COURSE TITLE	**3D ANIMATION**
COURSE CODE	**05MA0202**
COURSE CREDITS	**4**

Objective:

1 Understand the fundamental principles of animation and its application in Maya.
2 Develop skills in creating character animations, including keyframing and motion paths.
3 Learn to use various tools and techniques in Maya essential for animation.
4 Explore the history and evolution of animation, including influential artists and movements.
5 Apply animation principles to create engaging and dynamic animations for various media.

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

1 Students will be able to demonstrate an understanding of the principles of animation and their application in Maya.
2 Students will be able to create character animations with consideration for timing, movement, and visual storytelling
3 Students will be able to animate environmental elements with an understanding of physics and dynamics.
4 Students will be able to apply advanced animation techniques and industry-standard tools for creating animations.
5 Students will learn the fundamentals of animation, including its historical development, theoretical principles, and practical applications.

Pre-requisite of course: Basic Computer Graphics

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 Animation - Understanding the basics of animation principles (squash and stretch, timing, anticipation, etc.). Overview of the animation pipeline in Maya. Core skills for animators - keyframing, timing, and spacing. Industry overview - Exploring careers in animation.	30
2	**UNIT 2** Character Animation - Basics of character rigging and setup in Maya. Understanding movement and timing for character actions. Creating walk cycles and run cycles.	30
3	**UNIT 3** Environmental Animation - Animating objects within a scene (e.g., vehicles, nature elements). Understanding physics and dynamics in animation. Creating camera movements and transitions to enhance storytelling.	30
4	**UNIT 4** Advanced Animation Techniques - Introduction to character acting and performance animation. Using motion capture data in Maya. Presentation and portfolio development - Showcasing animations effectively for potential clients and employers.	30
Total Hours		**120**

Textbook :

1 The Animator's Survival Kit, Richard Williams, Faber & Faber, 2001

References:

1 Animation: From Pencils to Pixels – Classical Techniques for the Digital Animator, Animation: From Pencils to Pixels – Classical Techniques for the Digital Animator, Tony White, Focal Press (an imprint of Routledge), 2006

2 Character Animation Crash Course, Character Animation Crash Course, Eric Goldberg, Silman-James Press, 2008

3 The Illusion of Life: Disney Animation, The Illusion of Life: Disney Animation, Frank Thomas & Ollie Johnston, Disney Editions, 1981

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

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Instructional Method:

1 BOARD WORK, PRACTICAL, PPT

Supplementary Resources:

1 https://www.animationmentor.com
2 https://www.11secondclub.com
3 https://area.autodesk.com
4 https://www.animationmentor.com
5 https://ianimate.net
6 https://cgcookie.com

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