FAKULTI TEKNOLOGI DAN KEJURUTERAAN

PROGRAM	**DIPLOMA IN GRAPHIC DESIGN**
COURSE NAME	**3D GRAPHIC DESIGN**
COURSE CODE	**DGL 1023**
CREDIT HOUR	**3**
SYNOPSIS	This course provides an understanding of 3D and solids modeling using CAD and other softwares and an introduction to parametric modeling. Includes the development of 3D wire frame and surface drawings, generating and editing 3D geometry, development of multiview drawings from 3D geometry, analyzing 3D models, shading and rendering topics, and the development of physical models with rapid prototyping equipment.
COURSE STRUCTURE	
CHAPTER	**TOPICS**
1	**MODULE 1: Elements of three-dimensional form.** 1.1 Use sketches in planning drawing layouts. 1.2 Component assemblies and design situation.
2	**MODULE 1: Elements of three-dimensional form.** 1.3 Take measurements from an existing component. 1.4 Represent engineering detail through dimensioned sketches.
3	**MODULE 2: 3D Fundamentals** 1.3 Use powerful software like 3D Studio. 1.4 Knowledge about the modern 3D modelling techniques.
4	**MODULE 2: 3D Fundamentals** 1.5 3D animation, material theory. 1.6 Photo-realistic rendering.
5	**MODULE 3: Develop 3D visual analysis** 1.1 The role of scale, proportion. 1.2 Structure. 1.3 Surface. 1.4 Light.
6	**MODULE 3: Develop 3D visual analysis** 1.5 Display. 1.6 Simple forms and techniques. 1.7 Forms that activate space.
7	**MODULE 4: Pre-Grad Colour/3-Dimensional Design** 4.1 Hands-on approach to colour study. 4.2 Master the three dimensions of colour. 4.3 Mixing and application of paint. 4.4 Explore three dimensional design as a discipline.
8	**MODULE 4: Pre-Grad Colour/3-Dimensional Design** 4.5 Space and colour 4.6 Composition and image. 4.7 Concepts: line, shape, value.

9	**MODULE 5: 3D Graphic Technique** 5.1 Use an appropriate level of dimensioning to fully describe a component. 5.2 Communicates ideas graphically using freehand sketching and accurate drafting techniques. 5.3 3D wire frame and surface drawings.
10	**MODULE 5: 3D Graphic Technique** 5.4 Generating and editing 3D geometry. 5.5 Analyzing 3D models.
11	**MODULE 6: Detailing** 6.1 Producing detail drawings from sketches. 6.2 Producing assembly and detail 3D drawings. 6.3 3. Development of 3D wire frame and surface drawings.
12	**MODULE 6: Detailing** 6.4 Introduction in 3D CAD applications. 6.5 Production of geometric and organic surfaces.
13	**MODULE 7: Rendering** 7.1 Light 3D scenes. 7.2 Set-up shading networks and render 3D images.
14	**MODULE 7: Rendering** 7.3 Creation of scenes in 2D and 3D environments. 7.4 Translation of basic structural relationships.
References:	**1.** 1. Introducing Autodesk Maya 2016: Autodesk Official Press by Dariush Derakhshani (2016)