

Department of Liberal Education
Era University, Lucknow
Course Outline
Effective From: 2023-24

Name of the Program	B.A. / B.Sc. (LIBERAL EDUCATION)			Year/ Semester:	3rd / 6th
Course Name	Fundamentals of 3D Animation	Course Code:	ANI305	Type:	Theory
Credits	03			Total Sessions Hours:	45 Hours
Evaluation Spread	Internal Continuous Assessment:	40 Marks		End Term Exam:	35 Marks
Type of Course	<input type="radio"/> Compulsory	<input type="radio"/> Core	<input type="radio"/> Creative	<input checked="" type="radio"/> Life Skill	
Course Objectives	<ol style="list-style-type: none"> 1. 3D modeling is the digital representation of any object or surface using 3D modeling software. 2. In the most basic case, three-dimensional model can be create from simple shapes like cubes, rectangles, and triangles. 3. These shapes are then modifying into complex, high-polygon designs. 				
Course Outcomes(CO): <i>After the successful course completion, learners will develop following attributes:</i>					
Course Outcome (CO)	Attributes				
CO1	After the completion of this course, a student will learn: Understand and use a range of design techniques and skills to create their own design work.				
CO2	Generate design ideas, concepts, and proposals in response to a brief.				
CO3	Have an understanding of the broader context of their practice within contemporary.				
CO4	Commercial visual communication media platforms. Experiment with and test 3D design ideas and document the process.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 20 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks				
Session Details	Topic			Hours	Mapped CO
Unit 1	Introduction to 3D modeling & Animation			10	CO1
	Space, objects, and structures, building with numbers, vertices, edges, and facets, moving things around, file formats etc. modeling prominently used in games, movies, and on television, 3D graphics are tools of creation used to enhance how material and light come together to manipulate objects in 3D space.				
Unit 2	Introduction to materials, textures, lighting			10	CO2
	Materials define how a surface rendered. this is achieved by selecting a shade for the material and then setting the public				

	properties of the underlying shade- lighting strategies and mood, types of light sources, basic components of a light source, lighting the scene, basic positions of light sources.		
Unit 3	Camera, object & motion path animation The technique of motion paths is especially useful for laying out complex camera moves. Crane shots, underwater shots and flying cameras in particular consisting of several individual moves – as explained earlier the motion path technique works by animating an object – camera in this case – along a path defined in 3 dimensional spaces. The paths drawn with a simple curve-modeling tool and edit just as any object in 3 dimensional spaces would be edit.	10	CO3
Unit 4	Rendering concepts Lights, camera, and materials, colormodels, steps in the rendering process, hidden surfaceremoval, z-buffer, ray tracing, global illumination andgrandiosity, image- based lighting, non-photorealisticrendering, hardware rendering, file formats for renderedimages basic modeling.	15	CO4

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1					1			1	1				1	
CO2				3	2		1				2			
CO3			1			2				2			3	
CO4	1			2		1		2				2		1

Strongcontribution-3 Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Text- Books	<ol style="list-style-type: none"> 3D Art Essentials: The Fundamentals of 3D Modeling, Texturing, and Animation Paperback – Illustrated, 28 April 2011by Ami Chopine Fundamentals Of 3D Graphic Design: Basic Things Beginners Should Know: Graphic Design Kindle Edition by Korey Panzarella
Reference Books	<p>https://all3dp.com/2/3d-modeling-basics-simply-explained/</p> <p>https://www.cgspectrum.com/blog/how-to-make-3d-animation</p>
Para Text	<p>Unit 1:</p> <ol style="list-style-type: none"> https://youtu.be/tCTkkHGRpNk https://youtu.be/TjJLuFKA20 <p>Unit 2:</p> <ol style="list-style-type: none"> https://youtu.be/fZSD7pVIUkY https://youtu.be/NW_djQS_N8U <p>Unit 3:</p> <ol style="list-style-type: none"> https://youtu.be/1byaQygtcpc https://youtu.be/a78qElaliLI <p>Unit4:</p> <ol style="list-style-type: none"> https://youtu.be/S5_x3BRa718

Recapitulation & Examination Pattern		
Internal Continuous Assessment:		
Component	Marks	Pattern
Mid Semester	20	Section A: Contains 10 MCQs/Fill in the blanks/One Word Answer/ True-False type of questions. Each question carries 0.5 mark. Section B: Contains 07 descriptive questions out of which 05 questions are to be attempted. Each question carries 03 marks.
Class Test	05	Contains 05 descriptive questions . Each question carries 01 mark.
Online Test/ Objective Test	05	Contains 10 multiple choice questions . Each question carries 0.5 mark.
Assignment/ Presentation	05	Assignment to be made on topics and instruction given by subject teacher
Attendance	05	As per policy
Total Marks	40	

Course created by: **Ms. Iffat Jahan**

Signature:

Approved by: **Mr. Gaurav Rawat**

Signature: 