



CHHATRAPATI SHAHU JI MAHARAJ UNIVERSITY, KANPUR

Programme: B.Sc. Animation and VFX (AEDP)
Apprenticeship Embedded Degree Programme

Course Structure (with effect from 2026-27)

Semester 1				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	Core Course 1	B320101T	Drawing & Painting	4
2	Core Course 2	B320102T	Principles of Animation	4
3	Core Course 3	B320103T	Storytelling & Storyboarding	4
4	Minor Course	B320104T	UI/UX Design	3
5	Skill Enhancement Course (SEC)	VOC189	Digital Art	3
6	Co-curricular Course	Z011102	Communicative English-I	2
Total Credits				20

Semester 2				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	Core Course 1	B320201T	2D Digital Animation	4
2	Core Course 2	B320202T	Video Editing	4
3	Core Course 3	B320203T	Animation Drawing	4
4	Minor Course	B320204T	History of Animation	3
5	Skill Enhancement Course (SEC)	VOC190	Fundamentals of Photography & Cinematography	3
6	Co-curricular Course	Z021202	Communicative English-II	2
Total Credits				20


Prof. Virendra Kr Vyas

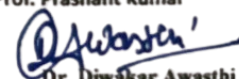

Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwaker Awasthi
(Coordinator)

Semester 3				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	Core Course 1	B320301T	3D Modeling	4
2	Core Course 2	B320302T	3D Animation	4
3	Core Course 3	B320303T	Rigging	4
4	Minor Course	B320304T	Texturing & Painting	3
5	Skill Enhancement Course (SEC)	VOC193	Motion Graphics Fundamentals	3
6	Co-curricular Course	Z031301	Physical Education and Yoga	2
Total Credits				20

Semester 4				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	Core Course 1	B320401T	Anatomy Study	4
2	Core Course 2	B320402T	Lighting and Rendering	4
3	Core Course 3	B320403T	Digital Sculpting	4
4	Minor Course	B320404T	Performance Animation	3
5	Skill Enhancement Course (SEC)	VOC194	Creature Animation	3
6	Co-curricular Course	Z041403	Community Connect	2
Total Credits				20

Semester 5				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	Core Course 1	B320501T	Match Moving	5
2	Core Course 2	B320502T	Rotoscope & Paint	5
3	Core Course 3	B320503T	Dynamics	5
4	Specialization Course	B320504T	Editing & Compositing	5
5	Project	B320505R	VFX & Compositing	5
Total Credits				25

Semester 6				
Sl. No.	Category of Course	Code No.	Course Title	Credits
1	DSE	B320601A	Apprenticeship with Industry	25
Total Credits				25


Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar

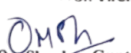

Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Divakar Awasthi
(Coordinator)

Programme: B.Sc. Animation and VFX		Year: First	Semester: I
Course Code: B320101T		Course Title: Drawing & Painting	
Course outcomes: 1. Demonstrate improved drawing and sketching skills. 2. Apply principles of composition and color effectively in art. 3. Utilize digital drawing and painting tools proficiently. 4. Create concept art and illustrations.			
Credits: 4		Core Course 1	
Max. Marks: 25+75		Min. Passing Marks: 10+25	
Unit	Topics		No.of Lectures Total=60
I	Fundamentals of Drawing and Sketching: Introduction to Drawing, Observation Skills, Line Drawing, Shapes and Forms, Perspective Basics, Light and Shadow, Object Sketching, Human Proportion Basics, Gesture Drawing and Visual Representation Techniques.		15
II	Composition and Color Principles: Principles of Design, Balance, Contrast, Rhythm, Emphasis and Harmony, Color Theory, Color Wheel, Color Schemes, Psychological Effects of Colors, Composition Techniques for Visual Storytelling and Artistic Expression.		15
III	Digital Drawing and Painting Techniques: Introduction to Digital Art Tools and Software, Digital Brushes and Layers, Tablet-Based Drawing, Digital Painting Workflow, Texture Creation, Rendering Techniques, Lighting Effects, Digital Painting Fundamentals.		15
IV	Concept Art and Illustration Development: Concept Art Process, Visual Development, Character Design, Environment Illustration, Creative Ideation Techniques, Illustration and Presentation Methods.		15
Suggested Readings: • <i>Andrew Loomis – Fun with a Pencil</i> • <i>Betty Edwards – Drawing on the Right Side of the Brain</i> • <i>James Gurney – Color and Light</i> • <i>Scott Robertson – How to Draw</i>			
Suggested Continuous Evaluation Methods: • <i>Sketchbook Assignments</i> • <i>Composition Exercises</i> • <i>Color Studies</i> • <i>Digital Painting Projects</i> • <i>Concept Art Development</i> • <i>Portfolio Review</i> • <i>Class Presentations</i> • <i>Practical Demonstrations</i>			
Suggested equivalent online courses: • <i>Adobe Digital Painting Courses.</i> • <i>Skillshare – Concept Art & Illustration.</i> • <i>Udemy – Digital Painting Masterclass.</i>			

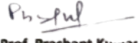

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath

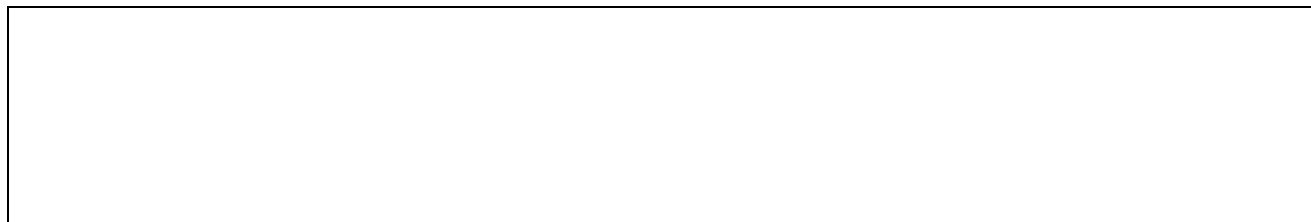

Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Programme: B.Sc. Animation and VFX		Year: First	Semester: I
Course Code: B320102T		Course Title: Principles of Animation	
Course outcomes: 1. Apply fundamental animation principles. 2. Create dynamic and expressive character animations. 3. Develop environmental animations that enhance the viewer experience. 4. Apply advanced animation techniques to improve quality animation.			
Credits: 4		Core Course 2	
Max. Marks: 25+75		Min. Passing Marks: 10+25	
Unit	Topics		No.of Lectures Total=60
I	Fundamentals of Animation Principles: History and Evolution of Animation, Animation Workflow, Introduction to the 12 Principles of Animation (Squash & Stretch, Anticipation, Staging, Straight Ahead & Pose-to-Pose, Follow Through & Overlapping Action, Slow In & Slow Out, Arcs, Secondary Action, Timing, Exaggeration, Solid Drawing and Appeal), Observation and Motion Analysis.		15
II	Character Animation Fundamentals: Acting for Animation, Body Mechanics, Weight and Balance, Walk Cycles, Run Cycles, Facial Expressions, Lip Synchronization Basics, Gesture and Performance Animation, Creating Dynamic and Expressive Character Motions.		15
III	Environmental and Object Animation: Principles of Environmental Motion, Natural Phenomena Animation (Water, Fire, Smoke, Wind), Mechanical and Object Animation, Camera Movement, Scene Dynamics, Interaction Between Characters and Environment, Enhancing Visual Experience through Motion Design.		15
IV	Advanced Animation Techniques and Production: Advanced Timing and Spacing, Animation Polish and Refinement, Acting and Emotional Performance, Advanced Character Mechanics, Animation Quality Control, Animation Pipeline Integration, Portfolio Development, Industry Standards and Project-Based Animation Production.		15
Suggested Readings: • Richard Williams – The Animator's Survival Kit • Frank Thomas & Ollie Johnston – The Illusion of Life: Disney Animation • Ed Hooks – Acting for Animators • Tony White – Animation: From Pencils to Pixels • Preston Blair – Cartoon Animation			
Suggested Continuous Evaluation Methods: • Animation Exercises • Bouncing Ball and Pendulum Assignments • Walk Cycle Projects • Character Acting Tests • Environmental Animation Tasks • Scene Animation Projects • Portfolio Development • Viva Voce and Presentations			
Suggested equivalent online courses: • Pixar in a Box – Animation Basics • Animation Mentor Foundations • CG Spectrum – Animation Essentials • Coursera – Animation and Motion Fundamentals • LinkedIn Learning – Principles of Animation			
		 Prof. Virendra Kr Vyas	 Prof. Manukonda Rabindranath
		 Dr. Om Shankar Gupta	 Dr. Hariom Kumar
			 Dr. Hoimawati Talukdar
			 Dr. Divakar Awasthi (Coordinator)



Programme: B.Sc. Animation and VFX	Year: First	Semester: I
Course Code: B320103T	Course Title: Storytelling & Storyboarding	
Course outcomes: • Craft engaging narratives. • Understand various narrative structures relevant to Animation. • Create compelling characters for storytelling. • Develop proficiency in using storyboarding as a visual storytelling tool.		
Credits: 4		Core Course 3
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Storytelling: Introduction to Storytelling, Importance of Stories in Animation and Visual Media, Elements of Story (Theme, Plot, Conflict, Setting, Character), Three-Act Structure, Narrative Arc, Story Development Process, Types of Stories and Genres.	15
II	Narrative Structures and Script Development: Classical and Modern Narrative Structures, Linear and Non-Linear Storytelling, Hero's Journey, Character Arc, Scene Construction, Dialogue Writing Basics, Script Formatting, Story Analysis and Adaptation for Animation Projects.	15
III	Character Creation and Visual Storytelling: Character Design for Storytelling, Personality Development, Character Motivation and Conflict, Visual Communication Through Character Actions and Expressions, Relationship Building, World Building, Character Sheets and Story-Driven Design Approaches.	15
IV	Storyboarding Techniques and Production: Principles of Storyboarding, Camera Angles and Shot Composition, Cinematic Language, Scene Visualization, Action and Continuity, Storyboard Panels and Timing, Animatics Creation, Digital Storyboarding Tools, Portfolio Development and Presentation of Storyboards.	15
Suggested Readings: • Syd Field – <i>Screenplay: The Foundations of Screenwriting</i> • Robert McKee – <i>Story</i> • Christopher Vogler – <i>The Writer's Journey</i> • Francis Glebas – <i>Directing the Story</i> • Marcos Mateu-Mestre – <i>Framed Ink</i> • Walt Stanchfield – <i>Drawn to Life</i>		


Prof. Virendra Kr Vyas

Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath

Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar

Dr. Diwakar Awasthi
(Coordinator)

Suggested Continuous Evaluation Methods:

- Story Writing Assignments
- Character Development Exercises
- Script Writing Tasks
- Story Analysis Reports
- Storyboard Sheet Preparation
- Animatic Creation
- Group Discussions and Presentations
- Final Storyboarding Project

Suggested equivalent online courses:

- Pixar in a Box – Storytelling
- Coursera – Storytelling and Narrative Design
- LinkedIn Learning – Storyboarding Foundations
- Udemy – Storyboarding for Animation
- CG Spectrum – Visual Storytelling Essentials

Programme: B.Sc. Animation and VFX		Year: First	Semester: I
Course Code: B320104T		Course Title: UI UX Design	
Course outcomes: • Design and create effective UI/UX elements. • Apply principles of user interface design to enhance navigation. • Implement strategies to improve the overall user experience. • Develop UI/UX designs suitable for different platforms. • Conduct usability testing and iterate designs based on feedback.			
Credits: 3		Minor Course	
Max. Marks: 25+75		Min. Passing Marks: 10+25	
Unit	Topics		No.of Lectures Total=60
I	Introduction to UI/UX Design: Overview of UI and UX Design, Importance of User Experience in Digital Products, User-Centered Design Process, Difference between UI and UX, Design Thinking Fundamentals, Human-Centered Design, Elements of User Interface, Introduction to Design Tools and Workflows.		15
II	User Interface Design Principles: Layout and Grid Systems, Typography and Readability, Color Theory and Accessibility, Visual Hierarchy, Navigation Design, Information Presentation, UI Components and Patterns, Design Systems, Responsive Design Principles and Interface Consistency.		15
III	User Experience Design and Research: User Research Methods, Personas and User Profiles, User Journey Mapping, Information Architecture, Wireframing Techniques, Low and High-Fidelity Prototypes, Interaction Design Principles, Accessibility Standards, Improving User Experience through Research and Testing.		15
IV	Platform Design, Usability Testing and Iteration: Designing for Web, Mobile and Cross-Platform Applications, Usability Testing Methods, Heuristic Evaluation, A/B Testing Fundamentals, Feedback Collection and Analysis, Iterative Design Process, UX Metrics and Analytics, UI/UX Case Studies and Final Design Project.		15


Prof. Virendra Kr Vyas

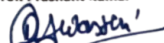

Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Suggested Readings:

- ☐ Don Norman – *The Design of Everyday Things*
- ☐ Alan Cooper, Robert Reimann & David Cronin – *About Face: The Essentials of Interaction Design*
- ☐ Steve Krug – *Don't Make Me Think*
- ☐ Garrett N. – *The Elements of User Experience*
- ☐ Joel Marsh – *UX for Beginners*
- ☐ Jenifer Tidwell – *Designing Interfaces*

Suggested Continuous Evaluation Methods:

- ☐ UI Design Assignments
- ☐ Wireframing Exercises
- ☐ User Research Reports
- ☐ Persona Development
- ☐ User Journey Mapping
- ☐ Prototype Design Projects
- ☐ Usability Testing Reports
- ☐ Case Study Analysis
- ☐ Final UI/UX Project Presentation

Suggested equivalent online courses:

- *LinkedIn Learning – UX Foundations*
- *Udemy – UI/UX Design Masterclass*
- *Figma Academy*
- *Coursera – User Experience Research and Design*

Programme: B.Sc. Animation and VFX	Year: First	Semester: I
Course Code: VOC189	Course Title: Digital Art	
Course outcomes: • Create digital art assets. • Employ digital painting techniques to enhance visuals. • Develop concept art that aligns with design objectives. • Apply texturing and shading skills to enhance graphics. • Integrate digital art effectively into character design.		
Credits: 3		SEC
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Digital Art and Asset Creation: Introduction to Digital Art, Digital Art Workflow, Raster and Vector Graphics, Digital Drawing Fundamentals, Understanding Graphic Tablets and Input Devices, Layers and Selections, Basic Asset Creation Techniques, Composition and Visual Design Principles.	15
II	Digital Painting Techniques: Introduction to Digital Painting Software, Brush Tools and Customization, Color Theory for Digital Media, Lighting and Shadow Techniques, Texture Painting, Rendering Methods, Matte Painting Basics, Enhancing Visual Quality through Digital Painting Workflows.	15



Prof. Virendra Kr Vyas



Dr. Om Shankar Gupta



Prof. Manukonda Rabindranath



Dr. Hariom Kumar



Dr. Hoimawati Talukdar



Prof. Prashant Kumar



Dr. Divakar Awasthi
(Coordinator)

III	Concept Art Development and Design Visualization: Concept Art Fundamentals, Research and Reference Collection, Ideation and Thumbnail Sketching, Environment Concept Art, Prop Design, Visual Storytelling Techniques, Design Thinking in Concept Development, Creating Artwork Aligned with Project Objectives.	15
IV	Texturing, Shading and Character Design Applications: Surface Texturing Techniques, Material Creation, Shading Principles, Character Design Fundamentals, Costume and Prop Development, Integration of Digital Art into Character Design, Portfolio Artwork Development and Industry-Oriented Project Execution.	15
Suggested Readings: - James Gurney – <i>Color and Light</i> 3DTotal Publishing – <i>Digital Painting Techniques</i> - Scott Robertson – <i>How to Draw</i> 3DTotal Publishing – <i>Beginner's Guide to Digital Painting</i> - Michael Hampton – <i>Figure Drawing: Design and Invention</i>		
Suggested Continuous Evaluation Methods: - Digital Sketching Assignments - Asset Creation Exercises - Digital Painting Projects - Concept Art Development Tasks - Character Design Assignments - Texturing and Shading Exercises - Portfolio Reviews - Presentations and Viva Voce		
Suggested equivalent online courses: - Adobe Photoshop for Digital Artists Coursera – Fundamentals of Graphic Design CG Spectrum – Digital Painting Essentials Udemy – Digital Art and Illustration Masterclass LinkedIn Learning – Digital Painting Foundations		
Programme: B.Sc. animation & VFX	Year: First	Semester: I
Course Code: Z011102	Course Title: Communicative English-1	
Course outcomes: - Proficient written and verbal communication in media settings. - Critical analysis and interpretation of media-related content. - Effective presentation and public speaking abilities. - Collaborative communication skills suitable for team environments. - Application of language skills in media and entertainment contexts		
Credits: 2		Co- Curricular
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=30

I	• Foundations of English Language • Reading Comprehension Strategies • Writing Techniques for Media • Verbal and Non-verbal Communication • Media Literacy and Critical Analysis • Presentation Skills for Media Professionals • Group Communication Dynamics • Cultural Sensitivity in Communications	
Programme: B.Sc. Animation and VFX	Year: First	Semester: II
Course Code: B320201T	Course Title: 2D Digital Animation	
Course outcomes: 1. Proficiency in the principles and techniques of 2D digital animation. 2. Competence in using industry-standard software for 2D animation. 3. Creative skills in character design and storytelling for 2D animation. 4. Ability to create fluid and engaging animations using timing and spacing principles. 5. Hands-on experience in producing 2D character animations and backgrounds. 6. Understanding of integrating sound and music to enhance 2D animation narratives. 7. A portfolio showcasing a variety of 2D digital animation projects.		
Credits: 4		Core Course 1
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of 2D Digital Animation: Introduction to Animation Industry, History and Evolution of 2D Animation, Principles of Animation, Timing and Spacing, Squash and Stretch, Anticipation, Follow Through, Keyframes and In-betweens, Animation Workflow and Production Pipeline.	15
II	2D Animation Software and Production Tools: Introduction to Industry-Standard Software (Adobe Animate), Workspace and Interface, Drawing Tools, Layers and Symbols, Timeline Animation, Rigging Basics, Asset Management, Scene Setup and Export Techniques.	15
III	Character Design, Storytelling and Animation Production: Character Design Principles, Expression Sheets, Character Turnarounds, Visual Storytelling, Storyboarding Fundamentals, Character Acting, Walk Cycles, Run Cycles, Lip Synchronization Basics, Creating Engaging Animated Narratives.	15

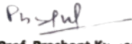

 Prof. Virendra Kr Vyas

 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Hariom Kumar


 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Divakar Awasthi
 (Coordinator)

IV	Animation Production, Sound Integration and Portfolio Development: Background Design and Layouts, Scene Composition, Advanced Character Animation, Sound Effects and Music Synchronization, Audio Editing Basics, Final Animation Production Workflow, Project Planning, Portfolio Development and Presentation of 2D Animation Projects.	15
Suggested Readings: ☐ Richard Williams – <i>The Animator's Survival Kit</i> ☐ Tony White – <i>Animation from Pencils to Pixels</i> ☐ Preston Blair – <i>Cartoon Animation</i> ☐ Ed Hooks – <i>Acting for Animators</i> ☐ Steve Roberts – <i>Character Animation Fundamentals</i>		
Suggested Continuous Evaluation Methods: ☐ Animation Exercises ☐ Bouncing Ball and Pendulum Projects ☐ Character Design Assignments ☐ Storyboard Development ☐ Walk Cycle and Acting Tests ☐ Lip Sync Exercises ☐ Short Animation Film Project ☐ Portfolio Review and Presentation		
Suggested equivalent online courses: ☐ Animation Mentor – <i>Animation Basics</i> ☐ Coursera – <i>Animation Fundamentals</i> ☐ LinkedIn Learning – <i>2D Animation Foundations</i> ☐ Udemy – <i>Complete 2D Animation Course</i>		

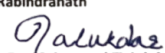
Programme: B.Sc. Animation and VFX	Year: First	Semester: II
Course Code: B320202T	Course Title: Video Editing	
Course outcomes: 1. Proficiency in video editing techniques and principles. 2. Competence in using industry-standard video editing software. 3. Creative skills in storytelling through video editing. 4. Understanding of the technical aspects of video editing, including cuts and transitions. 5. Hands-on experience in editing various types of video content. 6. Skills in color grading and correction for enhancing video quality. 7. Proficiency in audio editing and synchronization for video projects. 8. Knowledge of advanced video editing techniques, including special effects and compositing.		
Credits: 4		Core Course 2
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Video Editing: Introduction to Video Production and Post-Production, Principles of Editing, Types of Editing, Visual Storytelling through Editing, Continuity Editing, Shot Types and Sequencing, Editing Workflow, File Formats and Video Standards, Understanding Timecode and Frame Rates.	15


Prof. Virendra Kr Vyas

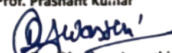

Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Holimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

II	Video Editing Software and Techniques: Introduction to Industry-Standard Software (Adobe Premiere Pro, DaVinci Resolve, Final Cut Pro), Workspace and Interface, Media Management, Timeline Editing, Trimming Techniques, Cuts and Transitions, Multi-Camera Editing, Titles and Motion Graphics Integration.	15
III	Creative Video Editing and Content Production: Storytelling through Editing, Editing for Films, Advertisements, Documentaries and Social Media Content, Visual Rhythm and Pacing, Montage Techniques, Audio-Visual Synchronization, Editing Different Content Formats, Project Planning and Execution.	15
IV	Advanced Editing, Color Grading and Compositing: Color Correction and Color Grading Techniques, LUTs and Color Management, Audio Editing and Sound Design Basics, Noise Reduction and Audio Enhancement, Visual Effects Integration, Green Screen Compositing, Motion Graphics Workflow, Final Rendering, Portfolio Development and Industry Best Practices.	15
Suggested Readings: - Walter Murch – <i>In the Blink of an Eye</i> - Gael Chandler – <i>Cut by Cut: Editing Your Film or Video</i> - Dancyger Ken – <i>The Technique of Film and Video Editing</i> - Michael Ondaatje – <i>The Conversations: Walter Murch and the Art of Editing Film</i> - Adobe Premiere Pro Classroom in a Book - Alexis Van Hurkman – <i>Color Correction Handbook</i>		
Suggested Continuous Evaluation Methods: - Editing Exercises - Continuity Editing Assignments - Short Film Editing Projects - Audio Synchronization Tasks - Color Grading Exercises - Motion Graphics Integration - Video Content Production Projects - Portfolio Presentation and Viva Voce		
Suggested equivalent online courses: - Adobe Premiere Pro Essential Training - DaVinci Resolve Certified Training - Coursera – Video Production and Editing - LinkedIn Learning – Video Editing Foundations - Udemy – Complete Video Editing Bootcamp		

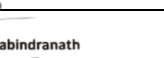
Programme: B.Sc. Animation and VFX	Year: First	Semester: II
Course Code: B320203T	Course Title: Animation Drawing	
Course outcomes: 1. Proficiency in fundamental drawing skills for animation. 2. Understanding of animation principles through drawing. 3. Skills in character design and development for animation. 4. Ability to create expressive and dynamic animations through drawing. 5. Familiarity with various drawing tools and techniques in animation. 6. Understanding of anatomy and movement for character animation drawing. 7. Proficiency in creating storyboards and animatics through drawing. 8. Strong foundation in 2D animation principles.		

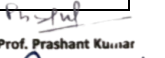

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Prof. Hoimawati Talukdar


Prof. Prashant Kumar

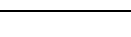

Dr. Divakar Awasthi
(Coordinator)

Credits: 4		Core Course 3	
Max. Marks: 25+75		Min. Passing Marks: 10+25	
Unit	Topics	No.of Lectures Total=60	
I	Fundamentals of Animation Drawing: Introduction to Animation Drawing, Observational Drawing Techniques, Lines, Shapes and Forms, Perspective Drawing, Gesture Drawing, Basic Sketching Methods, Principles of Visual Communication, Drawing Tools and Materials used in Animation Production.	15	
II	Animation Principles through Drawing: Understanding Movement and Motion, Timing and Spacing Concepts, Squash and Stretch, Anticipation, Follow Through and Overlapping Action, Line of Action, Dynamic Poses, Expressive Drawing Techniques for Animation.	15	
III	Character Design, Anatomy and Movement: Character Construction Techniques, Human and Animal Anatomy Basics, Proportion and Structure, Facial Expressions and Emotions, Character Turnarounds, Movement Analysis, Action Poses, Designing Characters for Animation Production.	15	
IV	Storyboarding, Animatics and 2D Animation Foundations: Principles of Visual Storytelling, Storyboarding Techniques, Scene Composition, Camera Angles and Shot Planning, Animatics Development, Sequential Art, Introduction to 2D Animation Workflow, Portfolio Development and Presentation of Animation Drawings.	15	
Suggested Readings: • Walt Stanchfield – <i>Drawn to Life</i> • Andrew Loomis – <i>Figure Drawing for All It's Worth</i> • Preston Blair – <i>Cartoon Animation</i> • Richard Williams – <i>The Animator's Survival Kit</i> • Scott Robertson – <i>How to Draw</i> • Michael Hampton – <i>Figure Drawing: Design and Invention</i>			
Suggested Continuous Evaluation Methods: • <i>Sketchbook Development</i> • <i>Gesture Drawing Exercises</i> • <i>Character Design Assignments</i> • <i>Anatomy Studies</i> • <i>Movement Analysis Projects</i> • <i>Storyboard Creation</i> • <i>Animatics Development</i> • <i>Portfolio Review and Viva Voce</i>			
Suggested equivalent online courses: • <i>Animation Mentor Drawing Courses</i> • <i>Coursera – Fundamentals of Drawing</i> • <i>LinkedIn Learning – Drawing Foundations</i> • <i>Udemy – Character Drawing for Animation</i>			

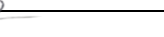
Programme: B.Sc. Animation and VFX	Year: First	Semester: II
Course Code: B320204T	Course Title: History of Animation	

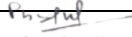

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Course outcomes:

1. In-depth knowledge of the historical evolution of animation.
2. Recognition of key pioneers and their contributions to animation.
3. Understanding of the progression from traditional to digital animation techniques.
4. Awareness of the impact of technological advancements on animation.
5. Insight into the cultural and societal influences shaping animated content.
6. Appreciation of the significance of animated films and characters in popular culture.
7. Knowledge of major animation studios and their contributions.
8. Ability to connect historical trends to contemporary practices in animation.

Credits: 3		Minor Course
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Origins and Evolution of Animation: Early Visual Storytelling Techniques, Optical Toys, Birth of Animation, Silent Era Animation, Early Experimental Films, Development of Traditional Hand-Drawn Animation, Evolution of Animation as an Art and Entertainment Medium.	15
II	Animation Pioneers and Major Studios: Contributions of Émile Cohl, Winsor McCay, Walt Disney, Max Fleischer, Hayao Miyazaki and Other Influential Animators, Emergence of Disney, Warner Bros., Hanna-Barbera, Pixar, DreamWorks and Studio Ghibli, Landmark Animated Films and Their Impact on the Industry.	15
III	Technological Advancements in Animation: Transition from Traditional to Digital Animation, Introduction of Computer Graphics, Evolution of 2D and 3D Animation Technologies, Motion Capture, Visual Effects Integration, Digital Production Pipelines, Impact of Software and Emerging Technologies on Animation Production.	15
IV	Animation in Society, Culture and Contemporary Media: Cultural Influences on Animation, Animation as a Communication Tool, Global Animation Movements, Popular Animated Characters and Franchises, Contemporary Animation Trends, Streaming Platforms and Digital Media, Future of Animation and Industry Developments.	15

Suggested Readings:

- ☐ Maureen Furniss – *A New History of Animation*
- ☐ Frank Thomas & Ollie Johnston – *The Illusion of Life: Disney Animation*
- ☐ Kit Laybourne – *The Animation Book*
- ☐ Charles Solomon – *Enchanted Drawings: The History of Animation*
- ☐ Giannalberto Bendazzi – *Animation: A World History*
- ☐ Michael Barrier – *Hollywood Cartoons*

Suggested Continuous Evaluation Methods:

- ☐ Research Assignments
- ☐ Studio Case Studies
- ☐ Film Analysis Reports
- ☐ Seminar Presentations
- ☐ Documentary Reviews
- ☐ Group Discussions
- ☐ Historical Timeline Projects
- ☐ Viva Voce



Prof. Virendra Kr Vyas



Dr. Om Shankar Gupta



Prof. Manukonda Rabindranath



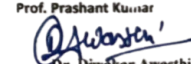
Dr. Hariom Kumar



Dr. Haimawati Talukdar



Prof. Prashant Kumar



Dr. Diwakar Awasthi
(Coordinator)

Suggested equivalent online courses:

- ☐ Coursera – History of Animation
- ☐ Khan Academy – Pixar in a Box
- ☐ LinkedIn Learning – Animation Industry Foundations
- ☐ FutureLearn – Film and Media Studies
- ☐ Animation Mentor Industry Talks

Programme: B.Sc. Animation and VFX	Year: 1st	Semester: II
Course Code: VOC190	Course Title: Fundamentals of Photography & Cinematography	
Course outcomes: - Understand the fundamental principles of photography and cinematography along with their applications in digital media. - Demonstrate proficiency in camera handling, exposure control, composition, framing, lighting, and visual storytelling. - Apply photographic and cinematographic techniques to capture high-quality still images and cinematic videos. - Utilize industry-standard digital cameras, mobile filmmaking techniques, and basic post-production workflows. - Develop creative visual content and produce a professional photography and cinematography portfolio suitable for animation, VFX, filmmaking, and digital media industries.		
Credits: 3		SEC
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Photography & Camera Systems: Introduction to Photography and Cinematography, History and Evolution, Importance in Animation, VFX and Digital Media, Types of Cameras (DSLR, Mirrorless, Cinema Camera and Smartphone), Camera Components, Exposure Triangle (ISO, Aperture and Shutter Speed), Lens Types and Focal Length, Image Resolution, Aspect Ratio, File Formats (RAW & JPEG), Basic Camera Handling and Safety.	15
II	Composition, Visual Communication & Cinematic Language: Principles of Visual Communication, Rule of Thirds, Leading Lines, Framing, Perspective, Depth of Field, Camera Angles, Shot Sizes, Camera Movements (Pan, Tilt, Dolly, Crane, Gimbal and Handheld), Visual Continuity, Storytelling through Photography and Cinematography, Mood Creation using Composition and Camera Techniques.	15
III	Lighting, Digital Imaging & Content Creation: Natural and Artificial Lighting, Three-Point Lighting Setup, Colour Temperature, White Balance, Basic Sound Recording Concepts, Indoor and Outdoor Photography, Portrait, Product and Landscape Photography, Basic Colour Correction, Image Enhancement, Mobile Photography and Mobile Filmmaking Techniques.	15
IV	Photography & Cinematography Project: Pre-production Planning, Shot Division, Storyboard Interpretation, Photo Essay Development, Short Cinematic Sequence Production, Basic Video Editing Workflow, Portfolio Development, Copyright and Ethics, Presentation Techniques, Final	15

Prof. Virendra Kr Vyas

Prof. Manukonda Rabindranath

Prof. Prashant Kumar

Dr. Om Shankar Gupta

Dr. Hariom Kumar

Dr. Hoimawati Talukdar

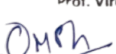
Dr. Divakar Awasthi
(Coordinator)

	Photography & Cinematography Project and Portfolio Review.	
Suggested Readings: • <i>Blain Brown – Cinematography: Theory and Practice</i> • <i>Bryan Peterson – Understanding Exposure</i> • <i>Michael Langford – Langford's Basic Photography</i> • <i>Joseph V. Mascelli – The Five C's of Cinematography</i> • <i>Scott Kelby – The Digital Photography Book</i> • <i>Tom Ang – Digital Photography Masterclass</i>		
Suggested Continuous Evaluation Methods: ☐ <i>Camera Handling Exercises</i> ☐ <i>Exposure & Composition Assignments</i> ☐ <i>Portrait Photography Project</i> ☐ <i>Product & Landscape Photography</i> ☐ <i>Camera Movement Practice</i> ☐ <i>Lighting Setup Exercises</i> ☐ <i>Photo Essay Development</i> ☐ <i>Cinematic Short Scene Production</i> ☐ <i>Portfolio Development</i> ☐ <i>Viva Voce</i>		
Suggested equivalent online courses: • <i>Photography Foundations – LinkedIn Learning</i> • <i>Fundamentals of DSLR Photography – Udemy</i> • <i>Adobe Lightroom Essential Training – LinkedIn Learning</i> • <i>Introduction to Filmmaking – FutureLearn</i> • <i>The Language of Hollywood: Storytelling, Sound and Color – Coursera</i>		

Programme: B.Sc. Animation and VFX	Year: First	Semester: II
Course Code: Z021202	Course Title: Communicative English-II	
Course outcomes: • Apply fundamental English language skills for effective communication. • Analyse and interpret texts using reading comprehension strategies. • Create clear and professional written content for media. • Demonstrate effective verbal and non-verbal communication skills. • Evaluate media content using critical thinking and media literacy. • Deliver effective presentations and collaborate confidently in group discussions.		
Credits: 2		Co-Curricular
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=30
I	• Foundations of English Language • Reading Comprehension Strategies • Writing Techniques for Media • Verbal and Non-verbal Communication • Media Literacy and Critical Analysis	

	• Presentation Skills for Media Professionals • Group Communication Dynamics	
--	---	--

Programme: B.Sc. Animation and VFX	Year: Second	Semester: III
Course Code: B320301T	Course Title: 3D Modeling	
Course outcomes: 1. Introduction to 3D Modeling Principles 2. Overview of 3D Modeling Software 3. Basics of Polygonal Modeling 4. NURBS Modeling Techniques 5. Understanding Topology in 3D Modeling 6. Character, Object, and Environment Modeling 7. Real-world 3D Modeling Projects 8. Feedback and Refinement		
Credits: 4		Core Course 1
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Introduction to 3D Modeling Fundamentals: Overview of 3D Graphics and Modeling, Applications of 3D Modeling in Animation, Gaming and VFX, Introduction to 3D Space and Coordinate Systems, Modeling Workflow and Pipeline, Basic Geometric Forms, Transformation Tools, Object Creation and Scene Management.	15
II	3D Modeling Software and Polygonal Modeling: Introduction to Industry-Standard Software (Autodesk Maya, Blender), Interface and Workspace, Polygon Components (Vertices, Edges, Faces), Polygon Modeling Techniques, Extrusion, Beveling, Loop Cuts, Boolean Operations, Hard Surface Modeling Fundamentals.	15
III	NURBS Modeling and Topology Principles: Introduction to NURBS Curves and Surfaces, Curve-Based Modeling Techniques, Surface Creation and Editing, Topology Fundamentals, Edge Flow Optimization, Clean Mesh Construction, Quad-Based Modeling, Subdivision Surface Modeling, Model Optimization Techniques.	15
IV	Character, Object and Environment Modeling Projects: Character Modeling Workflow, Prop and Product Modeling, Environment and Architectural Modeling, Reference-Based Modeling Techniques, Real-World Project Development, Model Refinement, Feedback and Critique Sessions, Portfolio Development and Presentation of 3D Models.	15
Suggested Readings: ☐ William Vaughan – Digital Modeling ☐ Todd Daniele – Polygonal Modeling: Basic and Advanced Techniques ☐ Kelly L. Murdock – Autodesk Maya Complete Reference ☐ John Edgar Park – Beginning Blender ☐ 3DTotal Publishing – Beginner's Guide to 3D Modeling		


Prof. Virendra Kr Vyas

Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath

Dr. Hariom Kumar


Prof. Haimawati Talukdar


Prof. Prashant Kumar

Dr. Divakar Awasthi
(Coordinator)

Suggested Continuous Evaluation Methods:

- ☐ 3D Modeling Exercises
- ☐ Polygon Modeling Assignments
- ☐ NURBS Modeling Tasks
- ☐ Hard Surface Modeling Projects
- ☐ Character Modeling Exercises
- ☐ Environment Modeling Projects
- ☐ Portfolio Reviews
- ☐ Viva Voce and Presentations

Suggested equivalent online courses:

- ☐ Autodesk Maya Learning Channel
- ☐ Blender Fundamentals Training
- ☐ Coursera – 3D Modeling Basics
- ☐ Udemy – Complete 3D Modeling Course
- ☐ CG Spectrum – 3D Modeling Foundations
- ☐ LinkedIn Learning – Maya Essential Training

Programme: B.Sc.
Animation and VFX

Year: Second

Semester: III

Course Code: B320302T

Course Title: 3D Animation

Course outcomes:

1. Mastery of fundamental 3D animation principles.
2. Proficiency in using industry-standard 3D animation software.
3. Competency in character animation techniques.
4. Application of principles of timing and spacing in animation.
5. Ability to convey compelling stories through 3D animation.
6. Practical experience through engaging animation projects.

Credits: 4

Core Course 2

Max. Marks: 25+75

Min. Passing Marks: 10+25

Unit	Topics	No.of Lectures Total=60
I	Fundamentals of 3D Animation: Introduction to 3D Animation Pipeline, Principles of Animation in 3D Environment, Timing and Spacing, Squash and Stretch, Anticipation, Follow Through and Overlapping Action, Arcs, Secondary Action, Observation and Motion Analysis, Animation Workflow Fundamentals.	15
II	3D Animation Software and Tools: Introduction to Industry-Standard Software (Autodesk Maya, Blender), Interface and Animation Workspace, Keyframing Techniques, Graph Editor, Animation Curves, Constraints, Character Rig Controls, Camera Animation and Scene Management.	15
III	Character Animation and Performance: Body Mechanics, Weight and Balance, Walk Cycles, Run Cycles, Jump and Action Sequences, Character Acting, Facial Expressions, Lip Synchronization, Emotional Performance, Dialogue Animation and Performance Enhancement Techniques.	15
IV	Advanced Animation Production and Storytelling: Cinematic Storytelling through Animation, Shot Planning and Sequencing, Timing and Pacing for Narrative Animation, Animation Polish and Refinement, Project-Based Production Workflow, Team Collaboration, Portfolio Development and Final	15

Prof. Virendra Kr Vyas

Prof. Manukonda Rabindranath

Prof. Prashant Kumar

Dr. Om Shankar Gupta

Dr. Hariom Kumar

Dr. Hoimawati Talukdar

Dr. Diwakar Awasthi
(Coordinator)

	3D Animation Project Presentation.		
Suggested Readings: ☐ <i>Richard Williams – The Animator's Survival Kit</i> ☐ <i>Ed Hooks – Acting for Animators</i> ☐ <i>Frank Thomas & Ollie Johnston – The Illusion of Life</i> ☐ <i>Tony White – Animation from Pencils to Pixels</i> ☐ <i>Steve Roberts – Character Animation Fundamentals</i> ☐ <i>Keith Osborn – Cartoon Character Animation with Maya</i>			
Suggested Continuous Evaluation Methods: ☐ <i>Bouncing Ball Exercises</i> ☐ <i>Pendulum Animation Assignments</i> ☐ <i>Walk Cycle Projects</i> ☐ <i>Character Acting Exercises</i> ☐ <i>Lip Sync Assignments</i> ☐ <i>Body Mechanics Projects</i> ☐ <i>Animation Shot Production</i> ☐ <i>Portfolio Review and Viva Voce</i>			
Suggested equivalent online courses: ☐ <i>Animation Mentor – Character Animation Program</i> ☐ <i>Autodesk Maya Animation Training</i> ☐ <i>Coursera – Animation Fundamentals</i> ☐ <i>CG Spectrum – 3D Animation Foundations</i> ☐ <i>LinkedIn Learning – Maya Animation Essential Training</i> ☐ <i>Udemy – Complete 3D Animation Course</i>			
Programme: B.Sc. Animation and VFX		Year: Second	Semester: III
Course Code: B320303T		Course Title: Rigging	
Course outcomes: 1. Advanced understanding of character rigging principles. 2. Mastery in creating articulated skeletons for characters. 3. Skill in designing rigs for realistic and expressive movements. 4. Proficiency in proper skin weighting for character deformation. 5. Expertise in advanced rigging techniques for facial expressions and lip-syncing. 6. Ability to rig characters for various animation styles and genres. 7. Application of rigging principles to enhance character performance and storytelling.			
Credits: 4		Core Course 3	
Max. Marks: 25+75		Min. Passing Marks: 10+25	
Unit	Topics		No.of Lectures Total=60


 Prof. Virendra Kr Vyas

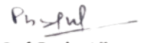
 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Hariom Kumar


 Dr. Hoimawati Talukdar

 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Diwakar Awasthi
 (Coordinator)

I	Fundamentals of Rigging and Character Setup: Introduction to Rigging Pipeline, Role of Rigging in Animation Production, Skeleton and Joint Systems, Bone Hierarchies, Kinematics Fundamentals, Character Setup Workflow, Rigging Terminology, Understanding Deformation Principles and Animation Requirements.	15
II	Skeleton Creation and Character Rig Development: Joint Placement Techniques, Creating Articulated Skeletons, Forward Kinematics (FK), Inverse Kinematics (IK), Control Objects, Constraints and Controllers, Rig Organization, Building Efficient Character Rigs for Animation Production.	15
III	Skinning, Weight Painting and Facial Rigging: Skin Binding Techniques, Smooth and Rigid Skinning, Weight Painting Fundamentals, Character Deformation Correction, Blend Shapes, Facial Rigging Techniques, Lip-Sync Controls, Expression Systems, Advanced Character Deformation Methods.	15
IV	Advanced Rigging Techniques and Production Applications: Advanced Rigging Systems, Muscle and Dynamic Rigs, Quadruped and Creature Rigging, Cartoon and Stylized Character Rigging, Automation and Rigging Tools, Troubleshooting and Optimization, Production-Based Rigging Projects, Portfolio Development and Presentation.	15

Suggested Readings:

- ☐ Jason Osipa – *Stop Staring: Facial Modeling and Animation Done Right*
- ☐ Tina O'Hailey – *Rig It Right! Maya Animation Rigging Concepts*
- ☐ Michael McKinley – *The Art of Rigging*
- ☐ Chris Maraffi – *Maya Character Creation*
- ☐ Autodesk Maya Rigging Documentation
- ☐ Eric Keller – *Mastering Autodesk Maya*

Suggested Continuous Evaluation Methods:

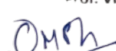
- ☐ Skeleton Creation Assignments
- ☐ IK/FK Rigging Exercises
- ☐ Character Rig Development Projects
- ☐ Skin Weighting Tasks
- ☐ Facial Rigging Exercises
- ☐ Lip-Sync Control Development
- ☐ Production Rigging Projects
- ☐ Portfolio Review and Viva Voce

Suggested equivalent online courses:

- ☐ Animation Mentor – *Rigging for Animators*
- ☐ CG Spectrum – *Character Rigging Fundamentals*
- ☐ Autodesk Maya Rigging Learning Path
- ☐ Udemy – *Complete Character Rigging Course*
- ☐ Pluralsight – *Maya Rigging Techniques*
- ☐ Gnomon Workshop – *Character Rigging*

Programme: B.Sc. Animation and VFX	Year: Second	Semester: III
Course Code: B320304T	Course Title: Texturing Painting	

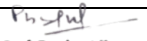
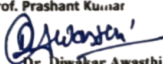

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Dr. Hariom Kumar


Prof. Manukonda Rabindranath


Dr. Hoimawati Talukdar


Prof. Prashant Kumar

Dr. Diwakar Awasthi
(Coordinator)

Course outcomes:

1. Proficiency in fundamental texturing and painting techniques.
2. Mastery of industry-standard texturing and painting software.
3. Ability to create realistic textures for diverse elements.
4. Understanding of UV mapping principles for effective texturing.
5. Application of color theory and lighting in practical scenarios.
6. Hands-on experience through real-world texturing and painting projects.
7. Improved skills through feedback and continuous refinement.

Credits: 3**Minor Course**

Max. Marks: 25+75

Min. Passing Marks: 10+25

Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Texturing and Painting: Introduction to Texturing in 3D Production, Importance of Surface Detail, Texture Types (Diffuse, Specular, Normal, Bump, Roughness Maps), Fundamentals of Digital Painting, Color Theory for Texturing, Material Observation and Reference Collection, Texture Workflow and Pipeline.	15
II	Texturing Software and UV Mapping: Introduction to Industry-Standard Software (Adobe Substance 3D Painter, Adobe Photoshop), UV Mapping Fundamentals, UV Layout Creation, UV Unwrapping Techniques, Texture Resolution and Optimization, Texture Baking, Material Assignment and Asset Preparation for Production.	15
III	Realistic Texture Creation and Material Development: Creating Realistic Surface Textures, Organic and Hard Surface Texturing, Procedural Texturing Techniques, Material Creation for Wood, Metal, Stone, Fabric and Skin, Lighting Considerations in Texturing, PBR (Physically Based Rendering) Workflow and Industry Standards.	15
IV	Advanced Texturing Projects and Portfolio Development: Character Texturing, Environment Texturing, Texture Look Development, Project-Based Texturing Workflow, Texture Quality Assessment, Feedback and Iterative Refinement, Portfolio Asset Development, Industry Presentation Standards and Final Project Showcase.	15

Suggested Readings:

- ☐ Owen Demers – *Digital Texturing & Painting*
- ☐ Eric Chadwick – *The Game Artist's Guide to Photoshop and Texturing*
- ☐ Pete McNally – *The PBR Guide*
- ☐ Allegorithmic – *Substance Painter Documentation*
- ☐ 3DTotal Publishing – *Digital Painting Techniques*
- ☐ Adobe Substance 3D Learning Resources

Suggested Continuous Evaluation Methods:

- ☐ UV Mapping Assignments
- ☐ Texture Creation Exercises
- ☐ Material Development Projects
- ☐ PBR Workflow Tasks
- ☐ Character Texturing Assignments
- ☐ Environment Texturing Projects
- ☐ Portfolio Reviews
- ☐ Viva Voce and Presentations

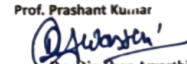

 Prof. Virendra Kr Vyas


 Prof. Manukonda Rabindranath


 Dr. Om Shankar Gupta


 Dr. Hariom Kumar


 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Divakar Awasthi
 (Coordinator)

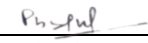
Suggested equivalent online courses:

- ☐ Adobe Substance 3D Painter Training
- ☐ Coursera – 3D Asset Texturing
- ☐ Udeemy – Substance Painter Complete Guide
- ☐ CG Spectrum – Texturing and Look Development
- ☐ LinkedIn Learning – Texture Painting Fundamentals
- ☐ ArtStation Learning – Environment & Character Texturing

Programme: B.Sc. Animation and VFX	Year: 2nd	Semester: III
Course Code: VOC193	Course Title: Motion Graphics Fundamentals	
Course outcomes: • Understand the principles and applications of motion graphics in digital media and visual communication. • Apply design principles, typography and animation techniques to create engaging motion graphics. • Demonstrate proficiency in industry-standard motion graphics software and workflow. • Develop creative motion graphics for branding, advertising and digital media platforms. • Produce and present a professional motion graphics project demonstrating technical and artistic skills.		
Credits: 3		SEC
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Introduction to Motion Graphics: Evolution and Applications of Motion Graphics, Motion Graphics in Film, Television, Advertising and Digital Media, Principles of Motion Design, Visual Communication, Design Elements, Typography, Colour Theory, Motion Graphics Workflow and Industry Overview.	15
II	Motion Design Principles and Animation Techniques: Keyframe Animation, Timing and Spacing, Ease In & Ease Out, Motion Paths, Shape Animation, Kinetic Typography, Logo Animation, Lower Thirds, Infographics and Storytelling through Motion Graphics.	15
III	Motion Graphics Production: Introduction to Adobe After Effects Interface, Composition Settings, Layer Management, Masks, Track Mattes, Shape Layers, Basic Effects, Transitions, Audio Integration, Rendering and Export Settings for Digital Platforms.	15
IV	Motion Graphics Project and Portfolio Development: Motion Graphics for Social Media, Broadcast Graphics, Promotional Videos, Title Sequences, Brand Identity Animation, Motion Design Project Planning, Portfolio Development, Project Presentation and Creative Review.	15
Suggested Readings: ❑ Austin Shaw – <i>Design for Motion: Fundamentals and Techniques of Motion Design</i> ❑ Chris Jackson – <i>After Effects Apprentice</i> ❑ Trish & Chris Meyer – <i>Creating Motion Graphics with Adobe After Effects</i> ❑ Richard Harrington – <i>Motion Graphics with Adobe Creative Cloud</i>		

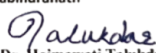

 Prof. Virendra Kr Vyas


 Prof. Manukonda Rabinranath


 Prof. Prashant Kumar


 Dr. Om Shankar Gupta


 Dr. Harim Kumar


 Dr. Hoimawati Talukdar


 Dr. Diwakar Awasthi
 (Coordinator)

Suggested Continuous Evaluation Methods:

- ☐ *Motion Design Exercises*
- ☐ *Typography Animation Assignments*
- ☐ *Logo Animation Project*
- ☐ *Social Media Motion Graphics Design*
- ☐ *Broadcast Graphics Exercise*
- ☐ *Mini Motion Graphics Project*
- ☐ *Portfolio Review*
- ☐ *Viva Voce*

Suggested equivalent online courses:

- ☐ *Motion Graphics with Adobe After Effects – LinkedIn Learning*
- ☐ *Motion Design Fundamentals – Coursera*
- ☐ *Adobe After Effects Essentials – Udemy*



Prof. Virendra Kr Vyas



Dr. Om Shankar Gupta



Prof. Manukonda Rabindranath



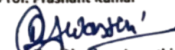
Dr. Hariom Kumar



Dr. Hoimawati Talukdar



Prof. Prashant Kumar



Dr. Diwakar Awasthi
(Coordinator)

Programme: B.Sc. Animation and VFX		Year: 2nd	Semester: III
Course Code: Z031301		Course Title: Physical Education and Yoga	
Course outcomes: Students will learn the introduction of Physical Education, Concept of fitness and wellness, Weight management and lifestyle of an individual. The student will also learn about the relation of Yoga with mental health and value Education. In this course student will also learn about the aspects of the Traditional games of India.			
Credits:2		Co- Curricular	
Max. Marks:		Min. Passing Marks:	
Unit	Topics		No. of Lectures Total=60
I	Physical Education: Meaning, Definition, Aim and Objective. Misconception About Physical Education. Need, Importance and Scope of Physical Education in the Modern Society. Physical Education Relationship with General Education. Physical Education in India before Independence. Physical Education in India after Independence		15
II	Concept of Fitness and Wellness: Meaning, Definition and Importance of Fitness and Wellness, Components of Fitness, Factor Affecting Fitness and Wellness. Weight Management: Meaning and Definition of Obesity. Causes of Obesity. Management of Obesity. Health problems due to Obesity. Lifestyle: Meaning, Definition, Importance of Lifestyle. Factor affecting Lifestyle. Role of Physical activity in the maintains of Healthy Lifestyle.		15
III	Yoga and Meditation: Historical aspect of yoga. Definition, types scopes & importance of yoga. Yoga relation with mental health and value education. Yoga relation with Physical Education and sports. Definition of Asana, differences between asana and physical exercise. Definition and classification of pranayama. Difference between pranayama and deep breathing. Practical: Asana, Suraya-Namaskar, Bhujang Asana, Naukasana, Halasana, Vajrasan, Padmasana, Shavasana, Makrasana, Dhanurasana, Tad Asana. Pranayam: Anulom, Vilom.		15
IV	Traditional Games of India: Meaning. Types of Traditional Games - Gilli- Danda Kanche Stapu Gutte, etc. Importance/ Benefits of Traditional Games. How to Design Traditional Games. Recreation in Physical Education: Meaning, Definition of Recreation, Scope and Importance of Recreation, General Principles of Recreation, Types of Recreational Activities. Aerobics and Zumba.(Fit India Movement)		15
Suggested Readings 1. Singh, Ajmer, Physical Education and Olympic Abhiyan, “Kalayani Publishers”, New Delhi, Revised Addition, 2006 2. Patel, Shri krishna, Physical Education, “Agrawal Publishers”, Agra, 2014-15			


Prof. Virendra Kr Vyas


Prof. Manukonda Rabindranath


Prof. Prashant Kumar


Dr. Om Shankar Gupta


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Dr. Diwakar Awasthi
(Coordinator)

3. Panday, Preeti, Sharirik Shiksha Sankalan, “ Khel Sanskriti Prakashan, Kanpur
4. Kamlesh M.L., “Physical Education, Facts and foundations”, Faridabad P.B. Publications.
5. B.K.S. Yengar, "Light and Yog. Yoga Deepika", George Allen of Unwin Ltd., London,1981.
6. BrajBilari Nigam, Yoga Power "TheKpath of Personal achievement", Domen and Publishers, New Delhi, 2001.
7. Indira Devi, "Yoga for You", Gibbs, Smith Publishers, Salt Lake City, 2002 Domenand Publishers, New Delhi - 2001.
8. Jack Peter, "Yoga Master the Yogic Powers", Abhishek Publications, Chandigarh, 2004.
9. Janice Jerusalem, "A Guide To Yoga", Parragon Bath, Baiihe-2004.
10. नारंग, प्रियंका, परम्परागत भारतीय खेल, " स्पोर्ट ्स पब्लिकेशन" , नई प्रिल्ली, 2007

Programme: B.Sc. Animation and VFX	Year: Second	Semester: IV
Course Code: B320401T	Course Title: Anatomy Study	
Course outcomes: 1. In-depth knowledge of human and creature anatomy for animation. 2. Proficiency in understanding skeletal structures, muscles, and proportions. 3. Skill in applying anatomical design principles to characters. 4. Ability to portray emotions through accurate anatomical representation. 5. Expertise in showcasing anatomy in motion for dynamic character animation. 6. Application of anatomical knowledge to enhance character storytelling. 7. Enhanced observational skills for accurate anatomical representation in animation.		
Credits: 4		Core Course 1
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Human and Creature Anatomy: Introduction to Anatomy for Animation, Importance of Anatomy in Character Design and Animation, Human Body Proportions, Skeletal Structure, Major Bone Landmarks, Comparative Anatomy of Humans and Creatures, Observation Techniques and Anatomical Studies for Artists.	15
II	Muscular Structure and Anatomical Construction: Major Muscle Groups, Muscle Functions and Movement, Surface Anatomy, Body Mass and Volume, Anatomy Simplification Techniques, Proportion Systems, Male and Female Anatomy, Hands, Feet and Facial Structure Analysis for Character Development.	15
III	Anatomy in Motion and Character Performance: Dynamic Anatomy, Anatomy in Action Poses, Balance and Weight Distribution, Movement Analysis, Gesture Drawing, Facial Anatomy and Emotional Expression, Anatomical Design Principles for Character Animation, Storytelling through Body Language and Movement.	15

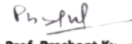

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar

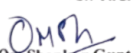

Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

IV	Advanced Anatomical Application and Character Development: Creature Anatomy and Design, Stylized vs Realistic Anatomy, Anatomy for Character Modeling and Animation Pipelines, Observation-Based Character Studies, Anatomy for Production Design, Portfolio Development, Critique Sessions and Final Anatomy Project Presentation.	15
Suggested Readings: ☐ Eliot Goldfinger – <i>Human Anatomy for Artists</i> ☐ Michael Hampton – <i>Figure Drawing: Design and Invention</i> ☐ Burne Hogarth – <i>Dynamic Anatomy</i> ☐ Sarah Simblet – <i>Anatomy for the Artist</i> ☐ Gottfried Bammes – <i>Complete Guide to Life Drawing</i> ☐ Valerie L. Winslow – <i>Classic Human Anatomy</i>		
Suggested Continuous Evaluation Methods: ☐ Anatomy Sketchbook Development ☐ Skeletal Structure Studies ☐ Muscle Construction Exercises ☐ Gesture Drawing Assignments ☐ Facial Expression Studies ☐ Creature Anatomy Projects ☐ Character Anatomy Design Tasks ☐ Portfolio Review and Viva Voce		
Suggested equivalent online courses: ☐ Schoolism – <i>Anatomy for Artists</i> ☐ New Masters Academy – <i>Human Anatomy</i> ☐ Proko – <i>Anatomy Drawing Course</i> ☐ CG Spectrum – <i>Character Design Fundamentals</i> ☐ Coursera – <i>Figure Drawing and Anatomy</i> ☐ LinkedIn Learning – <i>Anatomy for Character Artists</i>		

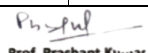
Programme: B.Sc. Animation and VFX	Year: Second	Semester: <u>IV</u>
Course Code: B320402T	Course Title: Lighting and Rendering	
Course outcomes: 1. In-depth understanding of lighting principles in animation and VFX. 2. Proficiency in creating realistic lighting for diverse scenes. 3. Skill in using shadows, highlights, and color temperature for visual storytelling. 4. Mastery of rendering techniques for high-quality output. 5. Ability to apply different lighting styles for varied genres and moods. 6. Proficiency in industry-standard rendering software. 7. Application of lighting and rendering skills to enhance visual appeal in animated sequences.		
Credits: 4		Core Course 2
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60

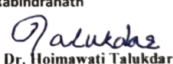

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Prof. Prashant Kumar


Dr. Hoimawati Talukdar


Dr. Diwakar Awasthi
(Coordinator)

I	Fundamentals of Lighting in Animation and VFX: Introduction to Lighting Principles, Nature of Light and Shadow, Light Properties and Behavior, Three-Point Lighting Setup, Color Theory and Color Temperature, Mood Creation through Lighting, Visual Perception, Lighting for Storytelling and Cinematic Composition.	15
II	Scene Lighting and Look Development: Interior and Exterior Lighting Techniques, Natural and Artificial Lighting, Shadows and Highlights, Global Illumination Concepts, HDRI Lighting, Environment Lighting, Creating Realistic and Stylized Lighting Setups, Look Development Workflow and Scene Optimization.	15
III	Rendering Techniques and Production Workflow: Introduction to Rendering Pipelines, Rendering Engines (Arnold, V-Ray, Redshift, Cycles), Render Settings and Optimization, Sampling Techniques, Render Passes and AOVs, Quality Control, Render Management, Troubleshooting Rendering Issues and Output Preparation.	15
IV	Advanced Anatomical Application and Character Development: Creature Anatomy and Design, Stylized vs Realistic Anatomy, Anatomy for Character Modeling and Animation Pipelines, Observation-Based Character Studies, Anatomy for Production Design, Portfolio Development, Critique Sessions and Final Anatomy Project Presentation.	15

Suggested Readings:

- ☐ *Jeremy Birn – Digital Lighting and Rendering*
- ☐ *Lee Lanier – Advanced Maya Texturing and Lighting*
- ☐ *Alexander G. Ballinger – Lighting for Animation*
- ☐ *Autodesk Arnold Documentation*
- ☐ *Blender Rendering and Lighting Guide*
- ☐ *Steve Wright – Compositing Visual Effects*

Suggested Continuous Evaluation Methods:

- ☐ *Lighting Setup Assignments*
- ☐ *Three-Point Lighting Exercises*
- ☐ *Interior and Exterior Lighting Projects*
- ☐ *HDRI Lighting Tasks*
- ☐ *Rendering Optimization Exercises*
- ☐ *Look Development Projects*
- ☐ *Production-Based Rendering Assignments*
- ☐ *Portfolio Review and Viva Voce*

Suggested equivalent online courses:

- ☐ *CG Spectrum – Lighting and Rendering Fundamentals*
- ☐ *Gnomon Workshop – Lighting for Animation*
- ☐ *Coursera – Computer Graphics and Rendering*
- ☐ *LinkedIn Learning – Maya Lighting Essentials*
- ☐ *Udemy – Arnold Rendering Masterclass*
- ☐ *Autodesk Learning Path – Arnold and Rendering*


Prof. Virendra Kr Vyas


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Divakar Awasthi
(Coordinator)

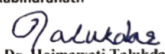
Programme: B.Sc. Animation and VFX	Year: Second	Semester: IV
Course Code: B320403T	Course Title: Digital Sculpting	
Course outcomes:		

1. Advanced skills in digital sculpting for animation and VFX. 2. Proficiency in creating realistic digital sculptures with attention to anatomy. 3. Mastery of industry-standard digital sculpting software tools. 4. Ability to design and develop characters through digital sculpting. 5. Expertise in detailing and refining digital sculptures for intricate textures. 6. Proficiency in sculpting both organic and inorganic models. 7. Application of digital sculpting skills to bring characters and objects to life in animation projects.		
Credits: 4		Core Course 3
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Digital Sculpting: Introduction to Digital Sculpting, Applications in Animation, Gaming and VFX, Sculpting Workflow and Production Pipeline, Understanding Form, Volume and Silhouette, Digital Clay Concepts, Basic Sculpting Tools and Brushes, Blocking and Primary Forms Development.	15
II	Character Sculpting and Anatomy: Human Anatomy for Sculpting, Skeletal and Muscular Structures, Proportions and Character Construction, Character Head Sculpting, Facial Features and Expressions, Stylized and Realistic Character Design, Anatomy-Based Character Development Techniques.	15
III	Advanced Sculpting, Detailing and Surface Development: Secondary and Tertiary Forms, High-Resolution Sculpting, Surface Detailing Techniques, Skin, Fabric, Armor and Hard Surface Details, Organic and Inorganic Modeling Approaches, Texture Preparation, Refinement and Quality Enhancement Methods.	15
IV	Production Sculpting and Portfolio Development: Creature Sculpting, Prop and Asset Sculpting, Retopology Basics, Sculpt Optimization for Animation and Games, Production-Based Sculpting Projects, Feedback and Iterative Refinement, Portfolio Development, Presentation and Industry Standards.	15
Suggested Readings: ☐ Scott Spencer – ZBrush Digital Sculpting Human Anatomy ☐ Scott Spencer – ZBrush Character Creation ☐ Frank Tzeng & Ryan Kingslien – Introduction to ZBrush ☐ Eric Keller – Introducing ZBrush ☐ Anatomy for Sculptors – Understanding the Human Figure ☐ 3DTotal Publishing – Beginner's Guide to Digital Sculpting		
Suggested Continuous Evaluation Methods: ☐ Sculpting Exercises ☐ Anatomy-Based Character Sculpts ☐ Head Sculpting Assignments ☐ Organic and Hard Surface Sculpting Projects ☐ Surface Detailing Exercises ☐ Creature Sculpting Tasks ☐ Portfolio Reviews ☐ Viva Voce and Presentations		


 Prof. Virendra Kr Vyas

 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Harim Kumar

 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Diwakar Awasthi
 (Coordinator)

Suggested equivalent online courses:

- ☐ Pixologic / Maxon ZBrush Training
- ☐ CG Spectrum – Digital Sculpting Fundamentals
- ☐ Gnomon Workshop – Character Sculpting
- ☐ Udemy – Complete ZBrush Course
- ☐ ArtStation Learning – Character Sculpting
- ☐ Coursera – Digital Character Creation

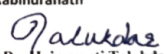
Programme: B.Sc. Animation and VFX	Year: Second	Semester: IV
Course Code: B320404T	Course Title: Performance Animation	
Course outcomes: 1. Principles of Character Acting and Emotions in Animation 2. Lifelike Performances through Advanced Animation Tools and Software 3. Facial Animation and Lip-Sync Techniques for Expressive Animation 4. Integration of Body Mechanics and Facial Expressions in Character Animation 5. Motion-Capture Technology for Realistic Character Animation 6. Advanced Techniques for Performance Animation 7. Application of Performance Animation in Film and Game Contexts		
Credits: 3		Minor Course
Max. Marks: 25+75		Min. Passing Marks: 10+25
Total No. of Lectures-Tutorials-Practical (in hours per week): L-1 T-2 P-0		
Unit	Topics	No.of Lectures Total=60
I	Character Acting and Emotional Performance: Introduction to Performance Animation, Principles of Character Acting, Observation and Performance Analysis, Emotional Expression in Animation, Acting Fundamentals for Animators, Body Language and Non-Verbal Communication, Character Motivation, Personality and Performance Development.	15
II	Facial Animation and Lip-Sync Techniques: Facial Anatomy for Animation, Facial Rig Controls, Expressions and Micro-Expressions, Dialogue Analysis, Lip-Sync Techniques, Phonemes and Visemes, Speech Synchronization, Emotional Dialogue Performance, Creating Believable Character Expressions.	15
III	Body Mechanics, Motion Capture and Advanced Performance: Integration of Body Mechanics and Acting, Physical Performance Animation, Gesture-Based Acting, Motion Capture Fundamentals, Motion Capture Cleanup and Editing, Character Interaction, Realistic and Stylized Performance Techniques, Advanced Character Animation Workflows.	15
IV	Performance Animation for Film and Games: Cinematic Character Performance, Performance Animation for Interactive Media and Games, Advanced Acting Shots, Storytelling Through Performance, Production-Based Animation Projects, Performance Refinement and Polish, Portfolio Development, Showreel Creation and Industry Presentation Standards.	15


Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Suggested Readings:

- ☐ Ed Hooks – *Acting for Animators*
- ☐ Richard Williams – *The Animator's Survival Kit*
- ☐ Frank Thomas & Ollie Johnston – *The Illusion of Life*
- ☐ Keith Osborn – *Cartoon Character Animation with Maya*
- ☐ Tony Barr – *Acting for the Camera*
- ☐ Walt Stanchfield – *Drawn to Life*

Suggested Continuous Evaluation Methods:

- ☐ Ed Hooks – *Acting for Animators*
- ☐ Richard Williams – *The Animator's Survival Kit*
- ☐ Frank Thomas & Ollie Johnston – *The Illusion of Life*
- ☐ Keith Osborn – *Cartoon Character Animation with Maya*
- ☐ Tony Barr – *Acting for the Camera*
- ☐ Walt Stanchfield – *Drawn to Life*

Suggested equivalent online courses:

- ☐ *Animation Mentor – Advanced Character Performance*
- ☐ *iAnimate – Acting for Animators*
- ☐ *CG Spectrum – Character Animation Program*
- ☐ *Coursera – Character Animation Fundamentals*
- ☐ *LinkedIn Learning – Performance Animation Essentials*
- ☐ *Udemy – Character Acting and Lip Sync Animation*

Programme: B.Sc. Animation and VFX	Year: Second	Semester: IV
Course Code: VOC194	Course Title: Creature Animation	
Course outcomes: 1. Expertise in animating creatures, monsters, and fantastical beings. 2. Understanding of the unique movement and behavior of various creatures. 3. Proficiency in advanced animation techniques for realistic and fantastical creature animations. 4. Mastery of integrating creature animations into different environments and scenes. 5. Skill in using specialized tools and software for creature animation. 6. Ability to create lifelike and dynamic creature animations. 7. Application of creature animation skills to enhance storytelling and visual impact.		
Credits: 3		SEC
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Creature Animation: Introduction to Creature Animation, Study of Animal Locomotion, Anatomy and Structure of Creatures, Observation and Motion Analysis, Realistic vs Fantastical Creatures, Principles of Creature Performance, Movement Patterns and Behavioral Characteristics of Different Species.   	15


 Prof. Virendra Kr Vyas


 Prof. Manukonda Rabinranath


 Prof. Prashant Kumar


 Dr. Om Shankar Gupta


 Dr. Hariom Kumar


 Dr. Himawati Talukdar


 Dr. Diwakar Awasthi
 (Coordinator)

II	Creature Movement and Animation Techniques: Quadruped Animation, Bird and Flying Creature Animation, Reptilian and Aquatic Creature Movement, Weight Distribution and Balance, Gait Cycles, Advanced Timing and Spacing, Physical Dynamics, Creating Believable Creature Motion.	15
III	Advanced Creature Performance and Production Tools: Creature Rig Controls, Specialized Animation Tools and Software, Creature Acting and Emotional Expression, Predator and Prey Behaviors, Fantasy Creature Animation, Monster Animation Techniques, Animation Workflow for Film, Games and VFX Production.	15
IV	Creature Animation in Storytelling and Production: Integrating Creatures into Environments and Scenes, Interaction with Characters and Objects, Cinematic Creature Animation, Storytelling Through Creature Performance, Advanced Production Projects, Animation Polish and Refinement, Portfolio Development and Showreel Presentation.	15

Suggested Readings:

- ☐ *Richard Williams – The Animator's Survival Kit*
- ☐ *Walt Stanchfield – Drawn to Life*
- ☐ *Ed Hooks – Acting for Animators*
- ☐ *Aaron Blaise – The Art of Creature and Animal Drawing*
- ☐ *Terryl Whitlatch – Animal Anatomy for Artists*
- ☐ *Joe Weatherly – The Weatherly Guide to Drawing Animals*

Suggested Continuous Evaluation Methods:

- ☐ *Animal Motion Analysis Studies*
- ☐ *Walk, Run and Gallop Cycle Exercises*
- ☐ *Bird Flight Animation Projects*
- ☐ *Creature Behavior Observation Reports*
- ☐ *Fantasy Creature Animation Assignments*
- ☐ *Cinematic Creature Performance Projects*
- ☐ *Portfolio Reviews*
- ☐ *Viva Voce and Presentations*

Suggested equivalent online courses:

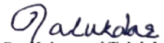
- ☐ *Animation Mentor – Creature Animation Workshop*
- ☐ *iAnimate – Creature Animation Program*
- ☐ *CG Spectrum – Creature Animation Fundamentals*
- ☐ *Aaron Blaise Creature Animation Courses*
- ☐ *Gnomon Workshop – Creature Performance Animation*
- ☐ *Coursera – Character and Creature Animation*

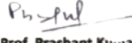

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabindranath

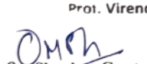

Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar

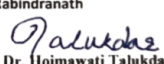

Dr. Divakar Awasthi
(Coordinator)

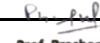
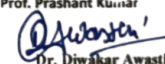
Programme: B.Sc. Animation and VFX		Year: Second	Semester: IV
Course Code: Z041403		Course Title: Community Connect	
Course outcomes: After successful completion of this course, students will be able to: • Explain the concepts, scope, and significance of community engagement and community connect in media and digital communication. ● Identify stakeholders and develop effective community communication strategies for social and organizational initiatives. • Apply participatory communication techniques to promote community development and public engagement. • Evaluate community outreach programs using appropriate communication, participation, and impact assessment methods. • Assess ethical issues, emerging trends, and the role of digital media in strengthening community relationships.			
Credits: 2		Co-Curricular	
Max.Marks:25+75		Min.PassingMarks:10+25	
Unit	Topics		No.of Lectures Total=60
I	Module I: Fundamentals of Community Connect Chapters 1. Introduction to Community Engagement 2. Meaning and Scope of Community Connect 3. Importance of Community Connect 4. Media and Society 5. Principles of Community Communication 6. Role of Media in Community Development Community Connect in the Digital Era		15
II	Module II: Community Communication and Stakeholder Engagement Chapters 1. Community Communication Strategies 2. Stakeholder Identification and Analysis 3. Public Participation and Civic Engagement 4. Community Relationship Building 5. Communication for Social Change 6. Leadership and Community Mobilization Planning Community Outreach Programs		15
III	Module III: Community Development and Digital Engagement Chapters 1. Community Development Concepts 2. Digital Platforms for Community Engagement 3. Social Media for Community Building 4. Community Awareness Campaigns 5. Monitoring and Evaluation of Community Programs 6. Case Studies of Successful Community Initiatives Sustainable Community Development Practices		15


 Prof. Virendra Kr Vyas

 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Harim Kumar


 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Diwakar Awasthi
 (Coordinator)

IV	Module IV: Ethics, Emerging Trends and Future Scope Chapters 1. Ethics in Community Communication 2. Legal and Social Responsibilities in Community Engagement 3. Artificial Intelligence and Digital Technologies in Community Connect 4. Emerging Trends in Community Engagement 5. Inclusive and Participatory Communication Practices 6. Best Practices in Community Outreach and Development Future Scope of Community Connect in Media and Digital Marketing	15
Suggested Readings Wilcox, D. L., Cameron, G. T., & Reber, B. H. (2022). Public Relations: Strategies and Tactics (12th Edition). Pearson. Cutlip, S. M., Center, A. H., & Broom, G. M. (2022). Effective Public Relations (12th Edition). Pearson. Servaes, J. (2020). Handbook of Communication for Development and Social Change. Springer. Chaffey, D., & Ellis-Chadwick, F. (2022). Digital Marketing: Strategy, Implementation and Practice (8th Edition). Pearson. Kotler, P., Kartajaya, H., & Setiawan, I. (2021). Marketing 5.0: Technology for Humanity. Wiley. Ryan, D. (2021). Understanding Digital Marketing (5th Edition). Kogan Page. Kapoor, N. (2022). Digital Marketing. PHI Learning Pvt. Ltd. Melkote, S. R., & Steeves, H. L. (2015). Communication for Development: Theory and Practice for Empowerment and Social Justice (3rd Edition). Sage Publications.		

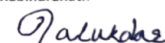
Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: V
Course Code: B320501T	Course Title: Match Moving	
Course outcomes: 1. Comprehensive knowledge of matchmoving techniques. 2. Skills to integrate computer-generated elements seamlessly into live-action footage. 3. Proficiency in camera tracking and object tracking. 4. Ability to analyze and solve complex tracking challenges. 5. Mastery of industry-standard matchmoving software. 6. Hands-on experience in tracking and compositing elements into live-action footage. 7. Exploration of creative possibilities in using matchmoving for visual effects and animation.		
Credits: 5		Core Course-1
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Match Moving and Tracking: Introduction to Match Moving in VFX Production, Role of Match Moving in CGI Integration, Camera Fundamentals, Lens Properties and Distortion, Coordinate Systems, Tracking Markers, Types of Tracking, Match Moving Workflow and Production Pipeline.	15
II	Camera Tracking and Object Tracking Techniques: 2D and 3D Tracking Principles, Camera Tracking Methods, Object Tracking Techniques, Point Tracking, Planar Tracking, Rotational and Translational Motion Analysis, Tracking Data Generation, Solving and Refining Camera Movement, Scene Reconstruction Fundamentals.	15

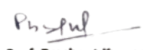

 Prof. Virendra Kr Vyas

 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Hariom Kumar


 Dr. Hoimawati Talukdar

 Dr. Diwakar Awasthi
 (Coordinator)


 Prof. Prashant Kumar

 Dr. Diwakar Awasthi
 (Coordinator)

III	Advanced Match Moving and Problem Solving: Complex Tracking Challenges, Moving Cameras and Dynamic Scenes, Lens Distortion Correction, Survey Data and Scene Measurements, Multi-Camera Tracking, Tracking Cleanup and Optimization, Troubleshooting Tracking Errors, Industry Production Workflows and Best Practices.	15
IV	CG Integration, Compositing and Production Applications: Integrating CGI Elements into Live-Action Footage, Scene Alignment and Scale Matching, Camera Data Export Workflow, Match Moving for Animation and VFX, Compositing Fundamentals, Production-Based Projects, Creative Applications of Match Moving, Portfolio Development and Showreel Preparation.	15

Suggested Readings:

- ☐ Tim Dobbert – *Matchmoving: The Invisible Art of Camera Tracking*
- ☐ Ron Brinkmann – *The Art and Science of Digital Compositing*
- ☐ Steve Wright – *Digital Compositing for Film and Video*
- ☐ Autodesk MatchMover Documentation
- ☐ PFTrack User Guide
- ☐ SynthEyes Tracking Documentation

Suggested Continuous Evaluation Methods:

- ☐ Camera Tracking Exercises
- ☐ Object Tracking Assignments
- ☐ Lens Distortion Analysis Tasks
- ☐ Scene Reconstruction Projects
- ☐ CGI Integration Exercises
- ☐ Match Moving Production Projects
- ☐ Portfolio Review
- ☐ Viva Voce and Presentations

Suggested equivalent online courses:

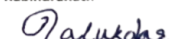
- ☐ PFTrack Training Series
- ☐ SynthEyes Match Moving Fundamentals
- ☐ CG Spectrum – VFX Tracking and Match Moving
- ☐ Gnomon Workshop – Camera Tracking Techniques
- ☐ LinkedIn Learning – Visual Effects Foundations
- ☐ Coursera – Visual Effects for Film Production


Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Dr. Hariom Kumar


Prof. Manukonda Rabinranath


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: V
Course Code: B320502T	Course Title: Rotoscope & Paint	
Course outcomes: • Profound understanding of rotoscoping and its applications. • Proficiency in creating accurate mattes for live-action and animated elements. • Advanced skills in paint techniques for seamless integration of elements. • Attention to detail in rotoscoping and paint work. • Familiarity with industry-standard software tools for rotoscoping and paint. • Hands-on experience in rotoscoping live-action footage and animated sequences.		

Creative approaches to enhance visual elements through paint and rotoscope.		
Credits: 5		Core Course 2
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Rotoscoping and Paint Techniques: Introduction to Rotoscoping, History and Applications in VFX and Animation, Types of Mattes, Silhouette Creation, Edge Detection and Refinement, Frame-by-Frame Analysis, Masking Principles, Paint and Cleanup Workflow, Industry Production Pipeline.	15
II	Matte Creation and Advanced Rotoscoping: Shape Animation Techniques, Tracking-Assisted Rotoscoping, Motion Blur Handling, Hair and Fur Rotoscoping, Complex Object Isolation, Matte Refinement Techniques, Layer Management, Creating Production-Quality Mattes for Live-Action and Animated Content.	15
III	Paint Techniques and Visual Cleanup: Paint Tools and Workflow, Wire Removal, Rig Removal, Object Cleanup, Dust and Scratch Removal, Background Reconstruction, Seamless Element Integration, Frame Repair Techniques, Visual Continuity and Quality Enhancement Methods.	15
IV	Production Applications, Software and Portfolio Development: Industry-Standard Software (Silhouette, Mocha Pro, Nuke, Adobe After Effects), Production-Based Rotoscope and Paint Projects, Quality Control Procedures, Team-Based Workflows, Creative Enhancement Techniques, Final Shot Completion, Portfolio Development and Showreel Preparation.	15
Suggested Readings: ☐ Steve Wright – <i>Digital Compositing for Film and Video</i> ☐ Ron Brinkmann – <i>The Art and Science of Digital Compositing</i> ☐ Lee Lanier – <i>Professional Digital Compositing</i> ☐ <i>Silhouette FX Documentation</i> ☐ <i>Boris FX Mocha Pro User Guide</i> ☐ <i>Foundry Nuke Learning Resources</i>		
Suggested Continuous Evaluation Methods: ☐ <i>Rotoscoping Exercises</i> ☐ <i>Matte Creation Assignments</i> ☐ <i>Hair and Motion Blur Projects</i> ☐ <i>Wire Removal Tasks</i> ☐ <i>Cleanup and Paint Projects</i> ☐ <i>Live-Action Shot Enhancement Exercises</i> ☐ <i>Portfolio Reviews</i> ☐ <i>Viva Voce and Presentations</i>		
Suggested equivalent online courses: ☐ <i>Boris FX Mocha Pro Training</i> ☐ <i>Silhouette FX Learning Series</i> ☐ <i>Nuke Compositing Essentials</i> ☐ <i>CG Spectrum – Rotoscoping and Paint Fundamentals</i> ☐ <i>LinkedIn Learning – Visual Effects Foundations</i> ☐ <i>Gnomon Workshop – Roto and Paint Techniques</i>		


 Prof. Virendra Kr Vyas

 Dr. Om Shankar Gupta


 Prof. Manukonda Rabindranath

 Dr. Hariom Kumar


 Dr. Hoimawati Talukdar


 Prof. Prashant Kumar

 Dr. Divakar Awasthi
 (Coordinator)

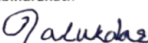
Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: V
Course Code: B320503T	Course Title: Dynamics	
Course outcomes: • Comprehensive understanding of dynamics in animation and VFX. • Proficiency in applying physics-based simulations for realistic effects. • Skills in creating dynamic simulations for fluid, smoke, fire, and cloth. • Ability to seamlessly integrate dynamic elements into animated scenes. • Proficiency in using industry-standard software for dynamic simulations. • Understanding the impact of dynamics on character animation and storytelling. • Hands-on experience in experimenting with different dynamic effects.		
Credits: 5	Core Course 3	
Max. Marks: 25+75	Min. Passing Marks: 10+25	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-2 T-2 P-2		
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Dynamics and Physics Simulation: Introduction to Dynamics in Animation and VFX, Principles of Motion and Physics, Forces, Gravity and Collisions, Rigid Body Dynamics, Soft Body Dynamics, Particle Systems, Dynamics Workflow and Applications in Production Pipelines.	15
II	Fluid, Smoke and Fire Simulations: Introduction to Fluid Dynamics, Liquid Simulations, Ocean and Water Effects, Smoke Simulation Techniques, Fire and Explosion Effects, Atmospheric Effects, Simulation Parameters and Optimization, Realistic Natural Phenomena Creation.	15
III	Cloth, Hair and Character Dynamics: Cloth Simulation Fundamentals, Garment and Fabric Behavior, Hair and Fur Dynamics, Secondary Motion Systems, Dynamic Constraints, Character Interaction with Dynamic Elements, Simulation Caching, Integration of Dynamics with Character Animation and Storytelling.	15
IV	Advanced Dynamics, Integration and Production Projects: Advanced Particle Effects, Destruction and Fracture Simulations, Crowd Dynamics Fundamentals, Dynamic Scene Composition, Integration of Simulations into Production Workflows, Rendering and Optimization of Dynamic Effects, Project-Based Production Exercises, Portfolio Development and Presentation.	15
Suggested Readings: ❑ <i>Steve Wright – Digital Compositing for Film and Video</i> ❑ <i>Ron Brinkmann – The Art and Science of Digital Compositing</i> ❑ <i>Autodesk Maya Dynamics Documentation</i> ❑ <i>Peter Ratner – 3D Human Modeling and Animation</i> ❑ <i>FXPHD Dynamics and Simulation Resources</i>		

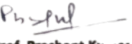

Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta


Prof. Manukonda Rabinranath


Dr. Hariom Kumar


Dr. Hoimawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

Suggested Continuous Evaluation Methods:

- ☐ Particle Simulation Exercises
- ☐ Rigid Body Dynamics Projects
- ☐ Fluid and Water Simulation Tasks
- ☐ Smoke and Fire Effects Creation
- ☐ Cloth and Hair Dynamics Assignments
- ☐ Destruction Simulation Projects
- ☐ Production-Based FX Projects
- ☐ Portfolio Review and Viva Voce

Suggested equivalent online courses:

- ☐ CG Spectrum – FX and Dynamics Program
- ☐ FXPHD Dynamics Courses
- ☐ Coursera – Physics for Animation
- ☐ LinkedIn Learning – Simulation and Dynamics Essentials

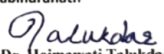
Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: V
Course Code: B320504T	Course Title: Editing & Compositing	
Course outcomes: 1. Proficiency in fundamental video editing skills. 2. Understanding of non-linear editing principles. 3. Competency in using industry-standard editing software. 4. Application of storytelling techniques through editing. 5. Introduction to compositing for visual effects. 6. Skills in layer-based compositing for integration of visual elements. 7. Proficiency in color correction and grading. 8. Understanding of pacing and rhythm in video editing. 9. Hands-on experience in editing and compositing projects.		
Credits: 5		SEC
Max. Marks: 25+75		Min. Passing Marks: 10+25
Unit	Topics	No.of Lectures Total=60
I	Fundamentals of Video Editing and Storytelling: Introduction to Editing and Post-Production Pipeline, Principles of Video Editing, Non-Linear Editing (NLE) Concepts, Visual Storytelling through Editing, Shot Selection and Sequencing, Continuity Editing, Pacing and Rhythm, Editing for Different Media Formats.	15
II	Industry-Standard Editing Software and Techniques: Introduction to Adobe Premiere Pro, Media Management, Timeline Editing, Multi-Camera Editing, Cuts and Transitions, Audio Synchronization, Project Organization, Workflow Optimization and Export Settings.	15


Prof. Virendra Kr Vyas


Dr. Om Shankar Gupta

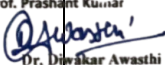

Prof. Manukonda Rabindranath


Dr. Hariom Kumar


Dr. Himawati Talukdar


Prof. Prashant Kumar


Dr. Diwakar Awasthi
(Coordinator)

III	Introduction to Compositing and Visual Effects Integration: Fundamentals of Digital Compositing, Layer-Based Compositing Workflow, Alpha Channels and Mattes, Blending Modes, Green Screen Keying Basics, Motion Graphics Integration, Visual Effects Fundamentals, Introduction to Adobe After Effects and Nuke.	15
IV	Color Correction, Color Grading and Production Projects: Color Theory for Video, Color Correction Techniques, Color Grading Workflows, Look Development, Visual Consistency Across Shots, Final Output Preparation, Editing and Compositing Project Development, Portfolio Creation and Industry Presentation Standards.	15
Suggested Readings: ☐ <i>Walter Murch – In the Blink of an Eye</i> ☐ <i>Dancyger Ken – The Technique of Film and Video Editing</i> ☐ <i>Steve Wright – Digital Compositing for Film and Video</i> ☐ <i>Ron Brinkmann – The Art and Science of Digital Compositing</i> ☐ <i>Alexis Van Hurkman – Color Correction Handbook</i> ☐ <i>Adobe Premiere Pro & After Effects Official Documentation</i>		
Suggested Continuous Evaluation Methods: ☐ <i>Editing Exercises</i> ☐ <i>Storytelling Through Editing Assignments</i> ☐ <i>Continuity Editing Projects</i> ☐ <i>Audio Synchronization Tasks</i> ☐ <i>Compositing Exercises</i> ☐ <i>Green Screen Integration Projects</i> ☐ <i>Color Grading Assignments</i> ☐ <i>Portfolio Review and Viva Voce</i>  Prof. Virendra Kr Vyas  Dr. Hariom Kumar  Prof. Manukonda Rabindranath  Dr. Hoimawati Talukdar  Prof. Prashant Kumar  Dr. Divakar Awasthi (Coordinator)		
Suggested equivalent online courses: ☐ <i>Adobe Premiere Pro Essential Training</i> ☐ <i>Adobe After Effects Fundamentals</i> ☐ <i>Coursera – Video Editing and Post Production</i> ☐ <i>LinkedIn Learning – Editing Foundations</i>		

Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: V
Course Code: B320505R	Course Title: Project (VFX & Compositing)	
Credits: 5		
Max. Marks: 25+75	Min. Passing Marks: 10+25	

Programme: B.Sc. Animation and VFX	Year: 3rd	Semester: VI
Course Code: B320601A	Course Title: Apprenticeship with Industry	
Credits: 25		
Max. Marks: 25+75	Min. Passing Marks: 10+25	

