Department of Animation Science
Second Year Advanced Diploma Program (PG)

Title: **Advanced Diploma in 3D Architectural Design**

1. Year of Implementation: 2022
2. Duration: One Year
3. Pattern: Semester
4. Medium of Instruction: English
5. Contact hours: 7 hours/week
8. Structure of Course:

Year	Semester	Course No.	Course Code	Contact Hours	Credits (1Credit=15 H)	Total Marks
1	I	AST I	AD*T 101	30	2	75
		ASL I	AD* L102	60	2	150
	II	AST II	AD*T 201	30	2	75
		ASL II	AD* L202	60	2	150
	Annual	ASP I	AD*P101	60	2	150
	Industrial and or Incubation and or Research and or Field Training			60	2	-
			Total	270	12	600

Year	Semester	Course No.	Course Code	Contact Hours	Credits (1Credit=15 H)	Total Marks
2	III	AST III	AD*T 301	30	2	75
		ASL III	AD* L302	60	2	150
	IV	AST IV	AD*T 401	30	2	75
		ASL IV	AD* L402	60	2	150
	Annual	ASP I	AD*P201	60	2	150
	Industrial and or Incubation and or Research and or Field Training			60	2	-
			Total	270	12	600

Total No. of Papers: Theory: 04, Practical: 04,
Project: 02 Number of Lectures per week: 08
Theory: Semester, Practical and Project: Annual
PT: Paper Theory, PL: Paper Lab, PP: Paper Project, AD: Advance Diploma,
AS: Animation Science

Semester III

AST-I: ADAST 301: Title: Interior Design

(Contact Hrs.: 30 Credits: 2)

Course Objectives: - Students will able to:-

1. understand interface of Autodesk 3Ds Max for interior designing purpose.
2. understand animation for walkthrough purpose.

Unit 1: Introduction to interface

Interface overview, Workspace, Floating and docking, File menu, Menu Bar, Toolbars, Layers toolbar, Brush presets toolbar, the ribbon, Quad menu, Status bar control, Command panel, viewing and navigating 3D space, selecting objects, moving, rotating and scaling objects, creating copies, Instances, and References, Precision and drawing aids, keyboard shortcuts, object properties, Managing scenes, files, and project, Mesh inspector.

Unit 2: Modeling for Interior and Animation

Modeling, creating geometry, basics of creating and modifying objects, geometric primitives, Architectural objects, ACE Extended object, Stairs, Doors, Windows. Animation concept and method, Animation and time controls, working with controllers, Animation controllers, Animation constraints, Wire parameter, Hierarchies and kinematics, track view, Motion Mixer, presets and offsets.

Course Outcomes: Students should able to:

1. implement knowledge of modeling while working with Autodesk 3ds Max.
2. construct interior by using tools and objects in 3ds Max.

Reference Books:

1. Beginner's Guide to Create Models in 3ds Max® 2016 - Raavi O'Connor- 20 August 2015
2. Autodesk 3Ds Max 2021 help
3. Architectural Rendering with 3ds Max and V-Ray Photorealistic Visualization- Markus Kuhlo Enrico Eggert- 2010
4. 3D Photorealistic Rendering: Interiors & Exteriors with V-Ray and 3ds Max– 14 November 2016 by Jamie Cardoso

ADASL 302: (Practical): Interior Design

Lab(Contact Hrs. - 60 Credits: 02)

Course Objectives: - Students will able to:-
1. understand interface of Autodesk 3Ds Max for interior designing purpose.
2. understand animation for walkthrough purpose.

List of Practical's (10)

1. Creating basic object with 3ds max.
2. Creating cabinets by using basic shapes in 3ds max.
3. Importing AutoCAD interior files in 3Ds Max software.
4. Importing FBX, mb, Blend files in 3Ds Max.
5. Pillow design with cloth modifier in 3Ds Max.
6. Creating a table and tablecloth model in 3Ds Max.
7. Sofa modeling in 3Ds Max.
8. Curtain modeling in 3Ds Max software.
9. Creating kitchen design in 3Ds Max software.
10. Creating Bedroom interior in 3Ds Max.

Course Outcomes: Students should be able to:
1. Organize proper scene for interior designing in 3ds max.
2. Construct detailed scene of interior design for texturing and lighting in Autodesk 3ds Max.

Reference Books:
1. Beginner's Guide to Create Models in 3ds Max® 2016 - Raavi O'Connor- 20 August 2015
2. Autodesk 3Ds Max 2021 help
3. Architectural Rendering with 3ds Max and V-Ray Photorealistic Visualization- Markus Kuhlo Enrico Eggert- 2010
4. 3D Photorealistic Rendering: Interiors & Exteriors with V-Ray and 3ds Max– 14 November 2016 by Jamie Cardoso

Semester IV

AST-II: ADAST 401: Title: **Rendering for Interior Design**
(Contact Hrs: 30 Credits: 2)

Course Objectives: - Students will able to:-

    1. understand light for illuminating scene for photorealistic output.

    2. create real world environment by using inbuilt lighting and texturing.

Unit 1: Lighting and Shading

Lights, working with lights, properties of light, positioning light objects, animating lights, Light include/ Exclude tool, Photometric light, target light, free light, standard light, common lighting rollouts and dialogs, shadow types and shadow controls, sunlight and daylight system, Material Editor, Materials, and maps, creating and assigning material, material editor, material/map browser, Material explorer, types of material, maps and shaders, hardware shading, material, mapping and vertex, color utilities.

Unit 2: Rendering and compilation

Rendering, cameras, rendering still image or animation, rendered frame window, render output file dialog, render image file, rendering commands, renderers, rendering separate elements, baking to texture, rendering to texture, creating snapshot of viewport, render a preview animation, batch rendering tool, command-line rendering, creating material and shaders in v-ray, interior daylight rendering, exterior daylight rendering, interior and exterior nighttime rendering.

Course Outcomes: students should be able to:

    1. understand the knowledge of lighting and shading for generating photorealistic output.

    2. illustrate industry level work in interior designing sector.

Reference Books:

1. Beginner's Guide to Create Models in 3ds Max® 2016 - Raavi O'Connor- 20 August 2015
2. Autodesk 3Ds Max 2021 help
3. Architectural Rendering with 3ds Max and V-Ray Photorealistic Visualization- Markus Kuhlo Enrico Eggert- 2010
4. 3D Photorealistic Rendering: Interiors & Exteriors with V-Ray and 3ds Max– 14 November 2016 by Jamie Cardoso

ADASL 402: (Practical): Rendering for Interior Design
(Contact Hrs. 60 Credits: 02)

Course Objectives: - Students will able to:-

1. understand light for illuminating scene for photorealistic output.
2. create real world environment by using inbuilt lighting and texturing.

List of Practical's (10)

3. Adding basic lights in scene.
4. Texturing interior in 3Ds Max software.
5. Working with material editor in 3Ds Max.
6. Creating cameras in scene for rendering in 3Ds Max
7. Interior daylight rendering in 3Ds Max.
8. Working with default render setting in 3Ds MAx.
9. Working with V-Ray light in 3Ds Max.
10. Working with render setting options in 3Ds Max.
11. Rendering scene with 3Ds Max.
12. Rendering scene with Corona Renderer.

Course Outcomes: students should be able to:

1. illustrate lighting and texturing panel available in 3ds max software.
2. understand scene for generating output with help of render setting options.

Reference Books:

1. Beginner's Guide to Create Models in 3ds Max® 2016 - Raavi O'Connor- 20 August 2015
2. Autodesk 3Ds Max 2021 help
3. Architectural Rendering with 3ds Max and V-Ray Photorealistic Visualization- Markus Kuhlo Enrico Eggert- 2010
4. 3D Photorealistic Rendering: Interiors & Exteriors with V-Ray and 3ds Max– 14 November 2016 by Jamie Cardoso