COURSE TITLE	**INTERIORS AND EXTERIOR MODELING**
COURSE CODE	**05MA0203**
COURSE CREDITS	**4**

Objective:

1 Understand the fundamental principles and techniques of 3D modeling for architectural visualization using 3ds Max.
2 Develop skills in creating realistic interior and exterior scenes using Corona Renderer.
3 Learn to use various tools and plugins essential for architectural modeling and rendering.
4 Explore industry best practices for optimizing models and renders for efficient workflows.
5 Apply design principles to create compelling and visually accurate representations of architectural spaces.

Course Outcomes: After completion of this course, student will be able to:

1 Students will be able to demonstrate an understanding of 3D modeling principles and techniques for architectural visualization.
2 Students will be able to create detailed and accurate 3D models of interior and exterior architectural spaces.
3 Students will be able to apply realistic textures, materials, and lighting to their models using Corona Renderer.
4 Students will be able to optimize their models and renders for efficient workflows and high-quality results.
5 Students will be able to create compelling visualizations of architectural designs for presentation and communication purposes.

Pre-requisite of course: Basic computer skills and familiarity with 3D concepts are helpful.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	8	0	0	0	50	50

Contents : Unit	Topics	Contact Hours
Total Hours		

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Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**UNIT 1** Introduction to 3ds Max and Corona Renderer Introduction to 3ds Max Interface – Understanding the user interface, navigation, and basic tools. Modeling Fundamentals – Creating and manipulating basic 3D objects (boxes, cylinders, spheres, etc.). Introduction to Corona Renderer – Understanding the Corona rendering engine and its features. Material Basics – Creating and applying basic materials in Corona (diffuse, reflection, refraction). Lighting Basics - Setting up basic lighting scenarios in Corona (sun, sky, and artificial lights).	30
2	**UNIT 2** Interior Modeling and Visualization Modeling Interior Architectural Elements – Creating walls, floors, ceilings, doors, and windows. Furniture Modeling – Modeling or importing and customizing furniture models. Interior Detailing – Adding details like moldings, trim, and decorative elements. Texturing and Material Application – Applying realistic textures and materials to interior surfaces. Interior Lighting Techniques – Setting up realistic interior lighting using Corona. Camera Setup and Composition – Setting up camera angles and composing interior scenes.	30
3	**UNIT 3** Modeling Exterior Architectural Elements – Creating building facades, roofs, and architectural details. Landscape Modeling – Creating terrain, vegetation, and outdoor environments. Exterior Detailing – Adding details like windows, doors, and exterior lighting fixtures. Texturing and Material Application – Applying realistic textures and materials to exterior surfaces. Exterior Lighting Techniques – Setting up realistic exterior lighting using Corona (daylight, artificial lights). Camera Setup and Composition – Setting up camera angles and composing exterior scenes	30
4	**UNIT 4** Advanced Modeling Techniques – Using modifiers, splines, and other advanced modeling tools. Advanced Material Creation – Creating complex materials using Corona's material editor. Using HDRI Lighting – Implementing high dynamic range images for realistic lighting. Rendering Settings and Optimization – Adjusting render settings for optimal quality and performance. Post-Processing – Enhancing renders using post-processing techniques in Photoshop or other image editing software. Animation Basics - Creating simple walkthrough animations of the interior and exterior scenes.	30
Total Hours		**120**

Textbook :

1 Architectural Design with 3ds Max: Visualizing Design Ideas, Tom Dieckmann, Focal Press (an imprint of Routledge), 2012

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References:

1 3ds Max Design 2015: A Tutorial Approach, 3ds Max Design 2015: A Tutorial Approach, Prof. Sham Tickoo, CADCIM Technologies, 2014

2 Rendering with Corona, Rendering with Corona, Vladimir Krivko, Independently published, 2020

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
10.00	20.00	25.00	25.00	10.00	10.00

Instructional Method:

1 PPT, PRACTICAL, BOARD WORK

Supplementary Resources:

1 https://corona-renderer.com/documentation

2 https://evermotion.org/

3 https://www.youtube.com/live/_EOWcCoFp7M?si=33ruA5dgzEF9p1-9

4 https://www.udemy.com/courses/search/?q=3ds+max+corona+render&src=sac&kw=3DS+MAX

5 https://www.relebook.com/?&utm_source=sem_goo&utm_medium=3d_zc&utm_content=3dzc_max&utm_term=0033&gad_source=1&gad_campaignid=22577885506&gbraid=0AAAAAqNoggRh8eogCV3g1JWogygT4nLm2&gclid=CjwKCAjwnN3OBhA8EiwAfpTYehzBm1I8FvvPBUP1XQYSz1cjQJTMbIi6lFSM9W12KA1J_dmScs7UARoCYtwQAvD_BwE

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