

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

SEMESTER-3

Major 1 - Paper: INTRODUCTION TO CG MODELLING

Credit Points – 5

Total Contact Hours - 75

Course Objective: The course is designed to provide an introduction to the process of CG modelling, where student will be able to create original 3D world, objects, different types of shapes while obtaining proficiency in different technologies and toolsets.

| SL No. | Course Outcome | Mapped Unit |
|---------------|--|--------------------|
| 1 | Ability to understand 3D world. | Unit 1 |
| 2 | Ability to create dynamic 3D formation & Shape. | Unit 2 |
| 3 | Ability to work with Computer-generated modelling. | Unit 3 |
| 4 | Ability to solve problems & conceptualize different assets in 3D technology. | Unit 4 |

Topics:

Unit 1 - Introduction to 3D world:

The students will be provided with a comprehensive introduction to the world of digital 3D art and design. Students will also obtain knowledge how to create different shapes in 3D technology.

(Total Hours – 10)

Unit 2 - Fundamentals of 3D formation & Shape:

The students will be provided with a comprehensive introduction to process & aesthetics of 3D formation & shape. Student need to understand basic vertex,edge,face,mesh and polygon in the 3D shape.

(Total Hours – 15)

Unit 3 - Fundamentals of Computer - generated Modelling:

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The students will be provided with a comprehensive introduction to the world of computer - generated Modelling. They will also obtain knowledge and idea to process of how to create cg modelling in 3D software technology.

(Total Hours – 20)

Unit 4 – Concepts of different assets creation:

The students will obtain knowledge how to create 3D concepts of different assets and background creation and that will be used for different films, commercial and mobile or computer games.

(Total Hours – 30)

Suggested Reading:

1. Autodesk Maya - An Introduction to 3D Modelling.
2. Obtaining Started in 3D with Maya: Create a Project from Start to Finish—Model, Texture, Rig, Animate, and Render in Maya by Adam Watkins.
3. Multimedia and Animation – V.K. Jain, Khanna Publishing House

| Unit No. | Content | Total Hours | %age of questions | Covered CO | Covered PO | Blooms Level (If applicable) | Remarks (If any) |
|----------|--|-------------|-------------------|------------|------------|------------------------------|------------------|
| Unit 1 | Introduction to 3D world | 10 | 25 | 1 | 5 | - | - |
| Unit 2 | Fundamentals of 3D formation & Shape | 15 | 25 | 2 | 5 | - | - |
| Unit 3 | Fundamentals of Computer - generated Modelling | 20 | 25 | 3 | 5 | - | - |
| Unit 4 | Concepts of different assets creation | 30 | 25 | 4 | 5 | - | - |

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Major 2 - Paper: TEXTURING

Credit Points – 5

Total Contact Hours - 75

Course Objective: The course is designed to provide an advance process of colour to used in 3D object or CG asset. Students also obtain knowledge that how to implement textures through 3D software technology.

| SL No. | Course Outcome | Mapped Unit |
|---------------|--|--------------------|
| 1 | Ability to understand uv and unwrap process | Unit 1 |
| 2 | Ability to understand 2D software texture techniques | Unit 2 |
| 3 | Ability to understand 3D software texture techniques | Unit 3 |

Topics:

Unit 1 - uv and unwrap process:

The students will obtain knowledge how to process of laying out the polygon objects or model of UV components into its 2D space counterpart as preparation for the texturing process.

(Total Hours – 15)

Unit 2 - Concepts of 2D software texture techniques:

The students will be provided with a comprehensive technique to the concepts of texturing in 2D software. They will also obtain knowledge how to create texture in 2D software and export to it.

(Total Hours – 20)

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Unit 3 - 3D software texture techniques:

The students will obtain knowledge how to apply different textures and materials in 3D software technology and how to create realistic look & feel for 3d model and object. Students also need to knowledge that how to use different types smart materials, layer properties and self-editor.

(Total Hours – 40)

Suggested Reading:

Realistic Asset Creation with Adobe Substance 3D by Zeeshan Jawed Shah

| Unit No. | Content | Total Hours | %age of questions | Covered CO | Covered PO | Blooms Level (If applicable) | Remarks (If any) |
|----------|--|-------------|-------------------|------------|------------|------------------------------|------------------|
| Unit 1 | uv and unwrap process | 15 | 25 | 1 | 5 | - | - |
| Unit 2 | Concepts of 2D software texture techniques | 20 | 25 | 2 | 5 | - | - |
| Unit 3 | 3D software texture techniques | 40 | 50 | 3 | 5 | - | - |