M.Sc.(Fashion Designing) Semester-I
Course Code:- MFDP-1117
Course Title: Basics of 3D Modeling and Materials

Course Outcomes

After successful completion of this course, the student will be able to:

CO1: Understand the interface of Autodesk Maya (3D Modeling software)

CO2: Understanding of working with basic 3d modeling objects

CO3: Knowledge about materials and textures to be used on 3d models

CO4: knowledge about rendering output in 3d.

M.Sc.(Fashion Designing) Semester-I
Course Code:- MFDP-1117
Course Title: Basics of 3D Modeling and Materials

L - T – P	Max. Marks: 50
0 – 0 – 2	Practical: 40
Time: 3 Hours	CA: 10

Unit I

Introduction to Maya: Understanding User Interface, understanding 3D Concept, Creating reference images, setting up image planes and working in multiple viewports. Learning the difference between NURBS and Polygon modeling, using curves and Boolean techniques to create basic shapes.

Unit II

Polygon Modeling: Introduction to polygon modeling, Making hard surface objects and props like guitars, speakers, pen, watches and various house hold objects.

Unit III

Materials & Shaders: Introduction to Materials and shaders, working with Shader - Blin, Phong and Lambert etc. Working with Shader Properties - Ambient, Diffuse, Specular, gloss, opacity. Working with Maps Bump and Opacity, Reflection & Refraction. Creating custom materials and shaders in Maya using the hyper shade.

Unit IV

Rendering: Understanding the Rendering Basics, Introduction to ARNOLD in Autodesk Maya. Understanding Arnold lighting, Arnold preview rendering. Rendering different types of materials under various light setups.

Practical Exercises

Create Jewellery
Create bag
Create Scarf
Create Belt
Create Head gears / Hair Accessory
Apply Material or Texture on 3d modeled Assets

Recommended Books / Suggested Readings:

1. Autodesk Maya 2022 Basics Guide Book by Kelly L. Murdock
2. Derakhshani, Dariush, Introducing Autodesk Maya 2014, Autodesk Official Press.

M.Sc. (Fashion Designing) Semester-II
Course Code: - MFDP-2118
Course Title: Advanced 3d Modeling and Texturing

Course Outcomes

After successful completion of this course, the student will be able to:

CO1: Working with advance techniques of 3d modelling.

CO2: working with marvellous designer to create 3d objects and models.

CO3: Understanding about textures and shaders, using them on 3d models.

CO4: Rendering final output for presentation.

M.Sc. (Fashion Designing) Semester-II
Course Code: - MFDP-2118
Course Title: Advanced 3d Modeling and Texturing

L - T – P	Max. Marks: 50
0 – 0 – 2	Practical: 40
Time: 3 Hours	CA: 10

Unit I
Advance 3d Modeling, Polygon vs NURBS Modeling, Understanding Surfaces, Understanding Edit Nurbs, Understanding Edit Curves, nCloth, nCloth Simulations, Input & Output meshes, Advanced nConstraints, Understanding mesh flow, topology, low poly and high poly modeling

Unit II
Introduction to Marvelous Designer: Overview of the software interface – UI, Windows and modes, view control, importing files. Working with the tools to create cloth seams and stitches. Working with sewing and Drape, creating Pants, shirts, etc.

Unit III
Texturing & Shading: Shader components, Textures, creating custom Textures, Understanding UVW Map, Unwrapping Complex Meshes, Working with Maps Bump and Opacity, Reflection & Refraction, Difference between Bump and Displacement map, Creating light maps, Importance of normal maps. Transfer maps to other objects

Unit IV
Rendering: Understanding the Rendering Techniques in Autodesk Maya and Marvelous Designer, 3d Model Representation, 360 degree view, Rendering final output.

Practical Exercises

Create Footwear
Create Traditional / western occasion wear
Create Casual wear
Create Corporate wear
Create Sports wear
Apply Material or Texture on 3d modeled Assets

Recommended Books / Suggested Readings:

1. Autodesk Maya 2022 Basics Guide Book by Kelly L. Murdock

2. Derakhshani, Dariush, Introducing Autodesk Maya 2014, Autodesk Official Press.

3. Lori Griffiths, Understanding Marvelous Designer: A Guide for CG Artists, 2016, Wild Web Works