Karmaveer Bhaurao Patil University, Satara

Syllabus for

Advanced Diploma II (3D Architectural Design)

Under

Faculty of Science and Technology

(As per NEP 2020)

With effect from Academic Year 2025-2026

Department of Animation Science

Revised Syllabus of II Year Advanced Diploma Program (PG)

Title: **3D Architectural Design**

1. Year of Implementation: 2024
2. Duration: One Year
3. Pattern: Semester
4. Medium of Instruction: English
5. Contact hours: 7 hours/week
6. Structure of Course

Structure of Course:

Year	Semester	Course No.	Course Code	Contact Hours	Credits (1Credit=15 H)	Total Marks
1	I	ADAST I	ADAST 101	30	2	75
		ADASL I	ADASL102	60	2	150
	II	ADAST II	ADAST 201	30	2	75
		ADASL II	ADASL202	60	2	150
	Annual	ADASP I	ADASP101	60	2	150
	Industrial and or Incubation and or Research and or Field Training			60	2	-
		Total		270	12	600
2	III	ADAST III	ADAST 301	30	2	75
		ADASL III	ADASL 302	60	2	150
	IV	ADAST IV	ADAST 401	30	2	75
		ADASL IV	ADAS L 402	60	2	150
	Annual	ADASP I	ADASP 201	60	2	150
	Industrial and or Incubation and or Research and or Field Training			60	2	-
		Total		270	12	600
				540	**24**	**1200**

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

Evaluation Pattern of Advanced Diploma Program

Theory Assessments					Practical Assessments			Annual Project
Internal Evaluation			End Semester Evaluation		Internal Evaluation		End Semester Evaluation	Sem I/II/III/IV
ADISE	Attendance	Total	ADESE	Total	PADISE	Attendance	PADESE	Total
30	05	35	40	75	50	20	80	150

Semester III

ADAST III : 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.

Credits (Total Credits 2)	Semester III	No Of hours
Unit I	**Introduction to interface**	**15**
	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 II	**Modeling for Interior and Animation**	**15**
	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 III -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.

Credits (Total Credits 2)	Semester III (Lab) ADASL 302: Interior Design	No of hours per Unit Credits
	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. 11. Create any object and apply Blur ,Ring, Glow and Star rendering effect. 12. Create any object and apply fire and fog atmospheric effect. 13. Create Sofa and Creating mental ray Light and Shadow 14. Create Table and apply Glass and DGS Material to table. 15. Create chess pieces and apply atmospheric effects.	**2**

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

ADAST IV: 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.

Credits (Total Credits 2)	Semester IV	No Of hours
Unit I	**Lighting and Shading**	**15**
	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 lightingrollouts 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 II	**Rendering and compilation**	**15**
	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 daylightrendering, 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 IV : 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.

Credits (Total Credits 2)	Semester IV (Lab) ADASL 402: Rendering for Interior Design	No of hours per Unit Credits
	1. Adding basic lights in scene. 2. Texturing interior in 3Ds Max software. 3. Working with material editor in 3Ds Max. 4. Creating cameras in scene for rendering in 3Ds Max 5. Interior daylight rendering in 3Ds Max. 6. Working with default render setting in 3Ds MAx. 7. Working with V-Ray light in 3Ds Max. 8. Working with render setting options in 3Ds Max. 9. Rendering scene with 3Ds Max. 10. Rendering scene with Corona Renderer. 11. Create torus knot or sun and apply Glare effect. 12. Create Earth and Adding Environment Background and apply Blur, Ring, Glow and Star rendering effect 13. Create cartoon snowman and Adding Environment Background 14. Enabling mental ray, create various types of renders and produce render output with light. 15. Create glass and add environment background and apply Volume fog effects on it	**2**

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

ADASP I: ADASP 201 (Project)
(Contact Hrs. 30/60, Credits: 1/2)

Industrial and or Incubation and or Research and or Field Training
(Contact Hrs. 60, Credits: 2)

BOS Sub-Committee

1) Mrs.Doke P.S	1. Department of Animation Science
2) Mr. Bhambure R.V.	2. Department of Animation Science

Expert Committee

1) Mr.Pimpale S. N.	1.Shivaji college,Satara
2) Mr.Unkule Mandar	2. Paps Studio,Satara