Forging 3.1) • Base Feature with Draft 3.2) • Mirroring 3.3) • Sketching Inside the Model 3.4) • Using Model Edges in a Sketch 3.5) • View States 3.6) • Sketching on a Planar Face 3.7) • Trimming 3.8) • Using Copy and Paste 3.9) • Filleting 3.10) • Editing Features
4. Revolved Features and Circular Patterns 4.1) • Revolved Features : Sketch, Rules, Dimension, Diameter 4.2) • Sketch Fillets 4.3) • Circular Patterns 4.4) • Chamfers 4.5) • Changes and Rebuild Problems

5. Thin Walled Parts
5.1) • Draft
5.2) • Plane
5.3) • Measuring
5.4) • Shelling : Order, Face, Adding
5.5) • Palette
5.6) • Patterns
5.7) • Ribs Tool
5.8) • Tapered Boss
5.9) • Mirroring Features

6. Configuration of Parts
6.1) • Parts Terminology
6.2) • Configurations in Parts: Assessing, Splitting, Defining, Changing, Renaming and Copying Configurations.
6.3) • Design Table : Layout
6.4) • Editing : Inserting
6.5) • Modeling Parts

7. Bottom-Up Assembly Modeling
7.1) • Assembly Units, Adding, Position, Feature Manager
7.2) • Mating Components
7.3) • Using Part Configurations in Assemblies
7.4) • Analyzing the Assembly
7.5) • Exploded Assemblies

8. Detailing
8.1) • Detailing : Points and basics
8.2) • Drawing Properties
8.3) • Drawing View: Three Standards, Moving, Feature Manager, Named, Changing the Scale, Dynamic Drawing, Simple Section, Aligning and Detail Views.
8.4) • Model Dimensions, Bill of Materials (BOM)

9. Editing Options
9.1) • Part Editing
9.2) • Design Changes
9.3) • Finding and Repairing Problems

10. Pre- Assessment
10.1) Overall exercise and understanding.

11. Assist 1 : Detailing Part Modeling
11.1) • Need a Working Drawing
11.2) • Need a product visualization on 3D

12. Assist 2 : Detailing Assembly Modeling
12.1) • Works on proceed project based from Pre-Assessment
12.2) • Changes of Build Up Modeling

13. Assist 3 : Detailing Drawing Modeling
13.1) • Works on proceed project based from Pre-Assessment
13.2) • Changes of Build Up Modeling

14. Assist 4 : Detailing 3D to 2D
14.1) • Works on proceed project based from Pre-Assessment
14.2) • Changes of Build Up Modeling
14.3) • Changes of Build Up Modeling
14.4) • Rendering & Editing
14.5) • Assist student for their Final Assessment
14.6) • Evaluate from final studio project Assessment

Assessment Breakdown	%
Continuous Assessment	70.00%
Final Assessment	30.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment 1: Lesson 1 & 2	10%	CLO1
	Assignment	Assignment 2: Lesson 3 & 4	10%	CLO1 , CLO2
	Assignment	Assignment 3: Lesson 5 & 6	10%	CLO1 , CLO2
	Assignment	Assignment 4: Lesson 7	10%	CLO1 , CLO2
	Assignment	Assignment 5: Lesson 8	10%	CLO1 , CLO2
	Assignment	Test 1 : Pre Assessment	20%	CLO1 , CLO2

Reading List	Recommended Text	• Lombard M 2013, *Solidworks 2013 Bible*, John Wiley & Sons Canada
	Reference Book Resources	• SolidWorks 2012 Training Manual 2012, *SolidWorks Assembly Modeling*, SolidWorks Corporation • SolidWorks 2011 Training Manual 2011, *SolidWorks Surface Modeling* , SolidWorks Corporation
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	