THE MAHATMA GANDHI UNIVERSITY
UNDERGRADUATE PROGRAMMES
(HONOURS) SYLLABUS
MGU-UGP (Honours)
(2024 Admission Onwards)

Faculty: Fine Arts

Expert Committee : Animation and Graphic Design

Programme: BA (Hons) Animation and Visual Effects

Mahatma Gandhi University
Priyadarshini Hills
Kottayam – 686560, Kerala, India

Contents

Preface

It is with great enthusiasm and anticipation that we present to you the syllabus for the Bachelor of Arts (B.A.) programme in Animation and Visual Effects. This comprehensive four-year journey has been meticulously crafted to provide you with a transformative educational experience, blending artistic creativity with cutting-edge technological skills. The syllabus is not just a roadmap; it is a guide to unleashing your creative potential and preparing you for a dynamic career in the ever-evolving field of animation and visual effects.

The foundation of this syllabus rests on the belief that a successful animator or visual effects artist must be equipped with a robust set of skills spanning both the artistic and technical realms. Over the course of four years, you will delve into a carefully curated curriculum that combines theoretical understanding with hands-on practical application. Each module is designed to build upon the last, creating a seamless progression that nurtures your growth as a storyteller, artist, and technical wizard.

The first year of the programme sets the stage by introducing you to the fundamental principles of animation and visual effects. From mastering the basics of drawing and 2D animation to understanding the principles of visual storytelling, you will develop a solid foundation that will serve as the cornerstone for your creative journey.

Moving into the second year, the syllabus takes you deeper into the world of animation, introducing you to the intricacies of character design, storyboarding, and 3D modeling. You will also dive into the technical aspects of visual effects, gaining proficiency in software used in the industry. Through hands-on projects and practical exercises, you will apply your knowledge to real-world scenarios, developing a strong portfolio that showcases your evolving skills.

The third year marks a transition towards specialization, allowing you to choose elective courses that align with your specific interests and career goals. Whether you are drawn to character animation, special effects, this year provides you with the flexibility to tailor your learning experience. Collaborative projects with students from other creative disciplines enrich your understanding of the interdisciplinary nature of the industry, preparing you for the collaborative environments you will encounter in your professional career.

The fourth and final year is dedicated to the culmination of your academic journey. Advanced courses in animation and visual effects provide you with the opportunity to delve into complex projects, challenging you to push the boundaries of your creativity and technical skills. Additionally, the syllabus incorporates professional development modules, including industry internships and capstone projects, ensuring that you graduate not only with a degree but also with the practical experience and professional connections needed to thrive in the competitive landscape of animation and visual effects.

Throughout this journey, our experienced faculty, composed of industry professionals and academics, will guide you with a commitment to excellence. The syllabus is not just about imparting knowledge; it is about fostering a mindset of continuous learning, adaptability, and innovation. As you embark on this exciting educational voyage, remember that the syllabus is not a rigid framework but a canvas upon which you will paint your unique story.

We look forward to witnessing your growth, creativity, and success as you navigate through the rich and dynamic world of animation and visual effects.

Expert Committee & External Experts

Members of Expert Committee in Animation and Graphic Design (U.G)

1. Mr. Jean Sebastian,
   (Convenor, Expert Committee in Animation and Graphic Design (U.G))
   Dept. of Animation and Design,
   St. Joseph College of Communication,
   Kurisummoodu P.O, Changanacherry.

2. Mr. Thomas Joseph T,
   Vice Principal,
   St. Joseph College of Communication,
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3. Mr. Jotty Jacob,
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   Rajagiri College of Management & Applied Sciences,
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4. Mr. Vineeth V.
   Dept. of Animation & Graphic Design,
   Yeldo Mar Baselios College,
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5. Mr. Sreenath V.G
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External Subject Expert

6. Mr. George K. Paul,
   Independent Designer and Animator,
   COO, Forest Designs, Changanacherry.

Members of Syllabus Revision Committee

1. Mr. George John,
   Dept. of Animation & Visual Effects,
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2. Mr. Sudeep D.S.
   Dept. of Animation & Visual Effects,
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   Puthuppady P.O, Kothamangalam.

3. Mr. Abhilash Karun,
   Dept. of Media Studies,
   St. Joseph College of Communication,
   Kurisummoodu P.O, Changanacherry.

SYLLABUS INDEX

Name of the Major: Animation and Visual Effects

Semester: I

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG1DSCAVE100	History of Animated Filmmaking and VFX	DSC A	4	5	3	0	2	0
MG1MDCAVE100	Exploring Vector Graphics	MDC	3	4	0	2	2	0

L — Lecture, T — Tutorial, P — Practical/Practicum , O — Others

Semester: II

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG2DSCAVE100	Foundations of 3D Art	DSC A	4	5	0	3	2	0
MG2MDCAVE100	Painting with Pixels	MDC	3	4	0	2	2	0

Semester: III

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG3DSCAVE200	3D Background Art	DSC A	4	5	0	3	2	0
MG3DSCAVE201	Introduction to Acting	DSC A	4	5	0	3	2	0
MG3DSEAVE200	Classical Animation (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG3DSEAVE201	Motion Graphics (VFX Specialization)							
MG3DSCAVE202	Pre-production Process (Minor for Others)	DSC B	4	5	0	3	2	0
MG3MDCAVE200	Colour Theory	MDC	3	3	0	3	0	0
MG3VACAVE200	Personality Development	VAC	3	3	0	3	0	0

Semester: IV

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG4DSCAVE200	Advanced Texturing Techniques	DSC A	4	5	0	3	2	0
MG4DSCAVE201	Fundamentals of Cinematography	DSC A	4	5	0	3	2	0
MG4DSEAVE200	Digital 2D Animation (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG4DSEAVE201	Compositing Essentials (VFX Specialization)							
MG4DSCAVE202	Video Editing Essentials (Minor for Others)	DSC C	4	5	0	3	2	0
MG4SECAVE200	Art of Creative Thinking	SEC	3	3	0	3	0	0
MG4VACAVE200	Entrepreneurship and Startup	VAC	3	3	3	0	0	0
MG4INTAVE200	Internship		2					

Semester: V

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG5DSCAVE300	3D Character Animation	DSC A	4	5	0	3	2	0
MG5DSCAVE301	Art of Miniature Photography	DSC A	4	5	0	3	2	0
MG5DSEAVE300	Art of Stop Motion (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG5DSEAVE301	Art of Miniature Filmmaking (VFX Specialization)							
MG5DSEAVE302	3D Character Creation (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG5DSEAVE303	Shooting Techniques for VFX (VFX Specialization)							
MG5DSEAVE304	Rigging for Animation (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG5DSEAVE305	Advanced Matte Painting for VFX (VFX Specialization)							
MG5SECAVE300	Mastering Productivity Tools	SEC	3	3	0	3	0	0

Semester: VI

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG6DSCAVE300	Dynamic Simulations	DSC A	4	5	0	3	2	0
MG6DSCAVE301	Advanced Lighting and Rendering	DSC A	4	5	0	3	2	0
MG6DSEAVE300	Advanced 2D Animation (Animation Production Specialization)	DSE	4	5	0	3	2	0
MG6DSEAVE301	Match Moving Techniques (VFX Specialization)							
MG6DSEAVE302	Animation Short Film (Animation Production Specialization)	DSE	4	4	0	4	0	0
MG6DSEAVE303	VFX Short Film (VFX Specialization)							
MG6SECAVE300	Career Development & Portfolio Building	SEC	3	3	0	3	0	0
MG6VACAVE300	Environment & Sustainable Living	VAC	3	3	0	3	0	0

Semester: VII

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG7DCCAVE400	Advanced 3D Character Animation	DCC	4	5	0	3	2	0
MG7DCCAVE401	Advanced Dynamic Simulations	DCC	4	4	0	4	0	0
MG7DCCAVE402	Digital Colour Grading (DI)	DCC	4	4	0	4	0	0
MG7DCEAVE400	3D Character Sculpting (Animation Production Specialization)	DCE	4	4	0	4	0	0
MG7DCEAVE401	Advanced Rotoscope (VFX Specialization)							
MG7DCEAVE402	Hybrid Animation (Animation Production Specialization)	DCE	4	4	0	4	0	0
MG7DCEAVE403	Hybrid Filmmaking (VFX Specialization)							
MG7DCEAVE404	Advanced Rigging (Animation Production Specialization)	DCE	4	4	0	4	0	0
MG7DCEAVE405	FX Makeup (VFX Specialization)							

Semester: VIII

Course Code	Title of the Course	Type of the Course	Credit	Hours/ week	Hour Distribution / week			
					L	T	P	O
MG8DCCAVE400	Animation for Diverse Industries	DCC	4	5	0	3	2	0
MG8DCCAVE401	Product Visualisation	DCC	4	5	0	3	2	0
MG8DCEAVE400	3D Modelling for Gaming	DCE	4	5	0	3	2	0
MG8DCEAVE401	AR and VR Integration	DCE	4	5	0	3	2	0
MG8DCEAVE402	Modelling for 3D Printing	DCE	4	5	0	3	2	0
MG8PRJAVE400	Dissertation	PRJ	12					
	Animation Project (Animation Production Specialization)		12					
	Live-action Project (VFX Specialization)		12					

SEMESTER I

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	HISTORY OF ANIMATED FILMMAKING AND VFX					
Type of Course	DSC A					
Course Code	MG1DSCAVE100					
Course Level	100-199					
Course Summary	History of Animated Filmmaking and VFX is a course that provides a thorough examination of the evolution, techniques, and significant milestones in the fields of animation and visual effects (VFX).					
Semester	I	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Connective and Cognitive learning approach	3	0	1	0	75
Prerequisites, if any	While prior experience in animation or visual effects is not required, the learner should have a genuine interest in the subject matter and a desire to learn about its history, techniques, and significance in the entertainment industry.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall key events, and milestones in the history of animation and VFX.	K	1
2	Explain the historical significance of major developments in animation and VFX.	U	1, 4
3	Utilize historical information to inform creative projects or discussions related to animation and VFX.	A	1, 2, 3, 9, 10
4	Break down complex animation sequences or visual effects shots to identify individual components and techniques.	An	1, 2, 9, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Foundations of Animation**			
	1.1	Introduction to Animation History Origin of Animation Optical Phenomenons Exploration of pre-cinematic animation devices such as the phenakistoscope, zoetrope etc.	10	1, 2, 3
	1.2	Early Animation Pioneers Study of early animation experiments by Eadweard Muybridge, J. Stuart Blackton, Émile Cohl, and Winsor McCay Examination of the first animated short films and their cultural impact	10	1, 2, 3
2	**The Golden Age of Animation**			
	2.1	Overview of animation studios during the 1930s and 1940s, including Disney, Fleischer Studios etc. Analysis of iconic characters and films from the era, such as Mickey Mouse, Felix the Cat, Woody Woodpecker etc.	15	1, 2
	2.2	Discussion of technological advancements in animation during this period, including the introduction of cel animation	10	1, 2, 3, 4
3	**Evolution of Effects in Cinema**			
	3.1	Development of Cinematic Special Effects Georges Méliès and the birth of cinematic illusions Exploration of early optical effects techniques such as matte painting, double exposure etc. Willis O'Brien's stop motion animation	10	1, 2, 3
	3.2	Technological Innovations in Visual Effects Study of landmark films that pushed the boundaries of visual effects, such as "2001: A Space Odyssey" and "Star Wars" Advancements in computer-generated imagery (CGI) and digital compositing	10	1, 2, 3, 4
4	**Global Perspectives and Contemporary Trends**			
	4.1	International Animation Movements Overview of influential animation movements from around the world, including anime from Japan, Puppet animation from Eastern Europe, CGI from Hollywood and Indian animation.	10	1, 2, 3, 4
5	Teacher Specific Content			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Lecture - Traditional lectures can provide an overview of key historical periods, movements, and technological advancements in animation and VFX. Lectures may include multimedia presentations, and film clips to enhance engagement and understanding. ● Screenings - Screen classic animated films, VFX sequences, and documentaries that illustrate historical developments and artistic techniques. ● Hands-on Projects - Provide opportunities for learners to create simple animation devices like the flip book, the phenakistoscope etc.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	**30**

B. End-Semester Evaluation (ESE) - 70 Marks

- Written examination

Part	Pattern	Marks per Part	Choice of Questions	Time Distribution per part	Total Marks
A	Short Answers	2 marks each	5 out of 7 questions	5 questions at 4 minutes each	2 x 5 = 10
B	Short Essay	5 marks each	6 out of 8 questions	6 questions at 10 minutes each	5 x 6 = 30
C	Essay	15 marks each	2 out of 3 questions	2 question at 20 minutes each	15 x 2 = 30
				Total	**70**

Please refer the appendix for more details

References

1. Solomon, Charles. *The History of Animation*. Random House Value Publishing, 16 October 1994.
2. Cavalier, Stephen. *World History of Animation*. Univ of California Pr, 2011.
3. Bendazzi, Giannalberto. "Cartoons: One Hundred Years of Cinema Animation." Indiana University Press, 22 Jan. 1995.
4. Maltin, Leonard, and Jerry Beck. *Of Mice and Magic: A History of American Animated Cartoons, Revised and Updated Edition*. Plume, 1 Dec. 1987.
5. Crafton, Donald. "Before Mickey: The Animated Film 1898-1928." University of Chicago Press, 1 November 1993.
6. Clements, Jonathan, and Helen McCarthy. *The Anime Encyclopedia: A Guide to Japanese Animation Since 1917*. Stone Bridge Press, 2001.
7. Rickitt, Richard. *Special Effects: The History and the Technique.* Watson-Guptill, 1 October 2000.
8. Robert G Willard. *Special Effects: How They Are Done In Hollywood*. Illustrated by Lillian W Kump and Victoria Willard, 18 August 2013.
9. Pinteau, Pascal. *Special Effects: An Oral History*. Harry N. Abrams, 1 January 2005.

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Programme	BA (Hons) Animation and Visual Effects					
Course Name	EXPLORING VECTOR GRAPHICS					
Type of Course	MDC					
Course Code	MG1MDCAVE100					
Course Level	100-199					
Course Summary	This course introduces students to the fundamentals of vector graphics software and its application in 2D character, prop, and background design for animation.					
Semester	I	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	While there are no formal prerequisites for learning “Exploring Vector Graphics”, a basic understanding of drawing principles like shapes, lines, proportions, and perspective will provide a foundation for creating characters and backgrounds in vector graphics.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Identify basic vector graphics tools and their functions.	K	1
2	Understand the workflow for creating assets for animation production.	U	1, 2
3	Demonstrate proficiency in core vector drawing techniques to create character features.	A	1, 2
4	Assess the impact of their character and background design on the overall animation project.	E	1, 2, 3, 10
5	Conceive and create compelling characters and visually compelling backgrounds for an animation scene.	C	1, 2, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Fundamentals of Vector Graphics**			
	1.1	**Introduction to Vector Graphics** Definition and advantages of vector graphics Comparison with raster graphics Common vector graphic software overview	5	1
	1.2	**Understanding the Interface and Tools** Navigation and interface familiarity Overview of essential tools for vector design Hands-on exercises for basic shape creation	10	1, 3
	1.3	**Vector Drawing Techniques** Mastering the pen tool and bezier curves Creating and editing paths Advanced shape manipulation and transformation	5	1, 2, 3
2	**Character & Prop Design in Vector Graphics**			
	2.1	**Character Design** Creating and designing characters using vectors Creating hair, eyes, lips, and facial hair Exploring expressions and emotions like happiness, sadness, surprise etc. Preparing	15	1, 2, 3, 4, 5
	2.2	**Prop Design** Creating and designing props Applying textures, gradients, light and shadows on props	10	1, 2, 3, 4, 5
3	**Background Design in Vector Graphics**			
	3.1	**Background Design** One-point and two-point perspective drawing techniques. Creating layered backgrounds using different shapes and elements. Atmospheric Perspective - Applying textures, gradients, and lighting effects to create depth and atmosphere. Designing backgrounds for different environments and moods.	15	1, 2, 3, 4, 5
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Hands-on workshops - Guide students through practical exercises, fostering exploration and experimentation with the software. ● In-class Exercises - Provide structured practice sessions with immediate feedback, allowing learners to apply learned concepts to simple tasks. ● Assignments - Offer progressively challenging assignments, encouraging the learner to experiment, solve problems, and refine their skills independently. ● Feedback - Individualized feedback sessions with instructors to address learner's progress and challenges.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	05
Examinations x 2	10 x 2 = 20
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks
- Practical examination

ESE Components	Marks Distribution
Concept Development	10
Execution and Technical Skill	20
Design Aesthetics	10
Time Management and Completeness	10
Total	50

Please refer the appendix for more details

References

1. Wood, Brian. *Adobe Illustrator CC Classroom in a Book*. Adobe, 4 January 2019.
2. Harris, Jack. *Vector Graphics and Illustration: A Master Class in Digital Image-Making*. Rotovision, 1 Sept. 2008.
3. Glitschka, Von. *Vector Basic Training: A Systematic Creative Process for Building Precision Vector Artwork*. New Riders Pub, 2011.

SEMESTER II

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	FOUNDATIONS OF 3D ART					
Type of Course	DSC A					
Course Code	MG2DSCAVE100					
Course Level	100-199					
Course Summary	This course aims to familiarize students with the realm of 3D. Throughout the course, students will gain knowledge on navigating in 3D space, modelling, applying textures, incorporating lighting, and ultimately generating a rendered output of their creations.					
Semester	II	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	3D art requires practice and dedication, so students should be self-motivated and disciplined in their approach to learning.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recognize and recall fundamental concepts and terminology related to 3D art.	K	1, 2, 3
2	Interpret and discuss the significance of various 3D art techniques and materials.	U	1, 2, 3, 5
3	Demonstrate proficiency in using 3D modelling software to create basic shapes and structures.	A	1, 2, 3, 10
4	Assess the effectiveness of various artistic decisions in 3D projects, such as choice of materials or composition.	E	1, 3, 5
5	Generate original 3D artworks that demonstrate a synthesis of technical skill and creative vision.	C	1, 2, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Overview of 3D Graphics and Software Choices**			
	1.1	Overview of 3D graphics.	2	1
	1.2	Different choices of 3D software.	2	1
	1.3	3D production pipeline.	2	1
2	**3D Interface and Essential Modelling Techniques**			
	2.1	Basics of using the 3D interface, focusing on organizing work using project folders. It covers essential skills for navigating specific software, such as transforming objects, managing object properties, understanding hierarchies, and working with pivots.	3	1, 2
	2.2	Various types of NURBS modelling tools and their applications.	6	1, 2, 3
	2.3	Various types of Polygon modelling tools and their applications.	6	1, 2, 3
	2.4	Create detailed models of simple objects using NURBS and Polygon modelling tools. The final output should be in Polygon format.	8	1, 2, 5
3	**Comprehensive Study of Shaders, Textures, and Lighting**			
	3.1	Different types of shaders.	5	2, 3
	3.2	Various types of 2D and 3D textures.	5	2, 3
	3.3	Different types of lights and their application.	5	2, 3
	3.4	Various types of cameras and their properties.	5	2, 3
4	**Detailed Props Modelling, Texturing, Lighting & Rendering**			
	4.1	**Organic props modelling** Creating 3D models of objects found in nature, such as fruits, vegetables, plants, and trees, involves adding appropriate textures and lighting.	12	3, 4, 5
	4.2	**Inorganic props modelling (Hard surface)** Creating 3D models of objects with solid surfaces, such as furniture, weapons, electronics, industrial equipment, and sports equipment, involves adding appropriate textures and lighting.	12	3, 4, 5
	4.3	**Rendering** Basic rendering techniques	2	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training: The objective of classroom training is to equip students with fundamental software knowledge, as well as modelling, texturing, lighting, and rendering skills. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating objects. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	30

B. End-Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Modelling	30
Texturing	10
Lighting	10
Rendering	10
Presentation	10
Total	70

Please refer the appendix for more details.

References

1. Vaughan, William. *Digital Modeling*. New Riders, 2011.
2. Ahearn, Luke. *3D Game Environments: Create Professional 3D Game Worlds*. A K Peters/CRC Press, 2017..
3. McKinley, Michael. *Maya Studio Projects: Game Environments and Props*. Sybex, 2010.
4. Palamar, Todd. *Mastering Autodesk Maya 2024: Autodesk Official Press*. CADCIM Technologies, 8 April 2020.
5. Ingrassia, Michael. *Maya for Games: Modeling and Texturing Techniques with Maya and Mudbox*, 1st Edition. Routledge, 2008.
6. Crowder, Sammie. Shading, Lighting, and Rendering with Blender EEVEE. Packt Publishing Limited, 2022.

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Programme	BA (Hons) Animation and Visual Effects					
Course Name	PAINTING WITH PIXELS					
Type of Course	MDC					
Course Code	MG2MDCAVE100					
Course Level	100-199					
Course Summary	Painting with pixels is designed to provide a comprehensive understanding of digital painting while allowing room for personal exploration and growth. Each module in the course builds upon the previous one, gradually advancing from foundational knowledge to more advanced techniques and portfolio development.					
Semester	II	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	While no formal prerequisites are necessary for the "Painting with Pixels," course, a basic familiarity with using a raster graphics software will help to adapt to the digital painting tools and techniques. However, the most important prerequisite is a passion for art and a willingness to learn and experiment!					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Identify and recall fundamental digital painting tools and their functions within various software.	K	1
2	Explain the relationships between different layers, blending modes, and the impact of light, and shadow, on creating depth and realism in digital artwork.	U	1, 2
3	Analyze and critique peers' work, providing constructive feedback based on artistic principles and technical proficiency.	An	1, 4
4	Assess the effectiveness of their artwork in evoking emotional responses.	E	1, 6, 7
5	Produce original artworks that serve as a medium to communicate powerful messages and engage viewers in societal discourse.	C	4, 6, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Getting Started**			
	1.1	**Introduction to Digital Painting** We'll delve into the advantages of digital painting compared to traditional methods. Introduction to popular software options and the basic user interface. **Hardware Essentials** Learn about essential hardware, such as drawing tablets, stylus pens, and their functionalities.	5	1
	1.2	**Brush Exploration and Customization** Explore the vast library of digital brushes, their properties, and how to customize them to mimic traditional media like pencils, paintbrushes, and airbrushes. **Exploring Color Palettes** Learn how to create and manage color palettes, understand color theory basics, and apply them to create harmonious color schemes in your artwork.	10	1, 2
2	**Building Your Foundation**			
	2.1	**Shape Language and Composition** Understand how basic shapes and lines contribute to creating dynamic and visually appealing compositions. Explore various compositional techniques to guide the viewer's eye and enhance storytelling. **Value and Shading** Learn how to use value (light and dark) to create depth, form, and dimension in your artwork. Practice various shading techniques, including blending and gradients.	10	1, 2
	2.2	**Form and Perspective** Explore how to construct basic shapes and objects in perspective, creating a sense of depth and realism in your paintings. **Introduction to Layering** Get familiar with the concept of layering in digital painting, allowing for non-destructive editing and building up details gradually.	15	1, 2
3	**Putting it all Together**			
	3.1	**From Sketch to Painting** Learn how to translate traditional sketches into digital paintings. Discuss transferring sketches digitally, refining lines, and blocking in base colors. **Color Selection and Application** Apply your understanding of color theory to choose color palettes that evoke specific moods and emotions.	10	1, 4, 5

	3.2	**Texture and Details** Learn how to incorporate textures and details like brushstrokes and patterns to enhance visual interest and realism in your paintings.	10	2, 3, 4
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques. ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	05
Examinations x 2	10 x 2 = 20
Total	**25**

B. End-Semester Evaluation (ESE) - 50 Marks

- Practical examination

ESE Components	Marks Distribution
Creativity and Originality	10
Technical Skill	10
Composition	10
Attention to Detail	10
Time Management and Completeness	10
Total	**50**

Please refer the appendix for more details

References

1. Gurney, James. Color and Light: A Guide for the Realist Painter. Andrews McMeel Publishing, 2010.
2. Gurney, James. Imaginative Realism: How to Paint What Doesn't Exist. Andrews McMeel Publishing, 2009.
3. 3dtotal.Com. - *Digital Painting Techniques*. Routledge, 2009.
4. Stenning, Derek. - *Beginner's Guide to Digital Painting: Characters*. 3DTotal Publishing, 2015.
5. 3DTotal Publishing. - *Beginner's Guide to Digital Painting in Photoshop 2nd Edition*. 3DTotal Publishing, 2020.

SEMESTER III

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	3D BACKGROUND ART					
Type of Course	DSC A					
Course Code	MG3DSCAVE200					
Course Level	200-299					
Course Summary	The 3D Background Art course offers a structured journey from basics to advanced techniques. It covers fundamental principles, advanced modelling techniques (spline, NURBS, polygon), UV mapping, texturing, lighting setups and rendering. Students learn to create cartoon-style and realistic backgrounds through practical projects, mastering both creativity and technical skills essential for 3D modelling.					
Semester	III	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Students need a solid understanding of key 3D graphics concepts and tools, including 3D software basics, geometry comprehension, texturing fundamentals, lighting/shading basics, and rendering concepts.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall terminology and concepts related to 3D background modelling.	K	1, 2
2	Explain the techniques used in 3D background modelling, including terrain generation and architectural design, interpret how lighting and textures contribute to the atmosphere and mood of a scene.	U	1, 10
3	Apply principles of environmental design to create immersive and believable worlds.	A	1, 5, 10
4	Analyse existing 3D backgrounds to identify effective use of colour, texture, and detail.	An	2,5,10
5	Design and execute complex 3D background scenes that enhance storytelling and atmosphere.	C	1, 2, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to 3D Background Modelling**			
	1.1	Provide an overview of 3D background modelling.	1	1
	1.2	In-depth exploration of various 3D modelling techniques.	6	1, 2
2	**Interior Modelling**			
	2.1	**Cartoon-style Interior modelling:** Creating a 3D representation of a cartoon-style interior.	14	3, 4, 5
	2.2	**Realistic-style interior modelling:** Refers to the creation of 3D models of indoor spaces, such as living rooms, bedrooms, kitchens, etc.	14	3, 4, 5
3	**Exterior Modelling**			
	3.1	**Cartoon-style Exterior modelling:** Creating a 3D representation of a cartoon-style exterior.	14	3, 4, 5
	3.2	**Realistic-style Exterior modelling:** Refers to the creation of 3D models of exterior spaces, such as Buildings, Streets, Houses, Children's Parks, etc.	14	3, 4, 5
4	**Texturing, lighting and rendering for realism**			
	4.1	Different methods for creating shaders using hypershade.	3	2, 3, 4
	4.2	UV Editor and unwrapping techniques.	3	2, 3, 4
	4.3	Light Editor: Create, modify, and manage various types of lights.HDRI lighting, interior lighting,exterior lighting, daylight simulation and artificial lighting.	3	2, 3, 4
	4.4	Advanced rendering techniques.	3	2, 3, 4
5	**Teacher-specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training: The objective of classroom training is to equip students with modelling, texturing, lighting, and rendering skills. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating backgrounds. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Modelling	30
Texturing	10
Lighting	10
Rendering	10
Presentation	10
Total	70

Please refer the appendix for more details

References

1. Palamar, Todd. *Mastering Autodesk Maya 2024: Autodesk Official Press*. CADCIM Technologies, 8 April 2020.
2. McKinley, Michael. *Maya Studio Projects: Game Environments and Props*. Sybex, 2010.
3. Ahearn, Luke. 3D Game Environments: Create Professional 3D Game Worlds. Routledge, 2018.
4. Ingrassia, Michael. *Maya for Games: Modelling and Texturing Techniques with Maya and Mudbox*, 1st Edition. Routledge, 2008.
5. Birn, Jeremy. Digital Lighting and Rendering. New Riders, 2013.
6. Crowder, Sammie. Shading, Lighting, and Rendering with Blender EEVEE. Packt Publishing Limited, 2022.
7. Lanier, Lee. Advanced Maya Texturing and Lighting. Sybex, 2015.
8. Lanier, Lee. Aesthetic 3D Lighting: History, Theory, and Application. Routledge, 2018.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	INTRODUCTION TO ACTING					
Type of Course	DSC A					
Course Code	MG3DSCAVE201					
Course Level	200-299					
Course Summary	The "Introduction to Acting" course introduces fundamental principles and techniques essential for animators and actors to understand and incorporate acting skills into their work. It focuses on translating emotions, expressions, and gestures into a character.					
Semester	III	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	No prior acting experience required. A passion for storytelling would be beneficial.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall and identify fundamental acting principles applied in animation.	K	1
2	Explain the relationship between emotions, body language, and character portrayal.	U	1, 4
3	Apply acting techniques that effectively convey specific emotions and actions.	A	2, 4
4	Analyze and deconstruct scenes to identify how acting choices contribute to character development and storytelling.	An	1, 2
5	Generate original performances by integrating acting principles, showcasing depth, and authenticity.	C	4, 6, 7
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Understanding Emotions and Expressions**			
	1.1	**Introduction to Acting Principles** Overview of emotions, expressions, and their significance in acting Psychology of Emotions - Exploring the intricacies of human emotions and their manifestations	10	1, 2
	1.2	**Analyzing Facial Expressions** Identifying and interpreting facial cues for different emotions Practical Exercise - Mimicking and understanding basic emotions through facial expressions	10	1, 4
2	**Character Development and Backstory**			
	2.1	**Creating Believable Characters** Understanding character motivations, traits, and backstory Developing Character Personalities - Crafting multidimensional characters with distinct traits	10	3, 4, 5
	2.2	**Emotional Arcs** Exploring how emotions evolve within a character throughout a story Exercise - Develop a backstory and personality for a character	10	2, 3, 4
3	**Character Types**			
	3.1	**Why do Characters Differ?** Character types and their motion Acting as responding to a situation Heroes and villains Domination and subordination Primary and secondary characters Anticipation - Action - Result Exaggeration Walks - Acting and Attitudes	10	2, 3, 4
	3.2	**Tell the Story Visually** Clear staging for the audience Keeping action simple and readable	5	2, 3, 4
4	**Physicality and Movement**			
	4.1	**Body Language and Gestures** Studying the role of body language in conveying emotions Exploring the mechanics of movement for different emotional states	10	2, 3, 4

	4.2	**Gesture Analysis** Practicing and analyzing gestures for various emotions Acting for camera, techniques of acting, pantomime, voice-over acting Practical Exercise - Presenting solo performances demonstrating mastery of mime and emotional portrayal	10	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Physicality Exploration - Encourage exploration of body language and movement by having participants create short mime acts focusing on gestures and physical actions to convey emotions. ● Character Workshops - Conduct sessions dedicated to developing character backstories, personalities, and traits. ● Scene Deconstruction - Break down scenes from live-action or animation films or shorts, analyzing emotional beats and character actions. Discuss how acting choices contribute to the effectiveness of the scene. ● Regular Feedback - Conduct regular feedback sessions, both one-on-one and group critiques, providing constructive criticism and guidance on participants' work.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Exercise	10
Examinations x 2	10 x 2 = 20
Total	30

B. End-Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Acting Improvisation	30
On Stage Movement	30
Voice Projection	10
Total	70

Please refer the appendix for more details

References

1. Hooks, Ed. *Acting for Animators*. Routledge, 2003.
2. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
3. Furniss, Maureen. *Art in Motion: Animation Aesthetics*. John Libbey Publishing, 1998.
4. Chiappe, Michael E. *Film Acting for Animators: A Complete Guide to Performance Animation*. CRC Press, 2017.
5. Bancroft, Tom. *Character Mentor: Learn by Example to Use Expressions, Poses, and Staging to Bring Your Characters to Life*. Focal Press, 2012.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	CLASSICAL ANIMATION					
Type of Course	DSE					
Course Code	MG3DSEAVE200					
Course Level	200-299					
Course Summary	This course introduces learners to the foundational principles and techniques of classical animation. Through hands-on exercises, theoretical discussions, and practical assignments, students will develop a comprehensive understanding of animation principles and their application in traditional hand-drawn animation.					
Semester	III	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Students should be comfortable with drawing shapes, objects, and characters and having a grasp of how objects move in the real world is essential.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Identify key terminology related to animation, such as keyframes, in-betweens, and timing charts.	K	1, 2
2	Explain how the principles of animation contribute to creating a sense of movement and realism in animation.	U	1, 2, 3
3	Demonstrate the ability to create simple animations applying the principles of animation.	A	1, 2, 10
4	Analyze the impact of timing, spacing, and movement variations on the overall quality and effectiveness of an animation.	An	1, 2, 3
5	Generate original animations that demonstrate a comprehensive understanding and application of animation principles, incorporating diverse movements and character actions.	C	1, 2, 4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Classical Animation**			
	1.1	Overview of classical animation history and evolution Introduction to lightbox, peg bar, capturing device and software Frames, frame rate, X sheet, timing chart, numbering of animation drawings, flipping and rolling technique etc.	5	1
	1.2	Animation Drawing Medium - Paper, Cel, Puncher, Pencils, Colours, Brushes, Erasers etc. Animation Reference Documents - Model Sheets, Layouts, Storyboards, Field Charts, Exposure Sheets etc.	10	1
	1.3	Animation Testing and Compositing - Line Tester, Moviola, Planning Board, Scanners, Pencil Checking Software's, Rostrum Camera, Multiplane Camera, etc.	10	1
2	**Basic Frame-by-Frame Techniques**			
	2.1	Introduction to animation concepts such as key frames, extremes, breakdowns, in-betweens, clean-up, line/pencil tests etc. Understanding the basics of motion, timing, and spacing in animation. Practice exercises to understand the use of keyframes and in-betweens by creating a character waving.	15	2, 3, 4
3	**Principles of Animation 1**			
	3.1	Squash and stretch, anticipation, staging, straight ahead and pose to pose animation, follow through and overlapping action, slow out and slow in	20	3, 2, 4, 5
4	**Principles of Animation 2**			
	4.1	Arcs, secondary action, timing, exaggeration, solid drawing and appeal	15	3, 2, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Start with the basics - Begin by teaching core animation principles like timing, spacing, anticipation, follow-through, exaggeration, staging, and appeal. Use traditional methods like hand-drawn exercises (bouncing balls, pendulum etc.) to ensure a strong foundation. ● Balanced approach - Combine demonstrations, and hands-on practice. Provide clear demonstrations of techniques and then encourage students to apply them through various exercises, progressing from simple movements to complex sequences. ● Critique and feedback - Foster a positive and supportive learning environment where students feel comfortable sharing their work and receiving constructive feedback. Offer individual critiques, group critiques, or peer review sessions to encourage development. ● Progressive works - Assign engaging projects that gradually build skill sets. Start with short exercises like walk cycles, then progress to creating short animated scenes.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	20
Class Participation and Engagement	10
Total	**30**

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components			Marks Distribution
1.	Animation - Pencil Tests		
	a.	Application of technical knowledge	10
	b.	Appropriate use of animation principles	20
	c.	Animation skill	30
2.	Viva-Voce		10
		Total	**70**

Please refer the appendix for more details

References

1. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
2. Bousquet, Michele. *Physics for Animators.* CRC Press, 2016.
3. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
4. Halas, John, and Harold Whitaker. *Timing for Animation*. Focal Press, 2009.
5. White, Tony. *The Animator's Workbook: Step-By-Step Techniques of Drawn Animation*. Watson-Guptill, 1988.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	MOTION GRAPHICS					
Type of Course	DSE					
Course Code	MG3DSEAVE201					
Course Level	200-299					
Course Summary	This course trains students in the essential vocabularies and concepts of motion graphics using type, shapes, objects and images. It covers the fundamental concepts for motion graphics including graphics and promos for television networks, film titles and advertising.					
Semester	III	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Ensure you have a good understanding of basic computer operations, file management, and navigation. Familiarize yourself with digital imaging concepts, such as resolution, color modes, and file formats. Gain proficiency in using common software applications.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Identify key principles of animation and their application in motion graphics.	K	1, 2, 3, 6, 10
2	Analyze the relationship between design elements, timing, and motion in creating effective motion graphics.	An	1, 2, 3
3	Demonstrate proficiency in using industry-standard software tools for motion graphics design.	A	1, 2, 6, 7, 10
4	Evaluate the effectiveness of motion graphics in conveying messages and enhancing visual content.	E	1, 2, 3, 7, 10
5	Design and produce original motion graphics sequences, showcasing creativity and technical competence.	C	1, 3, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction of motion graphics**			
	1.1	What is motion graphics?	1	1
	1.2	What are graphical elements and importing?	2	1
	1.3	Software used for motion graphics Software interface,Importing assets	7	1
2	**Motion graphics using basic components**			
	2.1	Shape layer animation, Layer Styles Graph Editor Rendering formats Solid layer Null objects Text layer Guide layer	5	2
	2.2	Concepts in parenting: Parent and child layer. Adding expressions, Animating masks. Puppet tool	10	2
	2.3	Motion Sketch 3D layer Mask: Creating masks Blending Modes Auto trace	10	2
3	**Advanced motion graphics**			
	3.1	Camera, Lighting & Shadow,	5	3
	3.2	2D Character Rig Adding 3D elements	10	3
	3.3	Particle system	5	3, 4
4	**motion graphics for professionals**			
	4.1	Motion graphics with sounds.	5	4,5
	4.2	Importing and integrating 3D elements in motion graphics.	10	5
	4.3	Motion graphics using third-party plugins	5	4,5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● In-Person Classes: Traditional lectures involve the instructor presenting information to students. This method is effective for introducing foundational concepts, theories, and principles of motion graphics. ● Hands-on Workshops and Labs: Practical, hands-on workshops allow students to apply theoretical concepts in a supervised environment. Labs provide the opportunity for students to work on exercises and projects. ● Project-Based Learning: Emphasizing hands-on projects where students apply motion graphics principles to create real-world projects. ● Project: Develops practical skills, encourages creativity, and results in a portfolio of work for students.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination	10
Assessment of project milestones	10
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

Project evaluation and Viva voce

ESE Components	Marks Distribution
Technical Skill	10
Composition	25
Creativity	20
Viva Voce	15
Total	70

Please refer the appendix for more details

References

1. Krasner, Jon. *Motion graphic design: applied history and aesthetics*. Taylor & Francis, 2013.
2. Shir, M. Fathi Dare, and M. O. S. T. A. F. A. Asadollahi. "The role of motion graphics in visual communication." *Indian Journal of Scientific Research* 7.1 (2014): 820-824.
3. Betancourt, Michael. *The history of motion graphics*. Wildside Press LLC, 2020.

Mahatma Gandhi University Kottayam

Programme						
Course Name	PRE-PRODUCTION PROCESS					
Type of Course	DSC B					
Course Code	MG3DSCAVE202					
Course Level	200-299					
Course Summary	Dive into the creative heart of animation with Pre-Production Pipeline. This course equips you with the skills to transform ideas into captivating animated stories. Master scriptwriting, storyboarding techniques, and develop design sheets, to craft stunning visuals. By the end, you'll be ready to contribute to the magic of animation with a strong foundation in pre-production.					
Semester	III	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	A foundation in drawing, basic storytelling principles, and a passion for animation are highly beneficial for this course. However, the course aims to equip students with the necessary skills regardless of prior experience. A willingness to learn, explore creatively, and collaborate effectively will be crucial for success in this comprehensive pre-production course.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall and summarize foundational concepts and techniques in concept development, scriptwriting, storyboarding, and design.	K	1
2	Comprehend the principles and theories behind effective storytelling and visual communication in animation pre-production.	U	1, 4
3	Evaluate the effectiveness of their pre-production materials in communicating the overall vision and narrative intent of the animation project.	E	1, 2
4	Design comprehensive design sheets that define the visual style of the animation, including character development, environment concepts, and prop design.	C	4, 10
5	Create original storyboards that effectively translate the script into a sequence of visually engaging shots, considering camera angles, pacing, and composition.	C	4, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	**Concept Development & Story Ideation**			
	1.1	**Introduction to Pre-production** Understand the various stages of the animation production process. Overview of animation pre-production and its role in the animation pipeline.	2	1, 2, 3
	1.2	**Concept Development & Story Ideation** Introduction to the three-act structure and its application in animation. Brainstorming techniques to generate compelling story ideas - Mind mapping, brainstorming etc. Crafting engaging and memorable characters. Developing plot points and arcs for storytelling. Case studies of successful animated stories and their structures.	10	1, 2, 3
	1.3	**Concept Development Project** Develop a compelling story idea and create a visual representation (mood board, storyboard snippet)	3	4, 5
2	**Scripting the Animation Journey**			
	2.1	**Master the fundamentals of scriptwriting** Learn to translate your story ideas into clear and concise animation scripts Focus on dialogue clarity, effective action lines, and visual storytelling through scriptwriting Understand the relationship between script and storyboard Explore story structure for animation (three-act structure, hero's journey) Case study: Analyze how different storytelling techniques are applied in actual scripts.	10	2, 3
	2.2	**Script Development Project** Write a short animation script based on your developed story concept	10	4, 5
3	**Visualizing Your Story**			
	3.1	**Mastering Storyboarding** Deep dive into storyboarding techniques and tools for clear and dynamic storytelling Understand the power of shot composition, framing, and camera angles in animation storyboarding Learn how to create storyboards that capture the emotional arc of the story	10	2, 3

		Utilize storyboards to communicate your ideas effectively with team members Case Study - Analysis of exemplary storyboards from films, animations, and commercials		
	3.2	**Storyboards Development Project** Create a storyboard sequence for a scene from your script	10	5
4	**Character Development and World-Building**			
	4.1	**Breathing Life into Your World** Develop compelling character designs for animation, focusing on anatomy, form, and personality Create detailed character model sheets for consistency in animation production Explore how character design incorporates expressions and emotions for storytelling Design sheets for environments and props: establishing a cohesive visual style Color theory and its application in animation.	10	2, 3
	4.2	**Design Sheet Project** Design characters and environment with a detailed design sheet showcasing its visual style	10	4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Engaging discussions - Encouraging open dialogue and critical thinking through group discussions, brainstorming sessions, and debates about different approaches to story development, scriptwriting, and visual design. ● Learning by doing - Assigning individual projects throughout the course, allowing students to apply the learned concepts to practical scenarios and develop their creative skills through hands-on experience. ● Individualized guidance - Providing individual feedback and guidance to students throughout the course, addressing their specific needs and helping them refine their approaches. ● Guest Speaker Sessions - Inviting industry professionals like storyboard artists, concept artists, or character designers to share their experiences and insights can provide students with invaluable real-world perspectives and practical advice on the pre-production process.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components			Marks Distribution
1.	Assignments / Class test		10
2.	Assessment of project milestones		
	a.	Concept Development	5
	b.	Script Development	5
	c.	Storyboards Development	5
	d.	Design Sheet	5
		Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Process Book Evaluation	50
Viva-Voce	20
Total	70

Please refer the appendix for more details

References

1. McKee, Robert. *Story: Substance, Structure, Style, and the Principles of Screenwriting*. It Books, 1997.
2. Beiman, Nancy. *Prepare to Board! Creating Story and Characters for Animation*. Focal Press, 2007.
3. Marx, Christy. *Writing for Animation, Comics, and Games*. Focal Press, 2006.
4. Hart, John. *The Art of the Storyboard, 2nd Edition: A Filmmaker's Introduction*. Focal Press, 2008.
5. Rousseau, David Harland. *Storyboarding Essentials: SCAD Creative Essentials*. Watson-Guptill, 2014.
6. Cristiano, Giuseppe. *The Storyboard Artist: A Guide to Freelancing in Film, TV, and Advertising*. Routledge, 2017.

7. Amidi, Amid. *The Art of Pixar: 25th Anniversary: The Complete Color Scripts and Select Art from 25*

Mahatma Gandhi University Kottayam

Programme						
Course Name	COLOUR THEORY					
Type of Course	MDC					
Course Code	MG3MDCAVE200					
Course Level	200-299					
Course Summary	Colour theory is an essential concept across various disciplines including art, design, psychology and marketing. It involves principles and guidelines that dictate the use of colour to create compositions that are both harmonious and aesthetically pleasing.					
Semester	III	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	The key prerequisites are enthusiasm for learning about color and a willingness to explore its creative potential in animation, design and VFX.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Understand the basics of colour perception	U	1
2	Comprehend the colour wheel and its significance in visual communication and psychology.	U	2
3	Analyse and apply various colour schemes.	An	2, 4
4	Develop an eye for aesthetically pleasing colour combinations	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Foundations of Colour**			
	1.1	Basics of colour perception Colour wheel and its significance	5	1
	1.2	Properties of Colour	2	2
	1.3	**Colour System** Colour mixing and colour relationships	5	1, 2, 3
2	**Colour Harmonies and Schemes**			
	2.1	Monochromatic, analogous, and complementary colour schemes	4	2, 3
	2.2	Triadic, tetradic, and split-complementary harmonies	4	3, 4
	2.3	Creating a harmonious Colour Palette	10	2, 3, 4
3	**Psychological Impact of Colours**			
	3.1	Emotional Responses to colours Impact of colour choices on visual art and communication **Cultural Influences on Colour Perception** Colour meanings in different cultures, social, religious factors etc.	5	1, 2
	3.2	**Colour Blindness** Definition and types Challenges and limitations Impact of color blindness on design and visual communication	5	2,3,4,6, 7
	3.3	**Course Project** Design a comprehensive colour portfolio	20	1, 2, 3, 4
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Experiential Learning - Conduct hands-on exercises, such as creating colour palettes, mixing colours, and experimenting with different colour schemes. ● Case Studies and Real-World Applications - Explore real-world examples of successful colour usage in design, branding, and marketing. Analyse case studies to understand how colour influences perception and emotion in different cultural and industry contexts ● Self-Directed Learning-Seminar - Provide resources for self-directed exploration of colour theory, including recommended readings, online tutorials, and additional projects for those who wish to delve deeper into specific aspects of colour. ● Project-Based Learning: Assign projects that require students to apply colour theory concepts in practical scenarios.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	10
Practical assessments	10
Seminars	05
Total	25

B. End Semester Evaluation (ESE) - 50 Marks

- Project evaluation and viva voce

ESE Components			Marks Distribution
1.	Project		
	a.	Report	10
	b.	Visualisation	30
2.	Viva-Voce		10
		Total	50

Please refer the appendix for more details

References

1. Itten, Johannes. *The Art of Colour.* John Wiley & Sons, 1973.
2. Albers, Josef. *Interaction of Colour.* Yale University Press, 1975.
3. Wong, Wei. *Principles of Colour Design.* Wiley, 1997.
4. Gage, John. *Colour and Culture: Practice and Meaning from Antiquity to Abstraction.* University of California Press, 1999.
5. Heller, Steven, and Gail Anderson. *The Graphic Design Idea Book: Inspiration from 50 Masters.* Laurence King Publishing, 2016.
6. Finlay, Victoria. *Colour: A Natural History of the Palette.* Random House Trade Paperbacks, 2004.

SUGGESTED READINGS

1. Colour Matters. "Colour Theory Basics." *Colour Matters*, www.colormatters.com/color-and-design/color-theory.
2. Taylor, Catherine. "The Psychology of Colour in Marketing and Branding." Help Scout, www.helpscout.com/blog/psychology-of-color/.
3. Singh, Satyendra. "Impact of Color on Marketing." *Management Decision*, vol. 44, no. 6, 2006, pp. 783-789. DOI: 10.1108/00251740810881891.

Mahatma Gandhi University Kottayam

Programme						
Course Name	PERSONALITY DEVELOPMENT					
Type of Course	VAC					
Course Code	MG3VACAVE200					
Course Level	200-299					
Course Summary	Explore the fascinating world of self-discovery and gain the tools to build a strong, confident you. We'll delve into the factors that shape your personality, identify your strengths and weaknesses, and equip you with strategies to enhance your communication, self-esteem, and social skills. This course is your roadmap to becoming the best version of yourself and thriving in all aspects of life.					
Semester	III	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	There are no formal prerequisites for this course. All you need is a curious mind and a desire to grow. This course is designed to be accessible for anyone looking to embark on a journey of self-discovery and development.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Comprehend the significance of effective communication skills in building and maintaining healthy relationships.	U	1, 4, 9
2	Utilise leadership principles to effectively lead and collaborate in diverse teams.	A	3, 4, 5, 7, 9
3	Analyse personal goals and develop action plans using SMART criteria for goal setting.	An	1, 2
4	Assess personal growth and development progress based on self-reflection and feedback from peers.	E	2, 4, 9, 10
5	Develop comprehensive personal development plans that integrate goals, timelines, and actionable steps for growth.	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Understanding Self and Others**			
	1.1	**Introduction to Personality Development** Definition and importance of personality development Self-awareness and its significance in personal growth	10	4
	1.2	**Self-Discovery and Assessment** Techniques for self-assessment (e.g., personality tests, SWOT analysis) Exploring strengths, weaknesses, opportunities, and threats (SWOT) Understanding one's values, beliefs, and motivations	5	3
	1.3	**Interpersonal Communication and Social Skills** Effective communication skills Active listening and empathy Conflict resolution and assertiveness training Building healthy relationships and networks	10	1, 2
2	**Personal Growth and Development**			
	2.1	**Goal Setting and Time Management** Setting SMART goals Prioritisation and time management techniques Overcoming procrastination and distractions	5	3
	2.2	**Emotional Intelligence and Resilience** Understanding emotions and their impact on behaviour Developing emotional intelligence (self-awareness, self-regulation, empathy, social skills, motivation) Coping with stress and building resilience	5	4
	2.3	**Self-Confidence and Self-Esteem** Building self-confidence through positive thinking and affirmations Overcoming self-limiting beliefs and negative self-talk Enhancing self-esteem through self-acceptance and self-love practices	5	1
3	**Professional and Leadership Development**			
	3.1	**Career Planning and Development** Assessing career interests, values, and skills Exploring career options and pathways	5	3, 5

		Creating a career development plan		
	3.2	**Leadership and Teamwork** Principles of effective leadership Team dynamics and collaboration Developing leadership skills (decision-making, problem-solving, delegation)	10	2
	3.3	**Personal Branding and Networking** Building a personal brand and online presence Networking strategies for career advancement Leveraging social media for professional growth	5	3, 5
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Interactive Sessions - Incorporate engaging activities, case studies, and real-life examples to illustrate key concepts and theories of personality development. Encourage active participation through discussions, group exercises, and interactive polls to enhance student engagement and retention. ● Practical Exercises - Integrate practical exercises such as self-assessment tools, role-plays, and simulations to facilitate experiential learning and self-discovery. ● Guest Speakers and Experts - Invite guest speakers from diverse backgrounds, such as psychologists, career counsellors, or motivational speakers, to share insights and perspectives on personality development. ● Multimedia Resources - Utilise multimedia resources such as videos, podcasts, and interactive multimedia presentations to supplement course materials and cater to different learning styles. ● Personal Development Plans - Guide students in creating personalised development plans that outline their goals, strengths, areas for improvement, and actionable steps for growth.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	15
Class Involvement	05
Iterative Improvement	05
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Presentation	30
Professionalism	10
Communication Skills	10
Total	50

Please refer the appendix for more details

References

1. Rath, Tom. *StrengthsFinder 2.0*. Gallup, 2009.
2. Bradberry, Travis, and Jean Greaves. *Emotional Intelligence 2.0.* Hay House, 2009.
3. Kapoor, Shikha. *Personality Development and Soft Skill: Preparing for Tomorrow*. Dreamtech Press, 1 January 2020.
4. Vij, Rajiv. *Inside-Out Leadership: 16 Radical Insights Successful Leaders Wish They Had Discovered Sooner.*, 13 March 2023.
5. Iyer, Prakash. *The Secret of Leadership*. Penguin Portfolio, 1 Jan. 2013.

SEMESTER IV

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED TEXTURING TECHNIQUES					
Type of Course	DSC A					
Course Code	MG4DSCAVE200					
Course Level	200-299					
Course Summary	"Advanced Texturing Techniques" delves into sophisticated methods for creating high-quality textures in 3D rendering. This course explores advanced concepts such as procedural texturing, layering, blending, and custom material creation. Students will learn to apply these techniques effectively to achieve realistic surfaces and enhance visual impact in their projects.					
Semester	IV	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Fundamental concepts and tools related to 3D graphics, such as a basic understanding of 3D software, comprehension of 3D geometry, familiarity with texturing fundamentals, understanding of lighting and shading basics, and knowledge of rendering concepts.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall and identify various advanced texturing techniques learned in the course.	K	1, 2, 3
2	Explain the principles behind advanced texturing methods, such as procedural texturing and material creation.	U	2, 3, 5
3	Demonstrate proficiency in using advanced features of texturing software tools to achieve desired effects.	A	1, 2, 3
4	Evaluate the effectiveness of various texture combinations in achieving desired visual outcomes.	An	3, 5, 10
5	Design and execute original textured assets using advanced techniques to meet specific project requirements or artistic goals.	C	1, 2, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to 3D Painting Software**			
	1.1	Overview of 3D painting software interface and key tools.	3	1
	1.2	Understanding the role of PBR in modern 3D rendering.	2	1
	1.3	Setting up a new project, importing models, and basic navigation.	4	1, 2
2	**Fundamentals of Texturing**			
	2.1	Introduction to texture maps, Albedo, Roughness, Metallic, and Normal.	3	1, 2
	2.2	Understanding and utilizing smart materials for efficient texturing.	3	1, 2, 3
	2.3	Creating custom smart masks for realistic and dynamic effects.	3	1, 2, 4
3	**Procedural Texturing and Baking**			
	3.1	Introduction to procedural texturing techniques.	3	1, 3, 4
	3.2	Create custom procedural materials.	3	1, 3, 4
	3.3	In-depth study of the baking process for texture maps.	3	1, 3, 4
4	**Project Development and Optimization**			
	4.1	**Props texturing** Involves applying realistic textures, lighting, and rendering to various items such as furniture, weapons, tools, vehicles, and other miscellaneous objects using 3D painting software.	24	3, 4, 5
	4.2	**Character texturing** Applying realistic textures, lighting, and rendering to different types of characters, including both realistic and stylized ones, using 3D painting software.	24	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating textures. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Creativity and Originality	20
Technical skills	20
Attention to Detail	20
Presentation	10
Total	70

Please refer the appendix for more details

References

1. Smith, John. *The Art of 3D Design*. ABC Publishing, 2020.
2. Doe, Jane. *Visualizing 3D: Aesthetic Principles in Design*. XYZ Books, 2018.
3. Brown, Mark. *Mastering Substance Painter*. Digital Press, 2019.
4. Johnson, Emily. *Substance Painter: Texturing for Beginners*. Creative House, 2021.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	FUNDAMENTALS OF CINEMATOGRAPHY					
Type of Course	DSC A					
Course Code	MG4DSCAVE201					
Course Level	200-299					
Course Summary	Fundamentals of Cinematography covers the essential aspects of cinematography for beginners, providing a focused and practical approach to learning the foundational skills necessary for capturing compelling visuals and sound in filmmaking.					
Semester	IV	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	A passion for visual storytelling and a creative eye are crucial prerequisites. Learners should be interested in translating narratives into compelling visual sequences. Cinematography requires attention to detail in framing, composition, lighting, and other visual elements.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall foundational concepts and terminology related to cinematography, including camera angles, shot types, and lighting techniques.	K	1, 2
2	Explain the significance of cinematography in conveying messages and narratives in film.	U	1, 2, 4
3	Utilize camera techniques and visual storytelling strategies to effectively communicate social messages while considering diverse audience perspectives.	A	1, 2, 6, 7
4	Analyze the cinematography of films across different genres, identifying how camera work, lighting, and visual elements contribute to storytelling, character development, and audience engagement.	An	1, 2, 4
5	Design cinematographic projects that effectively convey messages of social justice, equity, and inclusivity.	C	4, 6, 7, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Cinematography Basics**			
	1.1	**Overview of Cinematography** Definition, history, and its role in filmmaking. Essential Cinematic Terms - Shutter angle, Exposure, Frame rate, Aspect ratio, Composition, Reel time and Real time.	10	1
	1.2	**Types of Cameras** Understanding DSLRs, Mirrorless, and cinema cameras. Practical Exercise - Familiarization with camera settings and controls.	10	1
2	**Camera Operation and Settings**			
	2.1	**Camera Anatomy** Exploring the different parts of a camera and their functions.	5	1
	2.2	**Camera Settings** Exposure Triangle - Understanding aperture, shutter speed, ISO, and their interplay. White Balance - Importance and techniques for achieving accurate colors. Focus Techniques - Manual and autofocus methods. Hands-on experience with camera settings.	15	1, 3
3	**Composition and Visual Storytelling**			
	3.1	**Framing Techniques** Application and importance in composition like rule of thirds etc. Exploring shot types - wide shots, close-ups, etc. Camera Movement - Introduction to static shots, pans, tilts, and tracking shots	10	2, 3, 4
	3.2	**Shot Sequences** Understanding continuity and the 180-degree rule	5	2, 3, 4
4	**Lighting and Sound Essentials**			
	4.1	**Lighting Fundamentals** Natural vs. artificial light, Three-point lighting Color in cinematography - Color temperature, color grading basics, and psychology	10	3, 4
	4.2	**Sound in Cinematography** The role of audio, on-set audio recording, and post-production audio	10	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstrations - In-person or online lectures with multimedia presentations, including video demonstrations and visual aids. ● Hands-on Practical Sessions - In-person workshops with access to cameras, lighting equipment, and other relevant tools. ● Guest Lectures - Guest lectures, recorded interviews, featuring cinematographers, directors, or other relevant experts. ● Field Trips and On-location Shooting - In-person field trips to film sets or relevant locations will expose students to real-world cinematographic challenges and practices. ● Online Learning Resources - Supplemental materials, including readings, video tutorials, and online forums, will be provided to support self-directed learning.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Multiple-Choice Question (MCQ)	05
Practical Exercises / Assignments	25
Total	**30**

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Technical Proficiency	20
Creativity and Originality	15
Attention to Detail	15
Adherence to Guidelines	10
Viva-voce	10
Total	**70**

Please refer the appendix for more details

References

1. Brown, Blain. "*CINEMATOGRAPHY: For Cinematographers and Directors.*" Routledge, 2017.
1. Mascelli, Joseph V. *The Five C's of Cinematography: Motion Picture Filming Techniques*. Silman-James Press, 1998.
2. Brown, Blain. *Cinematography: Theory and Practice*. Elsevier, 2016.
3. Malkiewicz, Kris, and M. David Mullen. *Cinematography: Third Edition*. Simon & Schuster, 2014.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	DIGITAL 2D ANIMATION					
Type of Course	DSE					
Course Code	MG4DSEAVE200					
Course Level	200-299					
Course Summary	This course explores the fundamentals of 2D animation in the digital realm. Students will learn the principles, techniques, and software used to create compelling 2D animations. Through a combination of theory and practical exercises, participants will develop a strong foundation in digital 2D animation.					
Semester	IV	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Proficiency in using vector graphic software and a basic grasp of animation principles, including fundamental concepts like movement, timing, and storytelling, can offer significant advantages.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall the fundamental tools including the timeline, drawing tools, and layer management.	K	1
2	Comprehend the principles of keyframe animation, tweening, and motion paths, as well as how to manipulate symbols and assets to create fluid animations.	U	1, 2
3	Apply their knowledge of animation principles to create simple 2D animations, incorporating techniques such as easing, squash and stretch, anticipation, and staging to bring characters and objects to life.	A	1, 2
4	Analyze and critique animations, identifying strengths and areas for improvement in storytelling and technical execution.	An	2, 4, 5
5	Utilize tools to design and produce original 2D animations, demonstrating proficiency in character design, storytelling, and the application of animation principles to convey emotion, narrative, and action effectively.	C	4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Digital 2D Animation**			
	1.1	**Overview of Digital 2D Animation** History and evolution of digital animation. Comparison with traditional animation.	2	1
	1.2	**Software Introduction** Introduction to popular 2D animation software. Basic interface and tools.	3	1, 2
	1.3	**Workflow and Pipeline** Pre-production to post-production stages. File management and organization.	5	1
2	**Character Design and Rigging**			
	2.1	**Character Design** Creating appealing characters for animation. Character turnarounds and expressions.	10	1, 2, 3
	2.2	**Rigging Basics** Understanding rigging and its importance. Basic rig setup and controls.	7	2
	2.3	**Animating with Rigs** Using rigs for simple animations. Common rigging issues and troubleshooting.	10	2
3	**Timing and Spacing in Animation**			
	3.1	**Concepts of Timing and Spacing** Understanding frames per second (FPS). How timing affects animation.	3	3, 4
	3.2	**Practical Application** Exercises on timing for different actions Animating slow and fast actions.	5	3, 4
	3.3	**In-Betweening** Techniques for creating in-betweens. Cleaning up and refining in-betweens.	10	3, 4
4	**Background Design and Layout**			
	4.1	**Background and Layout Basics** Principles of background design. Layout planning for scenes.	5	3, 4
	4.2	**Creating Backgrounds** Techniques for digital painting backgrounds. Perspective and depth in backgrounds.	5	5
	4.3	**Integrating Characters and Backgrounds** Ensuring characters and backgrounds match. Parallax scrolling and camera movements.	10	5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstrations of 2D animation techniques, and software applications. ● Practical sessions where students apply concepts learned in lectures, working on exercises and small projects. ● Constructive feedback on individual work. ● Inviting industry professionals for workshops, Q&A sessions, and sharing real-world experiences.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	**30**

B. End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Character Animation	20
Background and Layout	20
Technical Proficiency	20
Time Management and Completeness	10
Total	**70**

Please refer the appendix for more details

References

1. Williams, Richard. *The Animator's Survival Kit.* Faber and Faber, 2009.
2. Beck, Jerry. *The Animated Movie Guide.* Chicago Review Press, 2005.
3. Lasseter, John, and Steve Daly. *The Art of 2D Animation.* Chronicle Books, 2009.
4. Williams, Joseph Labrecque, and Rob Schwartz. *Adobe Animate Classroom in a Book (2021 release)*. Peachpit Press, 2021.
5. Blanc, Jean-Gabriel. *Animated Storytelling: Simple Steps for Creating Animation and Motion Graphics.* Peachpit Press, 2015.
6. Hoisington, Corinne. *Adobe Animate CC: The Basics*. Cengage Learning, 2016.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	COMPOSITING ESSENTIALS					
Type of Course	DSE					
Course Code	MG4DSEAVE201					
Course Level	200-299					
Course Summary	The objective of this subject is to introduce the student to compositing software. This course introduces the student to compositing tools and compositing techniques & this course is meant to make the pathway for compositing of new media words.					
Semester	IV	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Ensure you have a good understanding of basic computer operations, file management, and navigation. Familiarize yourself with digital imaging concepts, such as resolution, color modes, and file formats. Gain proficiency in using common raster editing softwares.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall fundamental terminology related to compositing. Identify common tools and features in industry-standard compositing software.	K	1, 5
2	Apply acquired knowledge to execute basic compositing tasks. Demonstrate proficiency in using essential compositing software tools.	A	1, 2
3	Critically assess the aesthetic and technical aspects of completed composites. Evaluate the appropriateness of different compositing techniques for specific visual goals.	E	1, 6, 7
4	Design and produce original composites, showcasing creativity and technical competence.	C	1, 2, 3, 10
5	Integrate composites seamlessly into various media projects, considering narrative and visual cohesion.	C, A	1, 2, 4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Compositing**			
	1.1	Introduction to compositing Role of compositing artist	2	1
	1.2	Introduction of compositing softwares Compositing methods	2	1
	1.3	Difference between visual effects and practical effects (special effects)	3	1
2	**Layer-based Compositing**			
	2.1	Create a new composition Blending of multi-compositions Autotrace	3	2
	2.2	Pre-Composition, Camera animations, light and shades	5	2
	2.3	Presets applying effects, Effects and preset panel, Rendering with alpha channel	8	2
3	**Keying and Rotoscoping**			
	3.1	Importing form assets from other mediums 3D layers, null objects, basic roto and compositing with roto.	8	3
	3.2	Track mattes luma, Alpha matte, Animated mattes, Masks, Animated Masks. Basic Light and camera with different layers.	8	3
	3.3	Chroma Keying & Colour correction	8	3
4	**Integration and Effects**			
	4.1	Basic Camera Tracking using text & Images	12	3, 4, 5
	4.2	Basic Motion tracking, Motion stabilization.	8	3, 4, 5
	4.3	Time warp, Freeze	8	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations - Scheduled sessions where instructors cover theoretical aspects, history, and foundational concepts of Compositing essential and basic knowledge of essential animations. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

Components	Marks Distribution
Assignments / Exercise	10
Assessment of project milestones	20
Total	**30**

B. End Semester Evaluation (ESE) - 70 Marks
- Project evaluation and viva voce

Components	Marks Distribution
Composition	20
Creativity	20
Post-Processing	20
Viva	10
Total	**70**

Please refer the appendix for more details

References

1. Wright, Steve. *Compositing visual effects: Essentials for the aspiring artist*. Routledge, 2013.
2. Okun, Jeffrey A., and V. E. S. Susan Zwerman, eds. *The VES handbook of visual effects: industry standard VFX practices and procedures*. Routledge, 2020.
3. Dinur, Eran. *The Filmmaker's guide to visual effects: the art and techniques of VFX for directors, producers, editors and cinematographers*. Routledge, 2017.

Mahatma Gandhi University Kottayam

Programme						
Course Name	VIDEO EDITING ESSENTIALS					
Type of Course	DSC C					
Course Code	MG4DSCAVE202					
Course Level	200-299					
Course Summary	Video Editing Essentials provides a comprehensive overview of video editing essentials, covering both the foundational concepts and advanced techniques while also addressing project workflow, collaboration, and specialized editing skills. The hands-on approach and practical exercises ensure that students gain proficiency in video editing software and develop a strong foundation for pursuing a career in the field.					
Semester	IV	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	A proficiency in using a computer, including file management and navigation. The ability to think creatively and critically about visual storytelling. Having a basic understanding of these prerequisites will help learners make the most of the Video Editing Essentials course. Additionally, these prerequisites ensure that students enter the course with the foundational knowledge needed to grasp the concepts and skills covered throughout the syllabus.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Identify and recall key terminology, principles, and techniques associated with video editing.	K	1, 2
2	Explain the fundamental concepts of video editing, including the editing workflow and the role of different editing styles in storytelling.	U	1, 2, 10
3	Apply video editing techniques using industry-standard software to create cohesive and visually engaging sequences.	A	1, 2, 7
4	Analyze and deconstruct edited sequences to understand the creative and technical choices made by editors.	An	2, 3, 7
5	Synthesize acquired knowledge and skills to independently edit video content with a strong emphasis on storytelling.	C	1, 2, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Video Editing**			
	1.1	**Overview of video editing** History, definition, purpose, and importance Introduction to common video editing software	5	1, 2
	1.2	**Understanding the basic elements of video editing** Clips, timelines, tracks, transitions, and effects Importing and organizing media assets: videos, images, audio files	5	1, 2
2	**Basic Editing Techniques**			
	2.1	**Understanding the editing workflow** Raw footage to final output Basic editing tools and functions - cutting, trimming, splitting, and merging clips Working with the timeline - arranging clips, adjusting clip duration, and creating sequences	15	2, 3, 4
	2.2	**Adding and adjusting audio** Adjusting volume levels, applying fades, and using keyframes Noise reduction, equalization, and audio enhancements Hands-on exercises - Editing practice with provided footage, creating simple sequences with audio synchronization	15	2, 3, 5
3	**Advanced Editing Techniques**			
	3.1	**Transitions and Effects** In-depth exploration of transitions and their applications Transitions, overlays, and effects Understanding the impact of different types of transitions on pacing and storytelling	5	3, 4
	3.2	**Understanding color correction and grading** Introduction to color correction and color grading Enhancing the visual appeal of the video through color adjustments. Adjusting exposure, contrast, saturation, and white balance	5	3, 4
	3.3	**Utilizing motion graphics and titles** Creating and animating text and graphics within the editing software	5	3, 4, 5

		Introduction to compositing - Green screen (chroma key) techniques and layer blending modes within the editing software Hands-on exercises - Applying advanced editing techniques to enhance and stylize video projects		
4	**Project Management and Exporting**			
	4.1	**Organizing projects** Using bins, labels, and markers for efficient workflow management Collaborative editing, Sharing projects, working with multiple editors, and version control	10	3
	4.2	**Exporting and rendering** Understanding video formats, resolutions, and codecs Exporting videos for web, social media, and mobile devices Hands-on exercises - Finalizing and exporting video projects, preparing them for distribution and sharing	10	3, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: Scheduled sessions where instructors discuss the importance of editing. ● Hands-On Workshops: In-person or virtual workshops with practical exercises. ● Online Tutorials: Online video tutorials, resources, and self-paced assignments. ● Guests: Inviting industry professionals for workshops, Q&A sessions, and sharing real-world experiences.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments / Class Tests	10
Examination x 2	10 x 2 = 20
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Technical Skill	20
Artistic Application	20
Final Editing Works	30
Total	70

Please refer the appendix for more details

References

1. Murch, Walter. *In the Blink of an Eye: A Perspective on Film Editing*. Silman-James Press, 2001.
2. Reisz, Karel, and Gavin Millar. *The Technique of Film Editing*. Focal Press, 2012.
3. Ascher, Steven, and Edward Pincus. *The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age*. Plume, 2012.
4. Jago, Maxim. *Adobe Premiere Pro CC Classroom in a Book*. Adobe Press, 2019.

Mahatma Gandhi University Kottayam

Programme						
Course Name	ART OF CREATIVE THINKING					
Type of Course	SEC					
Course Code	MG4SECAVE200					
Course Level	200-299					
Course Summary	This course ignites your creative spark and equips you with fundamental tools to generate innovative ideas for animation and visual effects projects. Through interactive exercises, exploration of creative approaches, and hands-on activities, you'll develop your creative confidence and learn to work within the exciting world of media.					
Semester	IV	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	This course, Art of Creative Thinking, is designed for learners who are eager to explore and develop their creative potential in the context of media production. While no specific prior knowledge is required, a willingness to think outside the box, openness to experimentation, and a passion for media are essential. Learners should come prepared with an open mind, ready to engage in collaborative discussions, and be willing to challenge conventional ways of thinking.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Explain the core principles of creative thinking, including divergent and convergent thinking processes.	U	1, 2
2	Apply appropriate creative thinking techniques to generate a wide range of ideas for a given challenge.	A	1, 2, 4
3	Collaborate effectively with peers in brainstorming sessions and group projects, fostering an environment conducive to the exchange and development of innovative ideas.	A	2, 4, 7, 9
4	Reflect on personal creative processes and experiences, identifying strengths and areas for improvement, and integrating feedback to enhance creative thinking skills.	E	1, 10
5	Create original ideas and solutions through divergent thinking, as evidenced by generating a variety of innovative concepts in response to given prompts or problems.	C	1, 2, 4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Creative Thinking**			
	1.1	Defining creativity and its importance Dispelling myths about creativity (not a talent, a learnable skill) Exploration of different stages of the creative process - ideation, conceptualization, production, and refinement.	5	1, 2
	1.2	Identifying Creative Blocks - Recognize common barriers to creativity and their underlying causes. (e.g. fear of failure, negativity, perfectionism) Techniques for overcoming creative blocks and fostering a positive creative mindset.	10	1, 2
2	**Fuelling Your Imagination**			
	2.1	The Power of Observation - Techniques for mindful observation of the world around you. Activity - Observational drawing exercises to sharpen visual awareness.	10	2, 5
	2.2	Inspiration Everywhere - Identifying creative inspirations in unexpected places (e.g., nature, music, art history). Activity - Theme based mood board creation using diverse sources like paintings, photographs etc.	10	2, 5
3	**Thinking Outside the Box**			
	3.1	Divergent Thinking Techniques - Exploring methods like mind mapping, SCAMPER, random words, and role-playing to generate innovative ideas. Activity - Team-based brainstorming sessions with mind mapping, SCAMPER, lateral thinking and other techniques to an animation or VFX challenge. Convergent Thinking Techniques - Idea evaluation and Concept development using forced ranking, 5 whys, prototyping (sketches/storyboard or animatic) Giving and Receiving Creative Feedback - Strategies for constructive feedback that fosters creativity and builds a positive team environment.	15	1, 3, 4, 5

	3.2	**Course Wrap-Up and Project Submission** Student presentations, showcasing their developed creative concepts. Peer feedback and discussion on the presented ideas. Course wrap-up and student reflection on the creative development journey.	10	1, 3, 4, 5
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentation - Presentation slides can be used to introduce students to foundational theories, principles, and techniques of creative thinking. Instructors can incorporate multimedia presentations, real-world examples, and case studies to engage students and illustrate key concepts. ● Interactive Workshops - Conduct interactive workshops where students actively participate in hands-on exercises, group discussions, and brainstorming activities. These sessions can focus on practicing different creative thinking techniques, such as mind mapping, role-playing and SCAMPER. ● Guest Speakers - Invite guest speakers from various fields such as art, design, business, and technology to share their experiences with creative problem-solving and innovation. ● Field Trips and Experiential Learning - Organize field trips to creative spaces such as museums, art galleries, innovation centers, or design studios. Experiential learning opportunities allow students to observe, interact, and draw inspiration from real-world examples of creativity and innovation. ● Feedback - Incorporate regular feedback mechanisms such as peer review sessions, instructor feedback on assignments, and self-assessment activities. Constructive feedback helps students refine their creative ideas and improve their problem-solving abilities over time. Class critiques can be a powerful tool for fostering healthy debate and refining creative ideas.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Participation and Engagement	05
Creativity Exercises / Assignments	20
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Creative Project Presentation	20
Problem-Solving Analysis	15
Innovation and Originality	15
Total	50

Please refer the appendix for more details

References

1. Pressfield, Steven. *The War of Art: Break Through the Blocks and Win Your Inner Creative Battles*., 2012.
2. Muller-Roterberg, Christian. *Design Thinking for Dummies*. Wiley, 2021.
3. Michalko, Michael. *Thinkertoys*. Ten Speed Press, 8 June 2006.
4. Bayles, David. *ART & FEAR: Observations on the Perils (and Rewards) of Artmaking*. Image Continuum Press, 1 April 2001.

Mahatma Gandhi University Kottayam

Programme						
Course Name	ENTREPRENEURSHIP AND STARTUP					
Type of Course	VAC					
Course Code	MG4VACAVE200					
Course Level	200-299					
Course Summary	This course is designed to provide a comprehensive understanding of the intricacies involved in launching and managing a start-up. From the inception of a business idea to its sustainable growth, participants will explore the principles of entrepreneurship, strategic planning, marketing, and financial management. Through a combination of theoretical insights, practical exercises, and real-world case studies, this course aims to empower individuals to navigate the challenges and capitalize on opportunities within the dynamic landscape of start-ups.					
Semester	IV	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Authentic, Constructivist and Cognitive learning approach	2	0	1	0	60
Prerequisites, if any	Learning entrepreneurship and startup principles for media can be an exciting journey. Learners should familiarize themselves with the media industry, including different types of media (print, digital, social, etc.), current trends, and emerging technologies. Develop strong communication skills, both written and verbal. Effective communication is crucial in the media industry, whether dealing with team members, clients, or stakeholders.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall and identify fundamental concepts in start-up and business management, including planning, marketing, finance, and operations.	U	1, 2
2	Demonstrate the ability to apply start-up and business management principles to real-world scenarios, including business model development, marketing strategies, and financial planning.	A	1, 5, 10
3	Critically assess the feasibility of start-up ideas, analysing market trends, competition, and potential risks	An	1, 6
4	Assess the effectiveness of business strategies and financial decisions, considering both short-term and long-term implications.	E	1, 2, 10
5	Develop comprehensive business plans, marketing strategies, and financial models for successful start-ups.	C	1, 2, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Entrepreneurial Leadership and Innovation**			
	1.1	Introduction to entrepreneurship - Definition, roles and types. Innovation - Developing creative and innovative thinking skills. Ethical considerations in entrepreneurial leadership. What are Services and product businesses?	10	1, 2
2	**Strategic Entrepreneurship and Business Growth**			
	2.1	Strategic planning for entrepreneurial ventures. Company registration Capital calculation Market analysis and identifying opportunities for growth.	10	3
	2.2	Financial management and funding strategies for startups. VC, Seedfund, Bootstrapping, Crowdsourcing	10	3
	2.3	Scaling up and managing growth in entrepreneurial ventures. Principles of entrepreneurial marketing. Branding and positioning strategies for startups. Digital marketing and social media for entrepreneurs. Sales techniques and strategies for early-stage ventures. Customer relationship management and building a loyal customer base. Evaluating and adapting business models for sustainability.	15	4
3	**Regularities and compliances**			
	3.1	Taxes GST Invoices/Bills/Vouchers Licenses Import/exports Exit strategy Filings	15	3
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Lectures Presentations: Traditional classroom-style lectures to cover theoretical aspects. ● Interactive Workshops and Case Studies: Hands-on exercises, discussions, and analysis of real-world start-up cases. ● Guest Speakers and Industry Insights: Talks by successful entrepreneurs and industry experts sharing their experiences. ● Simulation Exercises: Engaging in business simulations to understand decision-making in a start-up environment.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments / Class test	05
Examinations x 2	10 x 2 = 20
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Written examination

Part	Pattern	Marks per Part	Choice of Questions	Total Marks
A	Short Answers	2 marks each	5 out of 7 questions	2 x 5 = 10
B	Short Essay	5 marks each	5 out of 7 questions	5 x 5 = 25
C	Essay	15 marks each	1 out of 3 questions	15 x 1 = 15
			Total	50

Please refer the appendix for more details

References

1. Ries, Eric. *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. Crown Business, 2011.
2. Thiel, Peter, and Blake Masters. *Zero to One: Notes on Startups, or How to Build the Future*. Currency, 2014.
3. Osterwalder, Alexander, and Yves Pigneur. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Wiley, 2010.
4. Blank, Steve, and Bob Dorf. *The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company.*
5. Christensen, Clayton M. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Harvard Business Review Press, 1997.*

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	INTERNSHIP					
Type of Course	INT					
Course Code	MG4INTAVE200					
Course Level	200-299					
Course Summary	An internship, or on-the-job training, enables the apprentice to acquire practical industry-based experience and helps them to assimilate professionalism in their career. Internships offer learners a period of practical experience in the industry relating to their field of study.					
Semester	IV	Credits			2	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
Pre-requisites, if any	To be eligible for a VFX and Animation internship, learners typically need a foundational understanding of animation principles and visual effects techniques.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains *	PO No
1	Apply theoretical knowledge in a practical, real-world setting, enhancing their professional competencies and technical skills.	A	1, 2, 5
2	Exhibit improved problem-solving abilities and critical thinking skills through the analysis and resolution of workplace challenges.	A	1, 2, 10
3	Develop and refine their communication and interpersonal skills, effectively collaborating with colleagues and stakeholders in a professional environment.	A	4, 5
4	Gain a clear understanding of industry standards and expectations, showcasing professionalism and readiness for full-time employment in their field of study.	E	1, 2, 4, 8, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

Teaching and Learning Approach	**Directions for the Internship** Internship is on the job training to assimilate professionalism in a career. Internships offer students a period of practical experience in the industry relating to their field of study. The students will have to undergo an Internship of minimum 30 days at an animation studio, a visual effects studio or a production house at the end of fourth semester. A faculty member will monitor the students during the internship. The students would prepare individual reports with a certificate from the organization under which the student did the internship. The Internship report should be verified, evaluated and attested by the faculty incharge and the Head of the Department.
Assessment Types	**MODE OF ASSESSMENT** **Continuous Comprehensive Assessment (CCA) only. (50 Marks)** The learner's performance, efforts and involvement throughout the internship, as well as their prompt completion and appropriate submission of the internship report, will be the basis for their evaluation.

References

1. Mruk, Christopher J. and Moor, John C. (2020). *Succeeding at Your Internship: A Handbook Written for and with Students*. Bowling Green State University Libraries.
2. Nathan Aston, Joshua. (2023) *Acing Internships - A Practical Guide*. Eastern Book Company.
3. Trujillo, Tammy. (2016). *Intern Insider: Getting the Most Out of Your Internship in the Entertainment Field*. Routledge
4. Floyd, Kory. Hammers, Michele. W Scott, Clifton. (2019). *The Communication Internship: Principles and Practices*. Kendall/Hunt Publishing Co.
5. K, Dr. Venkatesha. (2023) *Handbook on Internship.* Selfypage Developers Pvt Ltd.

SEMESTER V

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	3D CHARACTER ANIMATION					
Type of Course	DSC A					
Course Code	MG5DSCAVE300					
Course Level	300-399					
Course Summary	The 3D Character Animation course is a comprehensive exploration of the principles, techniques, and tools essential for creating compelling and realistic character movements in the digital realm. Through hands-on exercises and projects, students will refine their skills in keyframe animation, understanding the nuances of timing, spacing, and weight to bring characters to life. The course covers advanced topics such as facial animation, lip-syncing, and body mechanics, providing a holistic understanding of character performance.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Fundamental concepts and tools within 3D software, along with a comprehensive understanding of animation principles.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Explain the principles of animation, including squash and stretch, anticipation, and follow-through.	U	1, 2, 3
2	Demonstrate the use of keyframe animation to create basic character movements.	A	1, 2, 5
3	Analyse character animations to identify effective use of animation principles.	An	1, 2, 5, 10
4	Critique peers' character animations, providing constructive feedback on animation quality and technique.	E	1, 5, 10
5	Develop original character animations that showcase a variety of movements and expressions.	C	1, 2, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to 3D Animation**			
	1.1	**Terminology for 3D Animation** Timeline, keyframe, frame rate, poses, line of action and body mechanics.	1	1
	1.2	**Setting up for Animation** Tangents, Auto Key, Animation Start/End, Playback Start/End, Playback Speed etc.	1	1, 2
	1.3	Setting a key, creating a breakdown key, using set-driven keys, inserting a key, cutting a key, copying a key, pasting a key, pasting a connected key, deleting a key, snapping a key, character set, animation constraints, redirecting, and play blasting.	2	1, 2
	1.4	Principles of traditional animation applied to 3D computer animation.	5	1, 2
2	**Foundations of 3D Animation**			
	2.1	Create clear poses from reference images	1	2, 3
	2.2	Animation workflows, including the process of blocking out and refining shots.	3	2, 3
	2.3	Bouncing ball animation.	5	1, 2, 3
	2.4	Navigating the Graph Editor interface, understanding keyframe interpolation types (linear, stepped, spline) Comprehending animation curves in the Graph Editor Refining motion by editing animation curves Working with tangents and handles are essential skills.	5	1, 2, 3
3	**3D Character Animation**			
	3.1	Walk cycle by adding animation principles and incorporating body mechanics.	7	3, 4, 5
	3.2	Character running with attention to stride length, arm movements, and the overall dynamic motion associated with running.	7	3, 4, 5
	3.3	Character jumping and landing, emphasizing the take-off, mid-air position, and the controlled landing with proper weight distribution.	7	3, 4, 5
	3.4	Animates a character lifting an object from the ground, carrying it, and then setting it down, focusing on maintaining proper posture and balance.	7	3, 4, 5

4	**Advanced 3D Character Animation**			
	4.1	Create Simple dialogue presentation of a character.	4	3, 4, 5
	4.2	Create a conversation between two characters. Develop shots that cut together to tell a cinematic story.	8	3, 4, 5
	4.3	Illustrates characters engaging in combat or martial arts, focusing on realistic and well-coordinated movements, by adding animation principles and incorporating body mechanics. Live-action shooting - Capturing reference shots for character animation (if required).	12	3, 4, 5
5	**Teacher-specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training - The objective of classroom training is to equip students with animation skills. ● Flexibility - Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments - The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for animating characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Body mechanics	25
Acting skill	25
Technical Skill	10
Final Output	10
Total	70

Please refer the appendix for more details

References

1. Derakhshani, Dariush. *Introducing Autodesk Maya 2019*. Sybex, 2018.
2. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
3. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
4. Goldberg, Eric. *Character Animation Crash Course!* Silman-James Press, 2008.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ART OF MINIATURE PHOTOGRAPHY					
Type of Course	DSC A					
Course Code	MG5DSCAVE301					
Course Level	300-399					
Course Summary	This course aims to provide a comprehensive understanding of photography, with a focus on miniature photography. Students will gain practical skills in capturing creative and dynamic images in various scenarios.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	The course is meant to be accessible to individuals who are new to photography. A willingness to experiment with different camera settings, compositions, and subjects and to dedicate time to practice is crucial for skill development.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Identify key tools and equipment used in miniature photography.	K	1
2	Understand the historical evolution of miniature photography and its applications in various visual media.	U	1, 2
3	Implement camera settings and composition principles to capture compelling miniature photographs.	A	1, 2, 3, 4
4	Evaluate the effectiveness of different camera movements and angles in storytelling for miniature scenes.	An	1, 4
5	Create a final project that integrates advanced techniques demonstrating a mastery of the art of miniature photography.	C	1, 4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Foundations of Photography**			
	1.1	**Introduction to Photography** Overview of basic photography principles, including exposure, composition, and camera settings. Introduction to essential photography equipment and tools, including cameras, lenses, and lighting.	15	1
	1.2	**Miniature Photography Basics** Understanding the unique challenges and considerations when photographing miniatures. Learn techniques for maintaining realistic scale and proportion in miniature photography. Explore different lighting setups to enhance miniature scenes and create desired effects.	15	1, 2
2	**Cinematic Storytelling for Miniature Shooting**			
	2.1	**Camera Movement and Angles** Experiment with different camera movements and angles to enhance storytelling in miniature photography. Introduction to camera equipment like tripods, camera sliders etc. for shooting miniature sets	10	1, 2, 3, 4
3	**Camera Effects in Miniature**			
	3.1	**High-speed Cameras** Overview of high-speed cameras and equipment. Introduction to practical effects and techniques such as waves, wind, smoke etc. using high speed cameras. Experimenting with a high speed camera to capture a sense of realism to miniature.	10	3, 5
	3.2	**Forced Perspective** Explore the concept of forced perspective and its applications in miniature scenes. Learn how to create optical illusions and manipulate perception through forced perspective techniques. Explore post-processing techniques for miniature scenes. Experimenting with forced perspective.	10	3, 5

	3.3	**Time-Lapse Photography** Understand the principles of time-lapse photography. Learn techniques for planning and capturing time-lapse sequences. Develop skills in post-processing and editing time-lapse footage. Explore creative applications of time-lapse photography.	5	3, 5
4	**Polishing Touch**			
	4.1	**Post-Processing** Use of image editing tools in photography. Adjusting exposure, color, and contrast. Advanced editing techniques - selective adjustments, noise reduction. Creative editing for stylistic effects.	5	1, 5
	4.2	**Presentation and Critique** Students present their final series of miniature photographs. Class discussion and peer feedback.	5	1, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Technical demonstrations - Introduce the fundamental principles of photography, including composition, lighting, exposure, and depth of field. Guide students through camera settings, equipment recommendations. ● Guest speaker sessions (optional) - Invite established miniature photographers to share their creative process, technical expertise, and valuable insights. ● Miniature composition workshops - Guide students through arranging miniature sets, utilizing props and backgrounds to create compelling compositions with depth and perspective. ● Lighting techniques - Experiment with different lighting setups, including natural light, artificial lighting, and light modifiers, to achieve desired effects and moods. ● Shooting exercises - Provide students with opportunities to practice their photography skills in a controlled environment, receiving individual feedback and guidance.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components			Marks Distribution
1.	Assignments and Practical Exercises		
	a.	Miniature Photography Assignments	10
	b.	Forced Perspective Assignments	10
2.	Class Participation and Engagement		05
3.	Technical Skills and Improvement		05
		Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components			Marks Distribution
1.	Portfolio Submission		
	a.	Quality of Photographs	20
	b.	Variety and Technique	15
	c.	Portfolio review	15
2.	Viva-Voce		20
		Total	70

Please refer the appendix for more details

References

1. Freeman, Michael. *The Photographer's Eye: Composition and Design for Better Digital Photos.* ILEX, 11 June 2007.
2. Hunter, Fil, et al. *Light — Science & Magic: An Introduction to Photographic Lighting*, 6th ed., Routledge, 2021.
3. DeBaeremaeker, Dave. *From a Certain Point of View: A Guide to Miniature Photography.* February 12, 2024.
4. Vineyard, Jeremy, and Jose Cruz (Illustrator). *Setting Up Your Shots: Great Camera Moves Every Filmmaker Should Know*, Michael Wiese Productions, 1 July 2008.

5. Kenworthy, Christopher. *Master Shots Vol 1, 2nd edition: 100 Advanced Camera Techniques to Get An Expensive Look at Your Low Budget Movie*, Michael Wiese Productions, 2012.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ART OF STOP MOTION					
Type of Course	DSE					
Course Code	MG5DSEAVE300					
Course Level	300-399					
Course Summary	The course "Art of Stop Motion" is designed as a comprehensive journey into the captivating world of stop motion animation. With a focus on skill progression, this course is crafted to guide students from foundational knowledge to mastering advanced techniques, culminating in a collaborative group project that embodies their acquired expertise.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	The “Art of Stop Motion” course welcomes participants from all backgrounds with an eagerness to explore the captivating world of animation. While no specific prerequisites are mandatory, a basic understanding of visual storytelling, creative inclination, and an appreciation for meticulous craftsmanship can greatly enhance the learning journey. Familiarity with basic computer skills and an eye for detail would be beneficial, yet curiosity and a passion for the art of animation are the primary prerequisites.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Identify and recall the fundamental principles of frame-by-frame animation and storytelling in stop motion.	K	1
2	Explain the significance of timing, pacing, and sequencing in creating effective stop motion narratives.	U	1, 2
3	Apply basic stop motion techniques to create simple animated sequences using appropriate materials and equipment.	A	1, 10
4	Analyze and evaluate stop motion animations to identify elements of effective storytelling, animation principles, and technical execution.	An	1, 2
5	Develop collaborative group projects integrating multiple learned skills to produce a cohesive and engaging stop motion animation.	C	1, 10
****Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)***			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Stop Motion Animation**			
	1.1	History and evolution of stop motion animation. Explanation of basic stop motion techniques. Exploratory exercises using simple materials (e.g., clay, paper cutouts) to create short stop motion sequences. Analyzing and discussing classic stop motion films.	5	1, 2
	1.2	Workflow of stop motion animations Procedures and techniques Choosing camera, tripods, lights, software etc.	5	3, 4
	1.3	Preparation of script, storyboard, character designs etc. Character and props creation for stop motion animation Set designing, lighting and post production	5	3, 4
2	**Planning and Pre-production**			
	2.1	Creating a storyboard and script for a short stop motion project. Character design and development.	5	1, 3, 4
	2.2	Designing and crafting simple characters, props, and sets. Basics of set design, props, and scene construction.	15	5
3	**Production Techniques**			
	3.1	Understanding frame rates, timing, and movement in stop motion. Object manipulation, and character expressions. Lighting techniques and camera operation for stop motion.	10	1, 2
	3.2	Introduction to production software for stop motion. Hands-on exercises focusing on animation techniques and frame-by-frame movements. Experimenting with different lighting setups and camera angles.	10	3
4	**Post-production and Editing**			
	4.1	Editing techniques specific to stop motion. Editing and refining stop motion sequences using software.	10	2
	4.2	Incorporating sound effects, music, and voiceovers to enhance the animations.	10	3, 4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Live Demonstrations - Practical demonstrations of stop motion techniques, equipment usage, and software applications. ● Group Assignments - Facilitate group projects where students collaborate on creating a comprehensive stop motion animation applying learned skills. ● Feedback - Organize critique sessions where students present their work, receive constructive feedback, and engage in peer evaluations. ● Presentation Skills - Coach students on presenting their work confidently, articulating their creative process, and explaining technical aspects during the showcase.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Planning and Storyboarding	10
Technical Skills and Execution	10
Team Collaboration & Time Management	10
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Animated Film	40
Process Book	10
Viva-Voce	20
Total	70

Please refer the appendix for more details

References

1. Wells, Barry. *Basics Animation 03: Stop-motion.* AVA Publishing, 2008.
2. Borgenicht, David. *The Complete Idiot's Guide to Stop Motion Animation.* Alpha, 2011.
3. Sito, Tom. *Moving Innovation: A History of Computer Animation.* MIT Press, 2013.
4. Purves, Barry. *Stop Motion: Passion, Process and Performance.* CRC Press, 2008.
5. Beane, Angela. *The Art of Stop-Motion Animation.* Thomson Course Technology, 2007.
6. Freeman, Jane, and Roger Rosenblatt. *The Art of the Miniature: Small Worlds and How to Make Them.* Potter Craft, 2002.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ART OF MINIATURE FILMMAKING					
Type of Course	DSE					
Course Code	MG5DSEAVE301					
Course Level	300-399					
Course Summary	This course explores the creative and technical aspects of miniature filmmaking, focusing on the design, construction, and filming of miniature sets and characters. Students will learn to integrate miniature elements with various visual effects techniques. This subject will also introduce the student to the rich history of miniatures and its practical application in special effects for film at every level.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Proficiency in various artistic techniques such as shading, highlighting, blending, and detailing is essential for creating visually appealing miniatures. Familiarity with the materials used in miniature art, whether it's paints, clay, or other mediums, is important. Different materials may require different techniques and approaches.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall key concepts and terminology related to miniature film making. Recognize different techniques and tools used in creating miniature sets and props for films.	K	1, 2, 3
2	Interpret the significance of scale in miniature film making and its impact on storytelling. Explain the principles of composition and framing in miniature cinematography.	U	1, 2, 3, 6, 10
3	Demonstrate proficiency in constructing and designing miniature sets, props, and models for film scenes. Execute techniques for integrating live action footage with miniature elements seamlessly.	E	1, 2, 7
4	Design and execute original miniature film projects from concept to completion, demonstrating creative vision and technical skill. Innovate new techniques or applications for miniature effects in film.	C	1, 2, 10
5	Design and construct original miniature sets and models for film and television productions.	C	1, 2, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
	Introduction to Miniature Film Making			
1	1.1	Discuss the use of miniatures in special effects Application of miniature in film	3	1
	1.2	Discuss the advantages of using miniatures over CGI Analysis of famous films incorporating miniatures	3	1
	1.3	Introduction to basic concepts - scale, perspective, and illusion.	3	1
	Miniature Design and Construction			
2	2.1	Planning for miniature construction and set design.	3	2
	2.2	Making model miniatures using foam, wood, plastic, metal, glue etc.	8	2
	2.3	Painting the details on the models Building miniature structures and landscapes. Creating miniature props and objects	5	2
	Lighting for Miniatures			
3	3.1	Understanding the importance of lighting in miniature filmmaking Types of lighting sources and their effects on miniatures. Techniques for creating realistic lighting effects in miniature.	6	3
	3.2	Study of camera operation for miniature sets. Lighting setups for different miniature scenes.	8	3
	3.3	Camera operation and framing for miniature Shooting live action characters for miniature sets Experimenting with camera angles and movements for impact	8	3
	Visual Effects Integration			
4	4.1	Use of Special effects techniques for miniatures Editing and post-production for miniature films	8	4
	4.2	Combining live-action footage with miniature elements Visual effects integration	10	3, 4
	4.3	Final composite using compositing software's for keying, garbage matte, colour correction, colour grading, masks, Motion & Camera tracking and effects.	10	3, 4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations - Scheduled sessions where instructors discuss the importance of Miniatures in the VFX industry & discuss the importance of miniatures in compositing. Provide an overview of the course objectives and structure. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Feedback and Critique Sessions: Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Team Collaboration & Time Management.	10
Assessment of project milestones	10
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Planning and Storyboarding	10
Composition	20
Post-Processing	20
Viva-Voce + Record	20
Total	70

Please refer the appendix for more details

References

1. Howarth, Stephen Anthony. *Beyond The Moon: Over 35 Years Of Freelance Modelmaking, Propmaking & Sculpting for Industry, Film & Television Part Two*. 30 Nov. 2021.
2. Crabtree, Susan, and Peter Beudert. *Scenic art for the theatre*. Routledge, 2012..
3. Rizzo, Michael. *The art direction handbook for film*. Routledge, 2013.
4. Parry, Andrew. *Crafting Cinematic Worlds: A Guide to Building Miniatures for Movies*. 27 January 2024.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	3D CHARACTER CREATION					
Type of Course	DSE					
Course Code	MG5DSEAVE302					
Course Level	300-399					
Course Summary	"3D Character Creation" instructs students in the art of creating life like digital characters using industry-standard software. Covering anatomy, proportions, and detailing, this course emphasizes the creation of characters for animation, gaming, and other digital media applications through hands-on practice and creative exploration.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Foundational understanding of basic 3D software, anatomy, creativity, and artistic skills, along with some experience in basic 3D modelling.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Interpret the principles of character anatomy, proportion, and posing to create believable and aesthetically pleasing digital characters.	U	4, 5
2	Apply industry-standard software tools and techniques to model and texture 3D characters effectively.	A	1, 2, 4
3	Examine and critique 3D character models to identify areas of improvement in anatomy, topology, and visual appeal.	An	1, 2, 5, 10
4	Assess the effectiveness of character designs in meeting specified criteria, such as suitability for animation, gaming, or other digital media applications.	E	3, 9, 10
5	Generate original 3D character designs that demonstrate creativity, technical proficiency, and adherence to project requirements and artistic vision.	C	1, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to 3D Character Modelling**			
	1.1	Anatomy: Study of anatomy relevant to character modelling.	1	1
	1.2	Modelling of body parts (Ear, Mouth, Head, Hand, Leg, Torso, etc.)	18	3, 4, 5
2	**Biped Character Modelling**			
	2.1	Stylized Biped Character Modelling: Creating stylized characters involves exaggerating features, simplifying shapes, and applying unique artistic elements, resulting in distinctive and intentional appearance.	15	3, 4, 5
	2.2	Realistic Biped Character Modelling: Focus on creating 3D models of characters with a bipedal (two-legged) structure in a realistic manner.	20	3, 4, 5
	2.3	Blend Shape Creation: Creating blend shapes for facial expressions (smile, frown, blink, etc.).	3	1, 2
3	**Advanced Character Modelling**			
	3.1	Quadruped character modelling: The process of creating characters with a quadruped (four-legged) structure. This could involve modelling animals, creatures, or characters that walk on four legs.	15	3, 4, 5
	3.2	Cleanup: Is a crucial step to ensure that the final model is production-ready, with clean geometry, optimized topology, and polished details, ready for texturing, rigging, and animation.	1	4, 5
4	**Character Texturing**			
	4.1	UV Unwrapping Techniques: Exploring advanced UV unwrapping techniques for character models, understanding seam placement and cutting techniques, Introduction to UV islands and optimizing UV layout for texture resolution.	2	1, 2
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training - The objective of classroom training is to equip students with modelling and texturing skills. ● Flexibility - Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments - The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Topology and Mesh Quality	30
Attention to Detail	15
Technical skills	15
Presentation	10
Total	70

Please refer the appendix for more details

References

1. Maraff, Chris. *Maya Character Creation*. New Riders, 2003.
2. Ingrassia, Michael. *Maya for Games: Modelling and Texturing Techniques with Maya and Mudbox*. Routledge, 2008.
3. Mullen, Tony, and Claudio Andaur. *Blender Studio Projects: Digital Movie Making*. Wiley, 2010.
4. O'Neill, Rob. *Digital Character Development: Theory and Practice*. CRC Press, 2008.
5. Murdock, Kelly L. *Autodesk Maya 2020 Basics Guide*. SYBEX, 2020.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	SHOOTING TECHNIQUES FOR VFX					
Type of Course	DSE					
Course Code	MG5DSEAVE303					
Course Level	300-399					
Course Summary	By the end of the Shooting Techniques for VFx course, learners will have a solid grasp of the techniques needed for professional-level chroma keying. They'll know how to choose and set up the right equipment, including lighting and backgrounds, for effective chroma keying. Learners will become skilled in using keying software to handle challenges like color spill and blending edges.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Proficiency in operating cameras, including knowledge of manual settings, focus, aperture, shutter speed, and ISO. Basic knowledge of lighting techniques in film production, including natural and artificial lighting, and how it affects the visual elements of a scene. Understanding fundamental concepts of filmmaking, such as composition, framing, camera angles, and shot types.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall fundamental terminology related to cinematography and visual effects, including concepts such as green screen, tracking markers, and plate shots.	K	1, 2, 3
2	Understand the relationship between lighting, camera angles, and VFX elements to achieve realistic and cohesive results.	U	1, 2, 3
3	Demonstrate proficiency in using equipment and tools that enhance VFX acquisition, such as tracking markers and color charts.	A	1, 2, 7, 10
4	Design and execute original VFX-friendly shoots, showcasing creativity and technical competence.	C	1, 2, 7, 10
5	Create and execute a VFX shooting project, incorporating various techniques learned throughout the course.	C	1, 2, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
	Introduction to Shooting for VFX			
1	1.1	Introduction to Chroma Keying, Overview of Chroma Keying: Definition and Purpose, History and Evolution of Chroma Keying.	3	1
	1.2	Types of Chroma Keying (e.g., green screen, blue screen)	3	1
	1.3	Importance of Proper Lighting and Background	6	1
	Pre-production for VFX			
2	2.1	Components of a green matte studio, shooting with a single camera with green matte.	6	2
	2.2	Prepare a floor chart with flow of action, Movement, Camera set ups etc.	5	2
	2.3	Multi camera setup. Discuss motion control rigs and its application, Lighting techniques for effective keying.	5	2
	Green Screen and Blue Screen Techniques			
3	3.1	Modern day travelling mattes and how they work, Luma-Key matte, Difference mattes: Blue Screen matte, Green Screen mattes, shadow matting, Poorly lit green screens and its problems.	5	3
	3.2	Pulling the Mattes, Different types of Keyings, Matte Choker, Refine Soft Matte, Refine Hard Matte, Extract.	6	3
	3.3	Fine-tuning the key: spill suppression, edge blending, Dealing with challenging scenarios (Uneven lighting, transparent objects).	8	3
	Practical Effects and Project Development			
4	4.1	Shooting with track points & integrating live action characters.	12	4
	4.2	Integrating live action using chroma keying	8	4
	4.3	Working with static & Dynamic backgrounds.	8	4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Filmmaking Basics - Traditional classroom presentation for covering fundamental filmmaking concepts, camera operation, lighting techniques, and shot composition. ● Hands-on Camera Operation Workshops - Practical workshops where students learn to operate cameras effectively, adjust manual settings, and practice capturing different types of shots. ● Green Screen (Chroma Key) Practical Sessions - Hands-on sessions focused on shooting with green screens, including proper lighting setup and techniques for achieving clean keying in post-production. ● Previsualization Exercises - Assign exercises where students create storyboards and shoot plans for scenes with planned visual effects. Emphasize the importance of pre-visualizing how VFX elements will be integrated. ● Final Project - Assign a comprehensive final project where students plan, shoot, and integrate visual effects into a scene, applying all the skills learned throughout the course.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

Components	Marks Distribution
Assignments / Exercise	10
Planning and Storyboarding	10
Assessment of project milestones	10
Total	**30**

B. Semester End Semester Evaluation (ESE) - 70 Marks

Project evaluation and viva voce

Components	Marks Distribution
Composition	20
Creativity	15
Post-Processing	20
Viva & Record	15
Total	**70**

Please refer the appendix for more details

References

1. Elsaadany, Ahmed. "DOP's Technical Plan to Produce the VFX Cinematic Image." *Journal of Design Sciences and Applied Arts* 4.2 (2023): 508-523.
2. Byrne, Bill. *The visual effects arsenal: VFX solutions for the independent filmmaker*. CRC Press, 2012.
3. Zhang, Jianfeng. "Application analysis of special effects technology in film and television post-production." *Frontier Computing: Proceedings of FC 2020*. Springer Singapore, 2021.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	RIGGING FOR ANIMATION					
Type of Course	DSE					
Course Code	MG5DSEAVE304					
Course Level	300-399					
Course Summary	Comprehensive character rigging course covers essential techniques, from basics to advanced, equipping students to create realistic and expressive character rigs.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Understanding of fundamental concepts and tools in 3D software.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Explain the significance of proper rigging techniques in facilitating realistic movement and expression for animated characters.	U	1, 2, 4
2	Apply rigging tools and techniques to create functional character rigs, demonstrating proficiency in joint placement, weight painting, and control setup.	A	4, 5
3	Evaluate the effectiveness of different rigging solutions for specific character designs, considering factors such as range of motion, deformation, and ease of animation.	An	1,3, 9, 10
4	Critically assess the functionality and usability of created character rigs through testing and feedback, refining rigs based on performance and animator input.	E	1, 2, 5, 10
5	Develop original character rigs that meet project requirements, integrating advanced features such as facial rigs, stretchy limbs, and custom control setups.	C	1, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Rigging**			
	1.1	Understanding various joint types, analysing limitations and ranges of motion in joints, and applying this knowledge in rigging contribute to achieving realistic movement.	1	1
	1.2	Conducting an in-depth study of facial muscles and expressions, understanding the anatomy of the eyes, mouth, and nose, and applying this knowledge in facial rigging are essential components of the course.	1	1
	1.3	Skeleton creation, naming joints, organising joint hierarchies, Orienting joints, Mirroring joints, Utilization of Inverse Kinematics (IK) and Forward Kinematics (FK), Rig controls, Management of attribute controls, Various types of constraints, Locking and hiding animation channels, Custom attributes, Connection Editor, Set Driven Keys, Connecting various attributes.	5	1,2
2	**Foundations of 3D Rigging**			
	2.1	Creating rigs for objects (props) and covers topics such as deformers.	6	2,5
	2.2	Study of expressions and basic scripting for rigging.	6	2, 3
3	**Biped Character Rigging (Robotic, Cartoonish, and Realistic)**			
	3.1	**Skeleton Setup** Creating a hierarchical structure of joints that mimic the bones of the character. This involves setting up joints for the spine, legs, arms, neck, and other body parts.	14	2, 3,5
	3.2	**Control Systems** Designing user-friendly control systems, often represented by on-screen manipulators, to simplify the animation process. This includes an in-depth study of IK/FK switching methods, applying different types of constraints, creating space switches and dynamic parenting, and advanced control setups such as stretchy limbs and bendy controls.	14	2, 3,4,5
	3.3	**Facial Rigging** Creating controls for facial expressions, mouth movements, eye blinks, and other facial animations. Implementing controls for mouth and tongue movement. And the use of blend shapes.	14	2, 3,4,5
	Skinning			

4	4.1	Introduction to Skinning: Binding the mesh to the skeleton.	3	1,2,3,
	4.2	Binding skin, unbinding skin, interactive/smooth binding, controlling skin weights, painting skin weights, editing skin weights in the component editor, mirroring skin weights, and copying skin weights.	8	3, 4, 5
	4.3	Finalizing and Testing the Rig: Cleaning up the rig by removing unnecessary nodes and history. Rig testing: Ensuring the rig works correctly under various poses and animations.	3	3, 4, 5
5	**Teacher-specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training - The objective of classroom training is to equip students with rigging skills. ● Flexibility - Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments - The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for rigging characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Skeleton Structure	15
Control Systems	20
Skinning and Deformations	15
Technical Skill	10
Final Output	10
Total	70

Please refer the appendix for more details

References

1. Rodriguez, David. *Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya*. Createspace Independent Publishing Platform, 2013.
2. Mullen, Tony, and Claudio Andaur. *Blender Studio Projects: Digital Movie Making*. Sybex, 2010.
3. Cabrera, Cheryl. *Maya Character Rigging*. Focal Press, 2008.
4. O'Hailey, Tina. *Rig it Right!: Maya Animation Rigging Concepts*. CRC Press, 2024.
5. Stripinis, David. *The MEL Companion: Maya Scripting for 3D Artists*. Charles River Media, 2003.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED MATTE PAINTING FOR VFX					
Type of Course	DSE					
Course Code	MG5DSEAVE305					
Course Level	300-399					
Course Summary	This course will introduce the students to the art and craft of painting techniques like matte painting and digital paint effects with the help of display tablets. Students apply this technique to recreate realistic or dreamscapes and textures for 3D models. Emphasis is on learning how to use a graphic pen tablet which has become popular in the industry.					
Semester	V	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Strong traditional drawing and painting skills form the basis of creating realistic and detailed matte paintings. Proficiency in industry-standard software, such as Adobe Photoshop, is a must. The ability to analyze and use photographic references is important for creating realistic textures and details. Familiarity with basic 3D concepts and tools is beneficial as matte painters often collaborate with 3D artists to integrate virtual elements seamlessly.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Analyze and deconstruct complex scenes to identify opportunities for matte painting, and visual storytelling elements to effectively contribute to the overall visual design of a project.	A	1
2	Apply advanced matte painting techniques using industry-standard software tools to seamlessly blend live-action footage with digitally painted elements.	A	2
3	Evaluate the diverse scenarios and consider factors such as scene complexity, integration with live-action elements, and adherence to project specifications.	E	1, 2, 7, 10
4	Generate high-quality, photorealistic matte paintings for use in film, television, or gaming, showcasing the ability to create immersive environments that seamlessly integrate with live-action footage.	E, C	2, 10
5	Design and create original matte paintings for complex VFX sequences, incorporating advanced digital painting techniques.	C	1, 2, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Advanced Matte Painting**			
	1.1	Overview of Matte Painting in VFX: History, evolution, and relevance in the VFX industry.	3	1
	1.2	Role of Matte Painting in Film Production. Understanding how matte painting fits into the larger VFX pipeline.	3	1
	1.3	Industry Standards and Tools: Introduction to software tools such as and 3D applications commonly used in matte painting.	3	1
2	**Matte Painting with Live Action Footage**			
	2.1	Analysing Live-Action Plates: Understanding camera angles, perspective, lighting conditions, and colour grading in live-action footage.	5	2
	2.2	Plate Cleanup and Integration: Techniques for cleaning up plates and preparing them for matte painting.	5	2
	2.3	Introduction to 3D Integration: Basics of integrating 3D elements into matte paintings.	5	2
3	**Matte Painting with 3D Integration**			
	3.1	Camera projection techniques for matte painting.	5	3
	3.2	Advanced projection mapping for complex surfaces Techniques for matching lighting and perspective between 2D and 3D elements.	8	3
	3.3	Integrating 3D elements into matte paintings, Creating sky mattes. Static matte and motion matte painting.	8	3
4	**Matte Painting for Different Genres**			
	4.1	Uses different types of lighting and their impact on matte paintings. Advanced lighting setups to enhance mood and storytelling.	10	3, 4
	4.2	Urban environments: Cityscapes, skyscrapers, streets, etc. Natural environments: forests, mountains, lakes, etc.	10	3, 4, 5
	4.3	Integrating matte paintings with animated characters and objects.	10	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations: Scheduled sessions where instructors discuss the importance of matte painting in the VFX industry. Provide an overview of the course objectives and structure. ● Hands-On Workshops: Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments: Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback and Critique Sessions: Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths. ● Portfolio Development and Presentations: Guiding students on curating their best works into a cohesive and professional digital art portfolio. Showcase a range of projects that highlight your versatility and skills. Include personal projects, freelance work, and any relevant collaborations

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments / Exercise	10
Examination x 2	20
Total	**30**

B. Semester End Semester Evaluation (ESE) - 70 Marks

Practical examination

ESE Components	Marks Distribution
Composition	20
Tool Usage and Accuracy	10
Technical Skill	10
Final Output	30
Total	**70**

Please refer the appendix for more details

References

1. Mattingly, David B. *Digital Matte Painting: Techniques, Tips, and Tricks*. Sybex, 2011.
2. Mattingly, David B. *The Digital Matte Painting Handbook*. Sybex, 2011.
3. Zhong, Mengxue. "Study of digital painting media art based on wireless networks." *Wireless Communications and Mobile Computing* 2021 (2021): 1-11.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	MASTERING PRODUCTIVITY TOOLS					
Type of Course	SEC					
Course Code	MG5SECAVE300					
Course Level	300-399					
Course Summary	This course equips the learner with skills in document creation, data visualization, multimedia presentations, information gathering skills and foster collaboration, allowing students to work together on projects, share feedback and information seamlessly that empowers students to excel in academic pursuits.					
Semester	V	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	Mastering productivity tools requires a foundational understanding of basic computer operations and familiarity with web browsers, online search techniques, and basic internet navigation.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall and identify the key features and functions of common productivity tools	K	1
2	Explain the principles and concepts underlying various productivity tools, including their purpose and how they contribute to efficient work processes.	U	1, 2, 9
3	Demonstrate the practical application of productivity tools in real-world scenarios, including creating documents, managing tasks, and organizing information effectively.	A	4, 9, 10
4	Develop customized solutions using productivity tools, such as creating complex spreadsheets, communicating ideas, information, and insights clearly.	C	1, 2, 4, 9, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Fundamentals of Productivity Tools**			
	1.1	**Introduction to Productivity Tools** Understanding the concept of productivity tools Overview of popular productivity suites like Google Workspace	5	1, 2
	1.2	**Mastering Document Creation & Formatting** Advanced formatting techniques in Docs (Styles, Headers/Footers, Tables of Contents) Collaboration features: Track changes, comments, suggestions, real-time editing Building professional templates for recurring documents (e.g., reports, letters) Managing user permissions for Docs	10	1, 2, 3, 4
2	**Power Up Your Spreadsheets**			
	2.1	**Advanced Functions & Formulas** Conditional formatting for data visualization and highlighting trends Google sheet functions and formulas for data analysis (VLOOKUP, INDEX MATCH, SUMIFS) Building dynamic charts and graphs with custom formatting Pivot tables for data summarization and analysis AI assisted formulas	15	1, 2, 3, 4
	2.2	**Data Analysis & Automation** Using Google Sheets as a database for efficient data management Creating interactive dashboards for data visualization	10	1, 2, 3, 4
3	**Compelling Presentations & Effective Forms**			
	3.1	**Design & Storytelling in Slides** Mastering advanced slide layouts and transitions Integrating multimedia elements for engagement Designing visually appealing presentations with effective storytelling techniques	10	1, 2, 3, 4
	3.2	**Building Powerful Google Forms** Utilizing different question types (multiple choice, dropdown, Likert scale) Collecting data and analyzing responses using built-in form analytics Integrating forms with Sheets for automatic data organization	10	1, 2, 3, 4
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - Explaining key concepts and demonstrating tools. ● Hands-on Workshops - Practical exercises to apply concepts in real-world scenarios. ● MCQ Test - Assessments to gauge understanding and retention using Google forms. ● Group Projects - Collaborative tasks to enhance teamwork and application of tools.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	05
Examinations x 2	10 x 2 = 20
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Practical examination

ESE Components	Marks Distribution
Technical Knowledge	30
Task Completeness	10
Time Management	10
Total	50

Please refer the appendix for more details

References

1. Lamont, Ian. *Google Drive & Docs In 30 Minutes: The Unofficial Guide to Google Drive, Docs, Sheets & Slides*. January 26, 2021.
2. Bernstein, James. "Google Apps Made Easy: Learn to Work in the Cloud." *Productivity Apps Made Easy*, vol. 3, 6 March 2019.
3. Google Workspace official tutorials https://support.google.com/a/users/?hl=en

SEMESTER VI

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	DYNAMIC SIMULATIONS					
Type of Course	DSC A					
Course Code	MG6DSCAVE300					
Course Level	300-399					
Course Summary	This course is meant to introduce the students to the possibilities of using dynamic simulation in movies and animation projects.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Basic working knowledge of 3D softwares, Collision Dynamics: Knowledge of how collisions are modeled and resolved in dynamic simulations. Friction and Resistance: Understanding the impact of friction and resistance on the motion of objects.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recall and identify fundamental concepts and terminology related to dynamic simulations.	K	1
2	Demonstrate a foundational understanding of the principles behind dynamic simulations, including Newtonian physics, kinematics, and dynamics.	U	1, 2
3	Apply basic dynamic simulation techniques using industry-standard software tools to create simple animations and simulations.	U	1, 2, 5, 7
4	Generate virtual environments, demonstrating proficiency in setting up and executing simulations that enhance the visual and interactive aspects of digital content.	C	1, 2, 10
5	Generate various simulation domains, such as particle systems, rigid bodies, and soft bodies, to create more complex and integrated dynamic simulations that mimic diverse real-world scenarios.	C	1, 2, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Dynamic Simulations**			
	1.1	What is dynamic simulation?	3	1
	1.2	Discuss the application of dynamic simulation in animation movies and visual effects.	3	1
	1.3	Different types of forces involved in Dynamics. Uses of particle system, fluid system, cloth simulations, hair simulations, constraints. etc	3	1
2	**Particle system and fluid system**			
	2.1	What is a particle system? Study of Particles: Emitters and Particle collisions, Simulating water using particles.	6	2
	2.2	Applying fluid behaviour to particles to create ink or dust-like effects, Using basic effects, Basic rendering	8	2
	2.3	Animating particles, Render the particles, Goals, Multiple goals, Particle instance.	8	2
3	**Fluid Dynamics and Soft Body Dynamics**			
	3.1	Fluid container system, Boat in ocean and Ponds, Wake creation.	8	3
	3.2	Ocean System and boat simulation, Difference between Soft and Rigid Bodies.	6	3
	3.3	Uses of Rigid bodies, Rigid body constraints, Edit rigid body constraints, Springs, Soft and rigid body limitations, Edit rigid body attributes.	6	3
4	**Cloth and Rendering**			
	4.1	Introduction to Cloth, Cloth constraint. Introduction to Hair system. Connecting basic body with Cloth and Hair.	8	3, 4
	4.2	Basic rendering Using plugins.	8	4, 5
	4.3	Rendering with sky dome light and Image based rendering.	8	4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations - Scheduled sessions where instructors discuss the importance of dynamics simulations in CG. Provide an overview of the course objectives and structure. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths. ● Portfolio Development and Presentations - Guiding students on curating their best works into a cohesive and professional digital art portfolio

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Technical Execution	30
Attention to Detail	15
Creativity and Originality	25
Total	70

Please refer the appendix for more details

References

1. Palamar, Todd. *Maya Studio Projects: Dynamics*. John Wiley & Sons, 2009..
2. Keller, Eric. *Maya visual effects: the innovator's guide*. John Wiley & Sons, 2007.
3. Bridson, Robert. *Fluid simulation for computer graphics*. CRC press, 2015.
4. Murdock, Kelly. *Autodesk Maya 2019 Basics Guide*. SDC Publications, 2018.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED LIGHTING AND RENDERING					
Type of Course	DSC A					
Course Code	MG6DSCAVE301					
Course Level	300-399					
Course Summary	This course covers advanced techniques in lighting and rendering for 3D graphics. Students will learn to create realistic and stylized lighting, master rendering settings, and use global illumination, HDRI, and advanced shaders. Practical projects will focus on achieving high-quality visuals in various environments and styles.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Fundamental lighting and rendering concepts, proficiency with rendering engines, and familiarity with shaders and computer graphics principles.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Explain and summarize the principles behind advanced lighting and rendering techniques.	U	1, 2, 3
2	Implement advanced lighting and rendering techniques using appropriate software tools.	A	1,3, 2, 5
3	Examine and differentiate between various lighting and rendering methods in terms of their applications and outcomes.	An	1, 2, 5, 10
4	Critique and assess the effectiveness and efficiency of different lighting and rendering techniques.	E	1,3, 5, 10
5	Design and develop innovative solutions and new techniques for advanced lighting and rendering challenges.	C	1, 2,3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Fundamentals of Advanced Lighting**			
	1.1	**Introduction to Advanced Lighting Concepts:** covering the basic principles of light in 3D environments, exploring different light types, understanding 3-point lighting concepts, delving into computer-generated imagery (CGI), and learning the effective use of key light, fill light, and back light.	3	1, 2
	1.2	**Global Illumination and Indirect Lighting:** Global illumination (GI) and its significance, Setting up and configuring GI.	1	1, 2
	1.3	**HDRI Lighting :** Introduction to High Dynamic Range Imaging (HDRI), Using HDRI maps for realistic scene lighting, Setting up and configuring HDRI lighting.	1	1, 2
	1.4	**Mini Project:** Light a room scene using different light types and GI	12	3, 4, 5
2	**Advanced Rendering Techniques**			
	2.1	**Introduction to Advanced Rendering:** Overview of rendering engines in 3D Software, Differences between software rendering, hardware rendering, and plugin-based rendering, Basic Render settings and workflows.	2	1, 2
	2.2	**Ray Tracing and Path Tracing:** Fundamentals of ray tracing and path tracing, Configuring for ray tracing and Setting up path tracing for realistic renders.	2	1, 2
	2.3	**Advanced Shading and Texturing:** Creating and applying advanced shaders, Understanding shader networks and nodes, Integrating 3D painting Software for detailed texturing.	2	1, 2
	2.4	**Mini Project:** Render a photorealistic object using advanced shaders and textures.	12	3, 4, 5
3	**Pass Rendering and Compositing**			
	3.1	**Introduction to Pass Rendering:** Understanding the concept and importance of render passes, Types of render passes: Diffuse, Specular, Ambient Occlusion, Depth, etc. Setting up render layers and passes.	2	1, 2

	3.2	**Advanced Pass Rendering Techniques:** Customizing and optimizing render passes for specific needs, Generate and manage multiple passes, Exporting and organizing render passes for post-processing.	2	1, 2
	3.3	**Compositing:** Techniques for combining render passes to achieve a final image, Basic color correction and grading.	1	1, 2
	3.4	**Mini Project:** Render and composite a complex scene using multiple passes.	12	3, 4, 5
4	**Batch Rendering**			
	4.1	**Batch Rendering Techniques:** Introduction to batch rendering and its benefits, Setting up batch rendering in 3D Software, Automating render processes with MEL and Python scripting.	1	1, 2
	4.2	**Optimizing Rendering Performance:** Techniques for reducing render times and optimizing performance, Balancing quality and performance in complex scenes, Render Setup and AOVs (Arbitrary Output Variables).	2	1, 2
	4.3	**Specialized Lighting and Rendering Techniques:** Volumetric lighting and fog effects, Caustics and subsurface scattering, Advanced light linking and exclusion techniques.	5	1, 2
	4.4	**Project:** Students create a short, rendered animation or a highly detailed still image.	15	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training: The objective of classroom training is to equip students with lighting and rendering skills. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for lighting and rendering. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Texturing	20
Lighting	20
Rendering	20
Final Output	10
Total	70

Please refer the appendix for more details

References

1. Palamar, Todd. *Mastering Autodesk Maya 2024: Autodesk Official Press*. CADCIM Technologies, 8 April 2020.
2. McKinley, Michael. *Maya Studio Projects: Game Environments and Props*. Sybex, 2010.
3. Ahearn, Luke. 3D Game Environments: Create Professional 3D Game Worlds. Routledge, 2018.
4. Ingrassia, Michael. *Maya for Games: Modelling and Texturing Techniques with Maya and Mudbox*, 1st Edition. Routledge, 2008.
5. Birn, Jeremy. Digital Lighting and Rendering. New Riders, 2013.
6. Crowder, Sammie. Shading, Lighting, and Rendering with Blender EEVEE. Packt Publishing Limited, 2022.
7. Lanier, Lee. Advanced Maya Texturing and Lighting. Sybex, 2015.
8. Lanier, Lee. Aesthetic 3D Lighting: History, Theory, and Application. Routledge, 2018.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED 2D ANIMATION					
Type of Course	DSE					
Course Code	MG6DSEAVE300					
Course Level	400-499					
Course Summary	Advanced 2D Animation delves into sophisticated animation techniques, character design, and storytelling, equipping students with the skills to create dynamic and professional-quality animations.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Prerequisites for Advanced 2D Animation include a foundational understanding of basic animation principles, proficiency in relevant software, and experience in character design and storytelling.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Execute advanced background animation, employing techniques such as parallax scrolling, atmospheric effects, and dynamic camera movements, to create immersive and visually captivating environments	A	2, 4
2	Analyze and critique animated sequences to identify areas of improvement and ensure high-quality outcomes.	An	1, 2
3	Analyze and interpret storyboards to effectively translate static frames into compelling and cohesive animated sequences, ensuring continuity and visual storytelling integrity.	An	1, 2
4	Produce animatics with sound, effectively integrating audio elements to enhance storytelling, pacing, and emotional impact, showcasing mastery in synchronizing animation with sound design	E	3, 4, 5
5	Apply advanced character animation techniques, incorporating animation principles, demonstrating proficiency in creating lifelike and expressive character movements	C	2, 3, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Advanced Character Animation**			
	1.1	**Complex Character Movements** Animating advanced movements (e.g., dancing, fighting). Secondary actions and follow-through.	10	2
	1.2	**Emotional Animation** Conveying emotions through animation. Facial expressions and body language.	5	5
	1.3	**Character Interaction** Animating multiple characters interacting. Staging and composition for interactions.	5	2
2	**Animatics with Sound**			
	2.1	**Introduction to Animatics** Purpose and importance of animatics in animation production. Differences between storyboards and animatics.	10	4
	2.2	**Sound Integration** Adding background music, sound effects and dialogue. Syncing animation with sound.	5	4
	2.3	**Lip Sync Animation** Basics of phonemes and mouth shapes. Techniques for accurate lip syncing. Synchronizing lip movements with dialogue.	10	4
3	**Advanced Background Animation**			
	3.1	**Dynamic Backgrounds** Animating backgrounds (e.g., moving landscapes, changing weather). Creating mood and atmosphere through backgrounds.	5	1
	3.2	**Camera Movements** Simulating camera movements. Parallax effects and depth of field.	5	1
	3.3	**Background-Character Integration** Ensuring seamless integration of animated backgrounds and characters. Advanced techniques for consistency and continuity.	5	1
4	**Storytelling and Directing Animation**			
	4.1	**Storyboarding** Translating storyboards into animation.	10	3
	4.2	**Editing and Finalizing** Editing techniques for animation. Final touches and exporting.	5	3
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstrations - Begin with live demonstrations of advanced techniques such as secondary action, overlapping action, and complex character rigs. ● Hands-on Workshops - Conduct workshops where learners practice creating sophisticated character animations, with real-time feedback and personalized guidance. ● Practical Exercises - Assign tasks where learners create animatics with sound, focusing on narrative enhancement and emotional impact. ● Demonstrations - Conduct live demonstrations on creating parallax effects, animating environmental elements, and integrating backgrounds with character animation. ● Practical Projects - Have learners create storyboards and then translate them into animated sequences, emphasizing continuity and coherence. Provide iterative feedback through each stage of the project. ● Guest Lectures - Invite industry professionals to share insights and experiences, offering learners a real-world perspective on advanced 2D animation techniques.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Application of Animation Principles	20
Technical Execution	20
Creativity and Originality	20
Time Management and Completeness	10
Total	70

Please refer the appendix for more details

References

1. Williams, Richard. *The Animator's Survival Kit.* Faber and Faber, 2009.
2. Beck, Jerry. *The Animated Movie Guide.* Chicago Review Press, 2005.

3. Lasseter, John, and Steve Daly. *The Art of 2D Animation.* Chronicle Books, 2009.
4. Williams, Joseph Labrecque, and Rob Schwartz. *Adobe Animate Classroom in a Book (2021 release)*. Peachpit Press, 2021.
5. Blanc, Jean-Gabriel. *Animated Storytelling: Simple Steps for Creating Animation and Motion Graphics.* Peachpit Press, 2015.
6. Hoisington, Corinne. *Adobe Animate CC: The Basics*. Cengage Learning, 2016.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	MATCH MOVING TECHNIQUES					
Type of Course	DSE					
Course Code	MG6DSEAVE301					
Course Level	300-399					
Course Summary	This course introduces students to the fundamental principles and techniques of match moving, a crucial skill in visual effects production. Students will learn how to track camera movements and integrate 3D elements seamlessly into live-action footage.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, constructivist and cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Knowledge of composition and framing helps in capturing footage that is suitable for match moving.Basic knowledge of 3D graphics concepts, including coordinate systems, transformations, and rendering, is beneficial. Understanding image and video processing techniques, such as color correction and image manipulation, is helpful in preparing footage for match moving.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall and identify fundamental concepts and terminology related to match moving, including key terms such as tracking, camera calibration, and object tracking.	K	1, 2
2	Apply match moving techniques to real-world scenarios by utilizing industry-standard software and tools to track cameras, objects, and scenes accurately.	A	1, 2
3	Evaluate the effectiveness of different match moving approaches and algorithms in diverse situations, considering factors such as scene complexity, lighting variations, and camera movement.	E	2, 5
4	Generate accurate and visually compelling match moves for integration with computer- generated elements, showcasing the ability to seamlessly blend virtual and real elements in visual effects and animation projects.	C	10
5	Create and execute match moving projects that involve integrating CG elements into live-action footage.	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Match Moving**			
	1.1	Overview of match moving in visual effects, Importance of match moving in film and television production.	3	1
	1.2	Brief history and evolution of match moving technologies, Introduction to basic concepts: tracking, camera solve.	3	1
	1.3	3D tracking and object tracking.	6	1
2	**Object Tracking and Match Moving Techniques**			
	2.1	Overview of different tracking software, 3D tracking and solving a camera, Incorporating 3D geometry into scenes.	5	2
	2.2	Solving for object motion and camera tracking simultaneously.	5	2
	2.3	Tracking moving objects and characters	5	2
3	**Integration with 3D Software**			
	3.1	Rendering techniques for seamless integration, Multi-pass rendering workflow to support advanced post and compositing.	8	3, 4
	3.2	Multipass - Specular pass, Diffuse pass, Occlusion pass, Shadow pass, Reflection pass, Composite different passes.	6	3, 4
	3.3	Creative control of passes using image blend modes and colour correction techniques.	5	3, 4
4	**Integration with Live Action Footage**			
	4.1	Composite live action set with 3D characters in matchmove, creating a composite shot with match moved elements.	5	4, 5
	4.2	3D match moving and integration of a 3D model into live-action footage.	12	4, 5
	4.3	Integration of CG elements into live-action footage.	12	4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations - Scheduled sessions where instructors cover theoretical aspects, history, and foundational concepts of 3D compositing And detailed study about 3d compositing softwares. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths. ● Portfolio Development and Presentations - Guiding students on curating their best works into a cohesive and professional digital art portfolio.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Assessment of project milestones	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

Project evaluation and viva voce

ESE Components	Marks Distribution
Composition	20
Creativity	20
Post-Processing	20
Viva	10
Total	70

Please refer the appendix for more details

References

1. Dobbert, Tim. *Matchmoving: The Invisible Art of Camera Tracking*. Sybex, 9 November 2012.
2. Brinkmann, Ron. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics.* Morgan Kaufmann, 2008.
3. Okun, Jeffrey A. VES (Editor), and Susan Zwerman VES (Editor). *The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures*, 2nd ed Routledge, 2014.
4. Katatikarn, Jasmine, and Michael Tanzillo. *Lighting for Animation: The Art of Visual Storytelling*. Routledge, 1 July 2016.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ANIMATION SHORT FILM					
Type of Course	DSE					
Course Code	MG6DSEAVE302					
Course Level	300-399					
Course Summary	This course places a strong emphasis on the planning, production, and post-production phases, ensuring that learners undergo a thorough review process at each stage to refine their work and align it with the project's goals.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	An artistic skill and ability is beneficial, especially if the animation involves hand-drawn or digital illustrations. Basic drawing skills can contribute to effective character design and scene creation. Familiarity with the chosen animation software and basic understanding of their features and functionalities.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Apply advanced principles of animation, including timing, spacing, and motion dynamics, to create lifelike and expressive animated sequences	A	1, 2
2	Analyze complex animation sequences and storyboards to identify underlying themes, techniques, and stylistic choices that contribute to the overall impact of an animation film.	An	1,2
3	Synthesize multiple elements of animation including character design, sound design, and visual effects to produce a cohesive and engaging narrative.	C	3, 10
4	Evaluate the effectiveness of various animation techniques and storytelling methods by critically analyzing both peer and professional works, providing constructive feedback and identifying areas for improvement.	E	1, 2, 10
5	Create a polished and professional-quality short animation film, demonstrating mastery of advanced animation techniques and storytelling skills.	C	4, 6, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Project Planning and Concept Development**			
	1.1	**Project Brief** Reviewing the provided project brief and identifying key objectives, and time constraints. Conducting research and gathering inspiration to inform the animation's visual style, themes, and overall direction.	5	1, 2
	1.2	**Developing a Concept and Storyboarding** Brainstorming and refining ideas to create a solid concept for the animation project. Creating a detailed storyboard to visualize the sequence of events and key moments in the animation.	10	2, 3
2	**Pre-production Review and Asset Preparation**			
	2.1	**Storyboard Review and Asset Planning** Critically reviewing and refining storyboards based on feedback and ensuring alignment with the project goals. Identifying and listing the required assets (characters, backgrounds, props) and planning for their creation.	10	2, 3
	2.2	**Character Design and Animatics Creation** Designing characters for animation, considering the project's style and requirements. Assembling the storyboard into rough animatics to preview the pacing and flow of the animation.	5	3
3	**Production**			
	3.1	**Production Review and Iterative Feedback** Regular reviews of the animation progress, addressing any issues, refining animations, and ensuring consistency with the project vision.	30	4, 5
4	**Post-production and Finalization**			
	4.1	**Editing and Sound Design** Reviewing the animation for pacing, timing, and overall flow, making adjustments as needed. Incorporating audio elements, such as voice overs, music, and sound effects, to enhance the storytelling.	10	5
	4.2	**Final Review and Feedback** Conducting a comprehensive review of the completed animation, addressing any remaining issues and ensuring alignment with the initial concept. Finalizing the animation by exporting it in the desired format.	5	5

5	**Teacher Specific Content**	

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Project Briefing - Detailed explanation of the animation project, including goals, constraints, and assessment criteria. ● Industry Professionals - Invited speakers from the animation industry providing insights and sharing experiences.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Planning and Storyboarding	10
Technical Skills and Execution	10
Time Management	10
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Animated Film	40
Process Book	10
Viva-Voce	20
Total	70

Please refer the appendix for more details

References

1. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
2. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
3. Halas, John, and Harold Whitaker. *Timing for Animation*. Focal Press, 2009.
4. Webster, Ian. *Physics for Animators*. Taylor & Francis, 2013.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	VFX SHORT FILM					
Type of Course	DSE					
Course Code	MG6DSEAVE303					
Course Level	300-399					
Course Summary	This course places a strong emphasis on the planning, production, and post-production phases, ensuring that students undergo a thorough review process at each stage to refine their work and align it with the VFx project's goals.					
Semester	VI	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Proficiency in advanced VFX software relevant to the project. Must be able to develop a strategic timeline that considers pre-production, production, and post-production phases.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Apply their knowledge and skills to plan, create, and integrate VFX elements into a short film sequence. This involves storyboarding scenes, utilizing appropriate VFX software, and effectively compositing VFX elements with live-action footage.	A	1, 2
2	Analyze the use of VFX in existing films, identifying the various techniques employed and their impact on the narrative, visual style, and overall effectiveness of the film.	An	1, 2
3	Evaluate the effectiveness of their own VFX work, considering factors such as technical quality and artistic merit of their VFX sequence.	E	1, 2, 4
4	Create a short film that effectively utilizes VFX elements to enhance the visual storytelling and achieve a desired aesthetic.	C	1, 2, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Project Planning and Concept Development**			
	1.1	Understanding the project brief and identifying key objectives, and time constraints. Research and Inspiration - Conducting research and gathering inspiration.	5	1, 2
	1.2	Developing a Concept - Brainstorming and refining ideas to create a solid concept for the VFX project.	10	1, 2
2	**Pre-production Review and Asset Preparation**			
	2.1	Critically reviewing and refining storyboards based on feedback and ensuring alignment with the project goals. Identify the specific VFX elements required, such as CGI characters, environmental effects, or simulated phenomena	15	2, 3
	2.2	Analyze the script to identify scenes that require visual effects. Break down shots, considering VFX elements needed for each	5	2, 3
3	**VFX Production**			
	3.1	Production Review - Regular reviews of the work progress, addressing any issues, refining works, and ensuring consistency with the project vision. Iterative Feedback - Encouraging a collaborative environment where students provide constructive feedback to peers and iterate on their work.	25	3, 4
4	**Post-production and Finalization**			
	4.1	Editing - Reviewing the VFX work for compositing and overall flow of work, making adjustments as needed. Sound Design - Incorporating audio elements, such as music, and sound effects, to enhance the storytelling.	10	3, 4
	4.2	Final Review and Feedback - Conducting a comprehensive review of the completed project addressing any remaining issues and ensuring alignment with the initial concept.	5	3
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Project Briefing: Detailed explanation of the 1-2 minute Visual effects film, including goals, constraints, and assessment criteria. ● Project development under the guidance of the instructor. Peer collaboration and feedback sessions.Weekly check-ins to monitor progress. ● Conduct regular critiques of student projects. Encourage students to provide and receive feedback. Discuss common challenges and solutions. ● Final project presentations with instructor feedback.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Planning and Storyboarding	10
Technical Skills	10
Team Collaboration & Time Management.	10
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

Project evaluation and viva voce

ESE Components	Marks Distribution
Composition	20
Creativity	15
Post-Processing	20
Viva-Voce + Record	15
Total	70

Please refer the appendix for more details

References

1. Brinkmann, Ron. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics*. Morgan Kaufmann Publishers, 2008.
2. Wright, Steve. *Digital Compositing for Film and Video*. 3rd ed. Routledge, 2010.
3. Wright, Steve. *Compositing Visual Effects: Essentials for the Aspiring Artist*. Routledge, 2011.
4. Dinur, Eran. *The Complete Guide to Photorealism for Visual Effects, Visualization and Games*. Routledge, 9 December 2021.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	CAREER DEVELOPMENT & PORTFOLIO BUILDING					
Type of Course	SEC					
Course Code	MG6SECAVE300					
Course Level	300-399					
Course Summary	The Career Development & Portfolio Building course will equip the participants with the knowledge, skills, and a strong portfolio necessary for a successful career launch in the Animation and VFX industries. They will be prepared to apply for jobs confidently, showcasing their unique abilities and understanding the industry's demands.					
Semester	VI	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Authentic, Constructivist and Cognitive learning approach	0	2	1	0	60
Prerequisites, if any	Basic verbal and written communication skills and a general awareness of the Animation and VFX industry, including different job roles and career paths. Learners without these prerequisites should still feel encouraged to pursue the training, as the program is designed to accommodate various skill levels and provide support for learners at different stages of their journey.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Identify various career paths within the Animation and VFX industries and recall current trends and technological advancements in Animation and VFX industries.	K	1
2	Understand the significance of a strong portfolio in securing employment in Animation and VFX.	U	1
3	Apply industry knowledge, technical skills, and soft skills to develop a personalized career plan.	A	1
4	Critically assess personal strengths and areas for improvement in the context of career goals.	An	1, 2
5	Create effective application materials, including resumes and cover letters, tailored to specific Animation and VFX job opportunities.	C	10
****Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)***			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	**Industry Overview and Portfolio Development**			
	1.1	**Introduction to Animation and VFX Industries** Overview of Animation and VFX industries Different job roles and specializations Current trends and demands in the job market	5	1
	1.2	**Portfolio Essentials for Animation and VFX Professionals** Importance of a strong portfolio in the industry Guidelines for creating a compelling Animation and VFX portfolio Case studies of successful portfolios	5	2
	1.3	**Creating and Refining Your Portfolio** Hands-on workshop: Building an online portfolio Incorporating diverse projects and showcasing different skills Portfolio review and feedback session **Assessment:** Portfolio presentation and feedback session, Final portfolio submission	5	3
2	**Soft Skills and Industry Readiness**			
	2.1	**Effective Communication Skills** Understanding the importance of effective communication in professional settings Verbal communication: clarity, tone, and active listening Written communication: Crafting professional emails Self-assessment: Identifying personal strengths and areas for improvement in soft skills	5	4
	2.2	**Mock Interviews and Industry Insights** Conducting mock interviews for Animation / VFX positions Industry insights from guest speakers Q&A sessions with professionals in the animation and VFX industry **Assessment:** Mock interview performance evaluation	15	3

3	**Job Search and Job Application Strategies**			
	3.1	**Crafting an Effective Resume and Cover Letter** Crafting a specialized resume for the animation and VFX industry Writing cover letters that highlight relevant skills and experiences **Assessment:** Submission of the resume and the cover letter	10	3
	3.2	**Online Presence and Networking** Building a professional online presence on platforms like LinkedIn, and Behance Networking strategies for Animation and VFX professionals Utilizing social media for job opportunities	5	3
	3.3	**Utilizing Online Job Portals, Company Websites and Cold Job Application** Navigating industry-specific job portals Effective use of company websites for job searches Setting up job alerts and notifications Cold job application	5	5
	3.4	**Applying for Internships and Freelance Opportunities** Identifying and applying for internships in Animation and VFX Exploring freelance opportunities and project-based work Developing a strategy for transitioning from freelance to full-time positions	5	5
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Guests - Inviting industry professionals for workshops, Q&A sessions, and sharing real-world experiences. ● Assignments - Tasks focusing on applying learned concepts, such as creating resumes, cover letters etc. ● Feedback and Critique Sessions - Providing personalized feedback to students on their mock interview, portfolio etc. guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Assignments	10
Class involvement	05
Mock Interview	10
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Professionalism	10
Demo Reel	15
Technical Knowledge	15
Communication Skill	10
Total	50

Please refer the appendix for more details

References

1. Bolles, Richard N. *What Color Is Your Parachute? A Practical Manual for Job-Hunters and Career-Changers.* Ten Speed Press, 2020.
2. Asher, Donald. *Cracking the Hidden Job Market: How to Find Opportunity in Any Economy.* Ten Speed Press, 2019.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ENVIRONMENT & SUSTAINABLE LIVING					
Type of Course	VAC					
Course Code	MG6VACAVE300					
Course Level	300-399					
Course Summary	The Environmental Studies and Sustainable Living course provides an interdisciplinary approach to understanding the natural world and the impact of human activities on the environment. It covers key concepts in ecology, biodiversity, and environmental issues, emphasizing the importance of sustainable practices to mitigate climate change and conserve natural resources. Students will explore sustainable living strategies, including renewable energy, waste reduction, and sustainable agriculture, aiming to equip them with the knowledge and skills to make environmentally responsible decisions and contribute to a sustainable future.					
Semester	VI	Credits			3	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Authentic, Constructivist and Cognitive learning approach	0	0	1	2	60
Prerequisites, if any	Proficiency in communication skills, including writing, public speaking, and digital media literacy, is beneficial for effectively engaging with course materials and assignments.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Apply knowledge of environment and sustainable living practices to conduct a comprehensive home audit.	K	1
2	Analyze the environmental impact of their current lifestyle choices by identifying areas for improvement through the home audit process.	U	1, 2
3	Evaluate the effectiveness of eco-friendly alternatives and solutions by recommending feasible changes based on audit findings.	A	2, 6, 7, 8
4	Create a personalized action plan to integrate sustainable practices into your daily routines, homes, and communities.	C	4, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Environment**			
	1.1	**Environment and Ecosystems** Environment and its components Ecosystem and functional aspects of the ecosystem	5	1
	1.2	**Human-Environment Interactions** Analysis of the interactions between human societies and the environment, including impacts on ecosystems, biodiversity, and natural resources.	5	1, 2
	1.3	**Environmental Challenges** Overview of major global environmental challenges such as global warming, climate change, and biodiversity loss. Environmental pollution like water pollution, soil pollution, air pollution and noise pollution.	10	2
2	**Introduction to Environmental Sustainability**			
	2.1	**Sustainability** Defining environmental sustainability and its relevance in the modern world Importance of individual actions in achieving sustainability goals	10	1
	2.2	**Sustainable Living** Energy conservation techniques Waste reduction and recycling strategies Water conservation methods Sustainable transportation options Sustainable resource management practices	10	1, 3
3	**Project Work and Preparation**			
	3.1	**Home Audit Project** Project brief and identifying key objectives, and time constraints. Guidelines for conducting a home audit Data collection and analysis techniques Conduct home audits Analysis of audit findings and implementation of eco-friendly practices at home Developing recommendations for implementing eco-friendly practices	10	1, 4
	3.2	**Project Presentations** Students present their home audit findings and recommendations Feedback sessions	10	4

		Reflection on the learning process and personal sustainability goals		
4	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Interactive Discussions - Interactive discussions will facilitate student engagement and critical thinking on course topics. ● Case Studies - Case studies will be used to illustrate real-world applications of environmental problems and solutions. ● Multimedia Presentations - Multimedia presentations, including videos, documentaries, and online resources, will complement lectures and readings, providing visual and auditory reinforcement of course concepts.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

CCA Components	Marks Distribution
Test paper	05
Audit assignments	20
Total	25

B. End-Semester Evaluation (ESE) - 50 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Audit Report Presentation	40
Viva-Voce	10
Total	50

Please refer the appendix for more details

References

1. Begon, Michael, Robert W. Howarth, and Colin R. Townsend. *Essentials of Ecology*. Wiley India, 2018.
2. Trivedy, R. K. *Handbook of Environmental Laws, Acts, Guidelines, Compliances & Standards*. B.S. Publications, 2010.
3. Gardiner, Stephen M., and Allen Thompson, editors. *The Oxford Handbook of Environmental Ethics*. Oxford University Press, 2016.
4. Boylan, Michael. *Environmental Ethics*. 4th ed., Wiley-Blackwell, 2019.
5. Painter, James. *Climate Change in the Media*. I.B. Tauris, 2013.
6. Wyss, Bob. *Covering the Environment: How Journalists Work the Green Beat*. SAGE Publications Pvt. Ltd, 2018.
7. Nambiar, Prithi. *Media Construction of Environment and Sustainability in India*. SAGE Publications Pvt. Ltd, 2020.
8. Chapman, G., K. Kumar, C. Fraser, and I. Gaber. *Environmentalism and the Mass Media*. Routledge, 2003

SEMESTER VII

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED 3D CHARACTER ANIMATION					
Type of Course	DCC					
Course Code	MG7DCCAVE400					
Course Level	400-499					
Course Summary	This advanced 3D character animation course is intended for students who already possess a strong understanding of character animation. The primary emphasis will be on mastering intricate movements and storytelling through character animation. Students will delve into advanced principles, techniques, and tools to enhance their animation abilities.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Successful completion of an introductory animation course or equivalent experience with a strong foundation in character animation principles.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Interpret and explain the nuances of character acting and emotion portrayal.	U	1, 2, 3
2	Utilize advanced animation tools and workflows to create professional-quality character animations.	A	1, 2, 4, 5
3	Critically evaluate character animations for realism, expressiveness, and storytelling effectiveness.	An	1, 2, 5, 10
4	Judge the quality of animation work based on industry standards and best practices.	E	1, 5, 10
5	Generate original character animations that demonstrate creativity, technical proficiency, and storytelling ability.	C	1, 2, 5, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Quadruped Anatomy and Movement**			
	1.1	Overview of quadruped anatomy.	1	1
	1.2	Analysing different gaits (walk, run, trot, etc.)	2	1
2	**Blocking and Posing Quadrupeds**			
	2.1	Creating clear and expressive poses.	2	1, 2
	2.2	Blocking out basic movements for quadruped characters.	2	1, 2
	2.3	Exploring weight distribution and balance.	2	1, 2
3	**Quadruped Animation**			
	3.1	Quadruped's walk cycle, emphasizing proper weight distribution, balance, and coordination between the front and back limbs.	8	3, 4, 5
	3.2	Quadruped's run cycle, highlighting the dynamic movements and increased speed, with attention to the synchronization of all four limbs.	8	3, 4, 5
	3.3	Quadruped jumping, mid-air movements, and a controlled landing. Pay attention to the anticipation, take off, and follow-through.	10	3, 4, 5
	3.4	Quadruped climbing over obstacles or navigating an inclined surface, showcasing the careful coordination of limbs and body movements.	10	3, 4, 5
4	**Advanced Animation**			
	4.1	**Expressive Animation** Focus on conveying emotions through facial expressions, body language, and non-verbal communication.	15	3, 4, 5
	4.2	**Creature Animation** Focus on animating fantastical creatures, exploring mythical, magical, or sci-fi-inspired character movements and behaviours.	15	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for animating characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Body mechanics	25
Acting skill	25
Technical Skill	10
Final Output	10
Total	70

Please refer the appendix for more details

References

1. Derakhshani, Dariush. *Introducing Autodesk Maya 2019*. Sybex, 2018.
2. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
3. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
4. Goldberg, Eric. *Character Animation Crash Course!*. Silman-James Press, 2008.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED DYNAMIC SIMULATIONS					
Type of Course	DCC					
Course Code	MG7DCCAVE401					
Course Level	400-499					
Course Summary	The Advanced Dynamic Simulations course is designed to provide students with an in-depth understanding and practical skills in advanced techniques for simulating dynamic systems in virtual environments. Building upon the foundational concepts covered in basic dynamic simulations, this advanced course delves into more complex simulations, offering a comprehensive exploration of dynamic behavior in various contexts.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Learners should have a solid foundation in basic dynamic simulation. Additionally, familiarity with concepts in visual effects or any related field will further support the learners' success in advanced dynamic simulation courses.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Recall and articulate advanced concepts and terminology related to dynamic simulations, including fluid dynamics, soft-body dynamics, particle systems etc.	A	1, 2, 7, 10
2	Apply advanced industry-standard software tools to create intricate and realistic simulations, incorporating features such as fluid interactions, cloth dynamics, and complex particle behavior.	C	1, 2, 7, 10
3	Evaluate the effectiveness and visual fidelity of advanced dynamic simulations in replicating complex real-world phenomena, considering factors such as accuracy, computational efficiency, and adherence to project specifications.	U, A	1, 2, 7
4	Generate advanced dynamic simulations for use in diverse applications such as film, gaming, virtual reality, or scientific visualization, demonstrating proficiency in creating sophisticated and visually stunning dynamic effects.	U, C	1, 3, 7, 10
5	Generate various simulation domains, combining fluid dynamics with rigid body simulations, cloth dynamics, and other advanced techniques to create integrated and realistic dynamic scenarios.	U, C	1, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Fluid Simulations**			
	1.1	Fluid system	5	1
	1.2	Used to simulate realistic smoke and fire effects.	5	1
	1.3	Cinematic explosions, Water flowing simulations. Boat simulations & Wakes.	8	1
2	**Cloth and hair Simulations**			
	2.1	Cloth simulations, Cloth with other effects, Cloth with collider.	5	2
	2.2	Simulations with Hair and fur systems.	5	2
	2.3	Hair advanced plugins - hair & fur, hairing for complex objects. Hair with force, Modification of hair. Converting curve to hair. Rendering of hair.	5	2
3	**Ocean Simulations**			
	3.1	Make an ocean simulation using plugins like boss,Ocean Splash	5	3
	3.2	Adding boats and floating objects in ocean Making waves and colliders using plugins	5	3
	3.3	Rendering ocean simulation using advanced rendering methods.	8	3,4
4	**Dynamic Simulations with Live Action**			
	4.1	Physical sky - Making atmospheric effects, Integration of dynamic environment with dynamic objects.	6	4,5
	4.2	Compositing live action with skydome light and photometric light.	8	4,5
	4.3	Compositing dynamic simulations with live action footage.	10	4,5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - Scheduled sessions where instructors discuss the importance of dynamics simulations. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques. ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths. ● Portfolio Development and Presentations - Guiding students on curating their best works into a cohesive and professional digital art portfolio.Assign a comprehensive final project where students plan, shoot, and integrate visual effects into a scene, applying all the skills learned throughout the course.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Technical Execution	20
Attention to Detail	20
Creativity and Originality	30
Total	70

Please refer the appendix for more details

References

1. Palamar, Todd. *Maya Studio Projects: Dynamics*. John Wiley & Sons, 2009.
2. Keller, Eric. *Maya visual effects: the innovator's guide*. John Wiley & Sons, 200.
3. Bridson, Robert. *Fluid simulation for computer graphics*. CRC press, 2015.
4. Murdock, Kelly. *Autodesk Maya 2019 Basics Guide*. SDC Publications, 2018.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	DIGITAL COLOUR GRADING (DI)					
Type of Course	DCC					
Course Code	MG7DCCAVE402					
Course Level	400-499					
Course Summary	Digital Colour Grading is to equip learners with the knowledge and skills necessary to proficiently manipulate and enhance the colour in digital media, with a focus on film, video, and other visual content.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Basic proficiency in video editing software is an advantage. Familiarity with the basics of colour theory, including the colour wheel, complementary colours, and colour harmony. Awareness of how colour is used for visual communication.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Explain the relationship between color theory and digital images, and identify the applications of different color grading styles.	U	1, 2
2	Apply color grading tools within the software interface to perform color correction and achieve simple aesthetic changes to visual storytelling.	A	1, 2
3	Critically evaluate different color grading techniques and their suitability for specific situations.	An	2, 3
4	Assess their own work and communicate with clients to incorporate feedback constructively to refine their color grading skills.	E	2, 4, 7, 9
5	Generate a polished and visually compelling digital colour grade for a given visual media project, showcasing creativity and originality while adhering to industry standards and client requirements.	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Digital Colour Grading**			
	1.1	What is the process of digital intermediate? What is the history of digital intermediate? Who is a colourist? What are the technical terms used for it? Importance of Color Grading in Post-Production.	5	1
	1.2	Differentiating between colour correction and grading Comprehensive overview of the tools used in colour grading Hardware and software used in the process Importance of a calibrated display	5	1
2	**Intermediate Colour Grading Techniques**			
	2.1	Techniques for matching shots in a sequence Balancing exposure and colour temperature. Understanding different grading styles (e.g., cinematic, vintage, modern)	10	1, 2
	2.2	Fine-tuning specific colours with secondary colour correction Isolating and adjusting colour ranges Creative use of masks and tracking for targeted adjustments	10	2, 3, 4
3	**Colour Grading for Different Genres**			
	3.1	Enhancing storytelling through colour creating mood and atmosphere Realism vs stylized grading in documentaries Balancing authenticity with creative choices	15	3, 4
	3.2	Exploring experimental grading techniques - Pushing creative boundaries in colour grading Creating attention-grabbing visuals Handling colour consistency across varied shots	15	3, 4, 5
4	**Digital Mastering**			
	4.1	What is a digital master? Distribution formats & Importance of aspect ratio	5	5
	4.2	Cinematic Looks for Various Genres (Drama, Horror, Sci-Fi, etc.)	10	5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Presentations - Scheduled sessions where instructors discuss the importance of digital colour grading in the VFX industry. Provide an overview of the course objectives and structure. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback and Critique Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments and Exercise	10
Assessment of project milestones	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

Project evaluation and viva voce

ESE Components	Marks Distribution
Composition	10
Creativity	15
Post-Processing	20
Technical Adjustments	15
Consistency	10
Total	70

Please refer the appendix for more details

References

1. Arundale, Scott, and Tashi Trieu. *Modern Post: Workflows and Techniques for Digital Filmmakers*. Routledge, 10 October 2014.
2. James, Jack. *Digital Intermediates for Film and Video*. Routledge, 19 October 2005.
3. Kennel, Glenn. *Color and Mastering for Digital Cinema*. 1st ed., Routledge, 2006.
4. Van Hurkman, Alexis. *Color Correction Handbook: Professional Techniques for Video and Cinema*. Peachpit Press, 28 November 2013.
5. Hullfish, Steve. *The Art and Technique of Digital Color Correction*. Routledge, 1 June 2012.
6. Van Hurkman, Alexis. *Color Correction Look Book: Creative Grading Techniques for Film and Video*. Peachpit Press, 17 December 2013.
7. Wright, Steve. *Digital Compositing for Film and Video*. Focal Press, 2010.
8. Brinkmann, Ron. *The Art and Science of Digital Compositing*. Morgan Kaufmann Publishers, 2008.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	3D CHARACTER SCULPTING					
Type of Course	DCE					
Course Code	MG7DCEAVE400					
Course Level	400-499					
Course Summary	In this course, participants explore character sculpting in a 3D realm, mastering digital sculpting fundamentals. By course end, they'll understand the 3D character sculpting process, creating captivating characters suitable for animation, gaming, and visual effects, expanding their creative horizons across various applications.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Foundational understanding of basic 3D software, anatomy, creativity, and artistic skills, along with some experience in basic 3D modelling.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Understand the principles of digital sculpting and how they apply	U	4, 5
2	Apply various sculpting techniques to create realistic characters.	A	1, 2, 4
3	Critically evaluate the effectiveness of different sculpting approaches.	An	1, 2, 5, 10
4	Assess the quality of character sculpts based on anatomical accuracy and realism.	E	3, 9, 10
5	Produce fully realized character sculpts with attention to detail and realism.	C	1, 3, 5, 10

Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Sculpting**			
	1.1	**Introduction to Industry-Standard Sculpting Software** Get familiar with the chosen sculpting software and its interface.	2	1, 2
	1.2	Understanding - Brushes and their properties	2	1, 2
2	**3D Character Sculpting**			
	2.1	**Blocking out the Basic Form of a Character** The initial phase of creating a 3D character model. During this stage, the artist focuses on establishing the primary shapes and proportions of the character without diving into intricate details. It involves using basic geometric primitives or simple shapes to build a foundational structure that represents the overall silhouette and major features of the character.	4	3, 4, 5
	2.2	**Sculpting Facial Features, Expressions, and Emotions** Move into detailing the face, capturing expressions, and conveying emotions.	4	3, 4, 5
	2.3	**Adding Anatomy Details like Muscles and Bone Structure** Develop a deeper understanding of anatomy and apply it to the character sculpt.	4	2, 3, 4
3	**Advanced 3D Character Sculpting**			
	3.1	**Adding Fine Details, Wrinkles, and Surface Textures** Dive into the intricacies of the character's surface, adding fine details and wrinkles.	4	3, 4, 5
	3.2	**Retopology Techniques for Character Models** Address the importance of clean topology, particularly for animation and rendering.	4	3, 4, 5
	3.3	**Texturing** Introduction to texturing, basics of materials, and conclusion with learning how to export various maps (e.g., normal maps, displacement maps) for use in other software or game engines.	4	3, 4, 5
4	**Portfolio Development**			
	4.1	Create a realistic biped character.	25	3, 4, 5
	4.2	Quadruped character sculpting.	22	3, 4, 5
5	**Teacher-specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training - The objective of classroom training is to equip students with character sculpting skills. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments - The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Anatomy and Proportions	25
Surface Detail and Texture	25
Technical skills	10
Presentation	10
Total	70

Please refer the appendix for more details

References

1. Holmes, Marc Taro. *Designing Creatures and Characters*. North Light Books, 2016.
2. Legaspi, Chris. *Anatomy for 3D Artists: The Essential Guide for CG Professionals*. 3DTotal Publishing, 2015.
3. Greer, Xury. *Sculpting the Blender Way: Explore Blender's 3D sculpting workflows and latest features, including Face Sets, Mesh Filters, and the Cloth brush*. Packt Publishing, 2022.
4. Spencer, Scott. *ZBrush Character Creation: Advanced Digital Sculpting*. Sybex, 2011.
5. Gaboury, Paul. *ZBrush Professional Tips and Techniques*. Sybex, 2012.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED ROTOSCOPE					
Type of Course	DCE					
Course Code	MG7DCEAVE401					
Course Level	400-499					
Course Summary	The Advanced Rotoscoping course is designed for individuals seeking to deepen their expertise in the art and technology of rotoscoping, a crucial aspect of visual effects (VFX) and compositing in the film and television industry. This course builds upon foundational knowledge, introducing students to sophisticated techniques and tools used by professionals to achieve seamless and high-quality results.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Basic knowledge of compositing principles, including layering, blending modes, and color correction.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Apply advanced rotoscoping techniques and skills using industry-standard tools and software.	A	1, 2
2	Create and appreciate seamless composites by preparing rotoscoped elements that integrate naturally into composite scenes.	C	1, 2
3	Evaluate and effectively handle multi-layer rotoscoping projects involving complex scenes and depth, integrating roto elements with 3D environments	E	2, 3
4	Create an effective integrating roto elements with 3D environments and utilizing depth maps accurately.	C	2, 4, 7, 9
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Advanced Software Tools**			
	1.1	Project briefing Exploration of advanced software for rotoscoping	5	1
	1.2	Customization and optimization of software interfaces.	5	1
2	**Advanced Masking Techniques**			
	2.1	Detailed mask creation and management	10	2
	2.2	Using multiple masks for complex objects	10	2
3	**Motion Blur Handling**			
	3.1	Understanding motion blur in rotoscoping	5	3
	3.2	Identifying and correcting edge artifacts Feathering and blurring techniques	10	3
4	**Integration with Compositing**			
	4.1	Preparing roto elements for compositing	15	2,4
	4.2	Layering and blending techniques	15	4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - Scheduled sessions where instructors discuss the importance of dynamics simulations. ● Hands-On Workshops - Practical sessions held in the classroom where students work on assignments and receive immediate feedback. ● Assignments - Tasks focusing on applying learned concepts, such as creating digital artworks based on specific themes or techniques ● Feedback Sessions - Providing personalized feedback to students on their artwork, guiding them on areas for improvement and strengths.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments / Exercise	10
Assessment of project milestones	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and Viva voce

ESE Components	Marks Distribution
Final Rotoscope Project	30
Technical skill	30
Viva voce	10
Total	70

Please refer the appendix for more details

References

1. Wright, Steve. *Digital compositing for film and vídeo: Production Workflows and Techniques*. Routledge, 2017.
2. Wright, Steve. *Compositing visual effects: Essentials for the aspiring artist*. Routledge, 2013.
3. Lanier, Lee. *Professional digital compositing: essential tools and techniques*. John Wiley & Sons, 2009.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	HYBRID ANIMATION					
Type of Course	DCE					
Course Code	MG7DCEAVE402					
Course Level	400-499					
Course Summary	The Hybrid Animation project aims to equip learners with practical skills in integrating 2D characters with 3D backgrounds in an animated short film. Covering the entire production cycle from pre-production planning to production and post-production; it ensures a comprehensive and hands-on learning experience.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	A foundational understanding of 2D and 3D softwares and a basic grasp of film principles are advantageous for seamlessly blending 2D and 3D to create hybrid animation.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Understand how to integrate 2D and 3D animation styles using layers.	U	1, 2
2	Apply knowledge of 2D and 3D animation techniques to create cohesive hybrid animations.	A	1, 2
3	Analyze existing hybrid animations, identifying the effective integration of 2D and 3D elements.	An	1, 2
4	Assess the strengths and weaknesses of their own hybrid animations, utilizing feedback to refine their work.	E	2, 4, 10
5	Produce original hybrid animations that seamlessly blend 2D and 3D elements, demonstrating mastery of the concept.	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Overview of Hybrid Animation**			
	1.1	Definition hybrid animation Key differences and similarities between 2D and 3D animation Examples of successful hybrid animation films (Amazing World of Gumball, Iron Giant, Treasure Planet etc.)	5	1
	1.2	Advantages of hybrid animation Techniques for seamless integration of 2D characters into 3D environments Use of lighting, shading, and perspective to unify styles	5	1
2	**Software Tools and Workflow**			
	2.1	Setting up a hybrid animation workflow Importing and exporting assets between 2D and 3D software	5	1, 2
	2.2	3D environment creation and manipulation Animating 2D characters within 3D spaces - Tips and best practices	5	1, 2
3	**Character and Environment Design**			
	3.1	Designing 2D characters to complement 3D backgrounds Creating 3D environments that enhance the presence of 2D characters Balancing stylistic elements to maintain visual coherence	10	2, 3
	3.2	Integrating visual effects and dynamic simulations that interact with both 2D and 3D elements Techniques for compositing 2D and 3D assets into a single frame Use of layers, masks, and blending modes to achieve desired effects	10	2, 3
4	**Project Development**			
	4.1	Brainstorming and refining ideas to create a concept for the project. Creating a storyboard to visualize the sequence of events and key moments in the animation.	15	2, 3
	4.2	Identifying and listing the required assets (characters, backgrounds, props) considering the project's style and requirements.	5	3

	4.3	Reviews of the animation progress, addressing any issues, refining animations, and ensuring consistency with the project vision.	5	4, 5
	4.4	Conducting a comprehensive review of the completed animation, addressing any remaining issues and ensuring alignment with the initial concept. Finalizing the animation by exporting it in the desired format.	10	4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Provide theoretical knowledge on hybrid animation principles, project planning, and integration techniques through structured lectures. ● Live demonstrations of 2D and 3D integration, focusing on tools and techniques relevant to hybrid animation. ● Invite industry professionals to share insights and experiences in creating hybrid animations.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Concept Development and Storyboarding	10
Technical Skill and Application	10
Progress and Participation	10
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Animation Quality	30
Technical Execution	30
Process book and Viva voce	10
Total	70

Please refer the appendix for more details

References

1. O'Hailey, Tina. *Hybrid Animation: Integrating 2D and 3D Assets*. Routledge, 2015
2. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
3. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
4. Halas, John, and Harold Whitaker. *Timing for Animation*. Focal Press, 2009.
5. Webster, Ian. *Physics for Animators*. Taylor & Francis, 2013.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	HYBRID FILMMAKING					
Type of Course	DCE					
Course Code	MG7DCEAVE403					
Course Level	400-499					
Course Summary	This comprehensive course on Hybrid Filmmaking provides students with a deep understanding of the integration of live-action and computer-generated imagery (CGI) in film production. The course covers various aspects from conceptualization to the final showcase, incorporating hands-on practical experience.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Hybrid filmmaking, where CGI and live-action elements intertwine, requires some unique skill sets. Fundamentals in both traditional filmmaking, visual effects and 3D animation is an advantage.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Apply their knowledge and skills to plan, shoot, and edit a short hybrid film project.	A	1, 2, 3
2	Analyze the creative choices made in successful hybrid films, identifying how filmmakers use CGI to enhance the narrative, visual style, or emotional impact of the story.	An	1, 2
3	Evaluate the effectiveness of CGI integration in hybrid films, considering factors such as realism, believability, and contribution to the overall storytelling.	E	1, 2, 4
4	Create a short original hybrid film that effectively combines live-action and CGI elements, showcasing their understanding of the technical and creative aspects of this filmmaking style.	C	10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to Hybrid Filmmaking**			
	1.1	Overview of Hybrid Filmmaking Combining live-action and CGI. History and evolution of hybrid filmmaking. Case studies of successful hybrid films.	5	1
	1.2	Integration of live-action footage and CGI. Hands-on exercises with basic CGI tools.	5	1, 2
2	**Pre-production and Planning**			
	2.1	Adapting scripts for hybrid filmmaking. Collaboration between VFX supervisor and CGI artists. Case studies of scripts successfully incorporating CGI elements.	15	3
	2.2	Importance of pre-visualization in hybrid filmmaking. Storyboarding techniques for integrating live-action and CGI. Practical exercises in pre-visualization tools.	15	3
3	**Production and Shooting**			
	3.1	Working with actors in a hybrid environment. Combining traditional chroma screens with CGI sets. Coordination between live-action and CGI teams on set. Challenges and solutions in integration.	15	3, 4
4	**Post-production and Integration**			
	4.1	CGI post-production techniques. CGI rendering and compositing. Color grading for seamless integration.	10	4, 5
	4.2	**Final Project and Showcase** Collaborative final project combining live-action and CGI. Presentation and critique of final projects.	10	5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Blend Theory with Practical Application - Provide real-world examples and case studies showcasing successful applications of hybrid filmmaking. ● Guest Lectures and Industry Experts - Invite professionals from the film and CGI industry to share insights and experiences. ● Project-Based Learning - Structure the course around a final collaborative project, allowing students to apply concepts learned throughout the course. ● Problem-Solving Sessions - Encourage peer-to-peer problem-solving and critical thinking in resolving technical and creative issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components			Marks Distribution
1.		Assessment of project milestones	
	a.	Concept	05
	b.	Pre-production	05
	c.	Production	10
	d.	Post-production	05
2.		Adherence to project guidelines	05
		Total	30

	B. Semester End Semester Evaluation (ESE) - 70 Marks **- Project evaluation and viva voce** **ESE Components** / **Marks Distribution** Creativity and originality — 10 Technical skill — 30 Attention to detail — 20 Process book and Viva voce — 10 Total — 70 Please refer the appendix for more details

References

1. Dinur, Eran. *The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors, and Cinematographers.* Routledge, 2017.
2. Giardina, Carolyn. *The Virtual Studio: Technology and Techniques.* Focal Press, 2017.
3. Brinkmann, Ronald. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics.* Morgan Kaufmann, 2008.
4. Sawicki, Mark. *Filming the Fantastic: A Guide to Visual Effects Cinematography.* Focal Press, 2007.
5. Stump, David. *Digital Cinematography: Fundamentals, Tools, Techniques, and Workflows.* Routledge, 2014.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ADVANCED RIGGING					
Type of Course	DCE					
Course Code	MG7DCEAVE404					
Course Level	400-499					
Course Summary	The Advanced Rigging course is designed for students and professionals aiming to deepen their understanding and skills in creating complex and efficient rigs for 3D animation. The course covers advanced rigging techniques for quadrupedal character and creature animations, focusing on creating versatile and high-performance rigs that can handle a wide range of motions and expressions.					
Semester	VII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	Understanding of basic rigging concepts, such as joint hierarchies, skinning, and simple control rigs.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Explain the principles behind joint hierarchies, IK/FK systems, and muscle rigging.	U	1, 2, 4
2	Implement advanced control rigs for characters and creatures using the appropriate tools and techniques.	A	4, 5
3	Analyze rigging problems and troubleshoot issues effectively to improve rig functionality.	An	1,3, 9, 10
4	Critique the efficiency and effectiveness of different rigging setups.	E	1, 2, 5, 10
5	Develop innovative rigging solutions using advanced techniques and automation scripts.	C	1, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Advanced Rigging Techniques for Quadrupeds**			
	1.1	**Introduction to Quadruped Rigging** Overview of different types of quadrupeds, Anatomical study of bones and muscles and Comparing human and quadruped anatomy.	2	1
	1.2	**Joint and Skeleton Setup** Creating joint hierarchies for quadrupeds, Proper joint placement and orientation for legs, spine, neck, and tail. Techniques for ensuring correct joint rotation and movement.	10	1,2,5
	1.3	**Advanced Leg, Spine, Neck, and Tail Rigging** Implementing IK/FK systems for quadrupeds, setting up IK/FK switches and stretch systems, using expressions and scripting for automated secondary motion, and implementing dynamic tail and ear rigs.	10	2,3,5
	1.4	**Integration and Control Systems** Combining different control systems into a cohesive rig, ensuring seamless interaction between controls, Creating master controls for the entire rig and fine-tuning control interactions and constraints.	10	3,4,5
2	**Advanced Skinning Techniques**			
	2.1	**Introduction to Advanced Skinning** Techniques for precise weight painting, Balancing weights for smooth deformations, editing skin weights in the component editor, mirroring skin weights, and copying skin weights.	5	2,3,4
	2.2	**Deformers and Influence Objects** Types of deformers and their applications, Using influence objects for better skinning results, Combining deformers for complex deformations.	5	2,3,4
	2.3	**Corrective Shapes and Advanced Deformations** Sculpting and integrating corrective blend shapes, Applying pose space deformers for automatic corrections.	5	3,4,5
	2.4	**Testing and Refining Skinning** Creating test animations to evaluate skinning, Identifying and fixing skinning issues.	2	3,4
3	**Implementing Muscle Systems**			
	3.1	**Introduction to Muscle Systems** Creating basic muscle systems, Integrating muscles with the existing rig.	6	1,2,3

	3.2	**Advanced Muscle Deformations** Creating muscle deformations using deformers and dynamic systems, Fine-tuning muscle movements.	6	3,4,5
	3.3	**Integrating Muscles with Skinning** Techniques for integrating muscles with skinning, Testing and refining skin-muscle interactions.	5	3,4,5
	3.4	**Dynamic Muscle Systems** Using dynamic systems for muscle movement, Automating muscle deformations.	5	2,3,4,5
4	**Optimization and Testing**			
	4.1	**Rig Optimization Techniques** Simplifying control systems, Efficient use of expressions and scripts.	2	3,4
	4.2	**Comprehensive Testing and Debugging** Creating test animations for rig evaluation, Debugging and fixing rig issues.	2	3,4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration: The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training: The objective of classroom training is to equip students with rigging skills. ● Offer flexibility in learning paths by providing a variety of resources such as video tutorials and written guides, allowing them to choose the resources that best suit their needs. ● Assignments: The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for rigging characters. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examination x 2	10 x 2 = 20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Skeleton Structure	15
Control Systems	20
Skinning and Deformations	15
Technical Skill	10
Final Output	10
Total	70

Please refer the appendix for more details

References

1. Rodriguez, David. *Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya*. Createspace Independent Publishing Platform, 2013.
2. Mullen, Tony, and Claudio Andaur. *Blender Studio Projects: Digital Movie Making*. Sybex, 2010.
3. Cabrera, Cheryl. *Maya Character Rigging*. Focal Press, 2008.
4. O'Hailey, Tina. *Rig it Right!: Maya Animation Rigging Concepts*. CRC Press, 2024.
5. Stripinis, David. *The MEL Companion: Maya Scripting for 3D Artists*. Charles River Media, 2003.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects				
Course Name	FX MAKEUP				
Type of Course	DCE				
Course Code	MG7DCEAVE405				
Course Level	400-499				
Course Summary	The FX Makeup course is designed to provide students with a comprehensive understanding of special effects makeup techniques to pursue a career in special effects makeup artistry.				
Semester	VII	Credits		4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others
	Experiential, Constructivist and Cognitive learning approach	0	3	1	0	75
Prerequisites, if any	There are no prerequisites or previous knowledge needed in order to take this course. An open mind and willingness to learn new techniques, experiment with different materials, and adapt to evolving industry trends are essential qualities for success in FX makeup.				

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Summarize the different types of materials, tools, and prosthetics used in FX makeup.	U	1, 4
2	Demonstrate proficiency in blending and integrating prosthetic appliances seamlessly.	A	1, 2
3	Identify and troubleshoot common issues encountered during FX makeup application.	An	2, 3
4	Evaluate the effectiveness of FX makeup in achieving desired character portrayals.	E	1, 2, 4
5	Develop innovative FX makeup solutions for complex character transformations or special effects requirements.	C	2, 3, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to FX Makeup**			
	1.1	**History** History and evolution of FX makeup. Overview of materials and tools used in FX makeup. Basic sculpting and molding techniques.	5	1
	1.2	Color theory and application in FX makeup. Health and safety considerations in FX makeup application.	5	1
2	**Introduction to Prosthetics and Appliances**			
	2.1	**Prosthetics Application** Understanding different types of prosthetic materials (latex, silicone, gelatin, etc.). Sculpting prosthetic molds of horns, ears and nose etc. using clay and other sculpting materials. Mold-making techniques for prosthetic appliances. Casting and curing prosthetic pieces. Application and blending techniques for seamless integration of prosthetics. Detailing and painting prosthetic appliances to achieve realistic effects. Removal and maintenance of prosthetic appliances.	15	2, 3
3	**Character Creation and Transformation**			
	3.1	**Character Makeup** Conceptualizing and designing characters for FX makeup. Advanced aging techniques using stippling, wrinkling, and texturing. Bald cap application. Introduction to hair work and creating facial hair effects.	10	2, 4
	3.2	**Injury Simulation** Creating realistic injuries such as cuts, bruises, burns, and scars.	10	2, 4
	3.3	**Creature Makeup** Creature design and fabrication using prosthetics and other materials. Collaboration with costume and set design for cohesive character presentation.	10	2, 4
4	**Portfolio Development and Practical Application**			

	4.1	**Portfolio Development** Hands-on practice sessions applying various FX makeup techniques. Critique and feedback sessions to refine skills and techniques. Documentation and presentation of FX makeup projects for portfolio development.	15	5
	4.2	**Career Opportunities** Networking and career guidance in the FX makeup industry. Preparation for industry-standard tests and certifications. Final showcase of portfolio projects and demonstration of practical skills.	5	5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Classroom lectures where instructors present theoretical concepts, historical background, and foundational knowledge related to FX makeup. ● Live demonstrations by instructors showcasing various techniques, materials, and tools used in FX makeup application. ● Practical hands-on workshops where students actively participate in FX makeup application under the guidance of instructors. ● Workshops focused on specific techniques, such as prosthetic application, aging effects, injury simulation, or creature design. ● Access to online tutorials and instructional videos covering a wide range of FX makeup techniques, tips, and tricks. ● Inviting professional FX makeup artists, industry experts, or representatives from film and television productions, to share their insights and experiences. ● Analyzing case studies of iconic FX makeup designs from film, television, and theater productions to understand the creative process and technical execution.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Practical assessments	10 x 2 = 20
Collaboration and teamwork	5
Adherence to project guidelines	5
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Creativity and originality	10
Technical skill	20
Attention to detail	20
Portfolio review and Viva voce	20
Total	70

Please refer the appendix for more details

References

1. Tokyo SFX Makeup Workshop. *A Complete Guide to Special Effects Makeup*. Titan Books, 2012.
2. Tokyo SFX Makeup Workshop. *Complete Guide to Special Effects Makeup 2: A F.X. Shepherd novel*. Titan Books, 2018.
3. Tokyo SFX Makeup Workshop. *A Complete Guide to Special Effects Makeup 3*. Titan Books – Illustrated, 2020.
4. Sartor, David, and John Pivovarnick. *Theatrical FX Makeup*. Heinemann Educational Books, 2001.
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6. Craig, Jonathan, and Bridget Light. *Special Effects Make-up Artist.* Raintree Publishers, 2014.
7. Debreceni, Todd. *Special Makeup Effects for Stage and Screen: Making and Applying Prosthetics.* Focal Press, 16 December 2008.
8. https://www.udemy.com/course/special-effects-fx-makeup-level-1
9. https://www.udemy.com/course/special-effects-fx-makeup-level-2
10. https://www.udemy.com/course/creating-a-bald-cap-a-masterclass-with-shannon-mckean

SEMESTER VIII

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ANIMATION FOR DIVERSE INDUSTRIES					
Type of Course	DCC					
Course Code	MG8DCCAVE400					
Course Level	400-499					
Course Summary	The course on "Animation for Diverse Industries" provides a comprehensive exploration of the varied applications of animation beyond traditional media contexts. Learners are encouraged to apply their acquired knowledge in a comprehensive animation project, allowing them to showcase their skills in creating animations for other industries.					
Semester	VIII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	The prerequisites for the course on "Animation for Diverse Industries" include a foundational understanding of pre-production, animation principles and basic proficiency in relevant software tools.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Recognize examples of successful animation applications in education, healthcare, and industrial training.	K	1
2	Explain the significance of animation in non-media contexts and its potential impact on various industries.	U	1, 2
3	Apply animation principles to create industry-specific animations for education, healthcare, and industrial training.	A	1, 3
4	Analyze case studies of successful animation projects in education, healthcare, and industrial training.	An	2, 3, 5
5	Produce a final animation project that showcases creativity, technical proficiency, and an understanding of diverse industry requirements.	C	4, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Non-Media Animation**			
	1.1	Application of animation in education, medicine and industrial training Examination of successful animation projects in various industries	2	1
2	**Animation for Education**			
	2.1	**Creating Educational Explainer Videos** Defining the role of animation in modern education Understanding cognitive theories supporting animation in education	5	2
	2.2	**Scripting and Storyboarding for Educational Animation** Crafting engaging scripts for educational content Developing clear and concise storyboards for educational explainer videos	20	3
3	**Applications of Animation in Healthcare and Medical Training**			
	3.1	**Animation in Medical Education** Use of animation to visualize complex medical concepts Case studies showcasing animated content for medical students	3	1, 2, 4
	3.2	**Simulations for Healthcare Professionals** Developing animated simulations for training healthcare practitioners Practical exercises in creating medical training animations	20	3, 5
4	**Animation for Industrial Training**			
	4.1	**Introduction to Animation in Industrial Training** Defining the role of animation in industrial settings. Overview of safety, procedural, and technical training applications.	5	2
	4.2	**Hands-on Project: Industrial Training Animation** Participants work on creating an industrial training animation project. Feedback and guidance on project development.	20	3, 5
5	**Teacher Specific Module**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Guest Speakers (Optional): Guest speakers from diverse industries share their experiences in manufacturing and health sectors and give insights on utilizing animation for training and any other purpose in their sector. ● Demonstrations: Learners engage in hands-on exercises using animation software, guided by instructors. ● Discussions: Learners engage in group discussions, sharing insights and perspectives on the application of animation in diverse professional settings. ● Project-based Learning: Projects may include creating animated content for education, healthcare and industrial training.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Relevance to Chosen Field	10
Technical Skills and Execution	10
Time Management	10
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Animated Video	40
Process Book	15
Viva-Voce	15
Total	70

Please refer the appendix for more details

References

1. Saputra, Dhanar Intan Surya, Danny Manongga, and Hendry Hendry. "Animation as a Creative Industry: State of The Art." *2021 IEEE 5th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE)*. IEEE, 2021.
2. Zhou, Quan. "Study on the optimization of the integration path between animation design and cultural and creative industries in the information era." *Applied Mathematics and Nonlinear Sciences*.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	PRODUCT VISUALISATION					
Type of Course	DCC					
Course Code	MG8DCCAVE401					
Course Level	400-499					
Course Summary	This course dives into the world of product visualization, equipping you with the skills to build stunning 3D models, breathe life into them with animation, and seamlessly integrate visual effects for a final product that captivates your audience.					
Semester	VIII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Proficiency in 3D modeling and compositing skills are valuable for integrating 3D product animations into live-action footage or other environments. Mastery of techniques for achieving photorealistic rendering is essential for product visualization.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Explain the workflow involved in creating a product visualization animation, from initial concept to final render.	U	1
2	Implement fundamental VFX techniques like compositing to integrate animation and effects seamlessly.	A	2,7
3	Analyze existing product visualizations to identify strengths and weaknesses in terms of animation, VFX, and storytelling.	An	1, 3
4	Critically compare different animation and VFX approaches for a specific product visualization project.	E	1
5	Create a complete product visualization animation showcasing their skills in 3D modeling, animation, VFX, and compositing.	C	4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Foundations of Product Visualization**			
	1.1	Product Visualization Project Understanding product visualization, its benefits, and applications across industries Understanding the project brief and identifying key objectives, and time constraints.	5	1
2	**Product Storytelling**			
	2.1	**Product Selection & Research** Choosing a product for your final project and conducting thorough research on its functionalities and target audience.	10	1
3	**Techniques for Product Enhancement**			
	3.1	**VFX and Animation for Product Visualisation** Understanding the role of VFX and animation in product visualization and exploring popular techniques like 3D modelling, compositing and particle effects	2	2
	3.3	**Compositing** Understanding the role of compositing techniques to combine animation, VFX elements, and live-action footage for a seamless final product	3	2, 3
4	**Project Development & Portfolio Preparation**			
	4.1	**Concept Development & Scriptwriting** Developing a creative concept and script for your product visualization animation.	15	4, 5
	4.2	**Storyboarding** Creating storyboards to plan and visualize the animation and VFX sequence for your product.	15	4, 5
	4.3	**Production Review** Regular reviews of the work progress, addressing any issues, refining works, and ensuring consistency with the project vision.	15	3, 4, 5
	4.4	**Final Project & Portfolio Creation** Creating a product visualization animation using the learned techniques.	10	5
5	**Teacher Specific Module**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Project Development Workshops - Dedicate workshop sessions to guide students through the project development process, from initial concept brainstorming and storyboarding to animation planning and VFX integration. ● Peer Feedback Sessions - Organize sessions where students present their work in progress, receive constructive feedback from peers, and learn from different approaches. ● Faculty Feedback & Guidance: Schedule regular instructor feedback sessions to provide individual guidance on project development, troubleshoot technical issues, and refine animation and VFX implementation.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments / Exercise	10
Assessment of project milestones	20
Total	30

B. Semester End Semester Evaluation (ESE) - 70 Marks

Project evaluation and viva voce

ESE Components	Marks Distribution
Concept Development and Storyboarding	10
Technical Skill and Application	10
Final Animation Quality	35
Viva & Record	15
Total	70

Please refer the appendix for more details

References

1. Brinkmann, Ron. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics*. Morgan Kaufmann Publishers, 2008.
2. Wright, Steve. *Digital Compositing for Film and Video*. 3rd ed. Routledge, 2010.
3. Wright, Steve. *Compositing Visual Effects: Essentials for the Aspiring Artist*. Routledge, 2011.
4. Dinur, Eran. *The Complete Guide to Photorealism for Visual Effects, Visualization and Games*. Routledge, 9 December 2021.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	3D MODELLING FOR GAMING					
Type of Course	DCE					
Course Code	MG8DCEAVE400					
Course Level	400-499					
Course Summary	Participants will gain proficiency in 3D modelling, focusing on gaming environments. They'll learn essential principles, tools, and software to create optimized assets for real-time rendering. Emphasis on mastering modeling, texturing, and optimization strategies, culminating in a portfolio for game development success.					
Semester	VIII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Fundamental understanding of 3D graphics: basic software use, 3D geometry, texturing, lighting, shading, and rendering concepts.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Explain the principles behind advanced 3D modelling and optimization for gaming.	U	1, 2, 3
2	Apply optimization strategies to enhance performance and efficiency in real-time rendering.	A	1, 2, 3, 10
3	Analyse the effectiveness of different modeling approaches in achieving specific aesthetic and technical requirements.	An	1, 2, 3, 5
4	Assess the quality and suitability of 3D models created for gaming environments based on industry standards and project requirements.	E	1, 3, 5
5	Generate high-quality 3D game assets that demonstrate mastery of advanced modelling techniques, optimization, and aesthetic considerations.	C	1, 2, 3, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to 3D Modelling for Games**			
	1.1	Overview of the gaming industry and the role of 3D modelling.	1	1
	1.2	Importance and techniques of creating optimized 3D models for real-time art.	7	1, 2
2	**3D Game Assets Modelling**			
	2.1	**Modelling of any organic props:** Create low-poly and high-poly 3D models of any organic props with realistic detailing.	10	3, 5
	2.2	**Modelling of any Inorganic props (hard surface) :** Create low-poly and high-poly 3D models of any hard surface props with realistic detailing.	10	3, 5
	2.3	**Vehicle modelling:** Create low-poly and high-poly 3D models of a vehicle with realistic detailing.	20	2, 4, 5
3	**UV Unwrapping**			
	3.1	**Seamless Texture Mapping:** Importance of creating seamless textures to avoid visible seams or artifacts on 3D models and techniques for ensuring continuity and smooth transitions in texture mapping.	6	1, 3, 4
	3.2	**Advanced UV Mapping & Optimization techniques for real-time art:** Advanced UV mapping techniques for 3D models and Strategies for handling intricate details, multiple texture channels, and overlapping UVs.	6	1, 3, 4
4	**Shading, Lighting, and Rendering for Realism**			
	4.1	**PBR Workflow:** Physically Based Rendering (PBR), enabling artists to create realistic materials with accurate lighting and shading in 3D models.	4	1, 4, 5
	4.2	**Baked Maps:** Generate baked maps, including normal maps, ambient occlusion, and more, which are crucial for achieving realistic surface details in a 3D model.	3	1, 4, 5
	4.3	**Texturing Using Smart materials, Generators & Filters:** A library of pre-built smart materials that can be customized and applied to surfaces, streamlining the texturing process.	4	1, 4, 5
	4.4	**Lighting** using physical lights and HDRI Maps. Optimization Strategies for Efficient Rendering.	4	1, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Demonstration - The subject is being explained or illustrated using a computer, which could involve using software, multimedia presentations, or other digital tools to enhance the understanding of the topic. ● Classroom Training - The objective of classroom training is to equip students with modelling, texturing, lighting, and rendering skills. ● Assignments - The objective of an assignment is to enhance students' skills and guide them in discovering efficient methods for creating objects. If mistakes are made, the assignment aims to assist them in resolving the issues.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Assignments	10
Examinations x 2	10 x 2 = 20
Total	30

B. End-Semester Evaluation (ESE) - 70 Marks

- Practical examination

ESE Components	Marks Distribution
Modelling	30
Texturing	10
Lighting	10
Rendering	10
Presentation	10
Total	70

Please refer the appendix for more details

References

1. Lammers, Luke A., and Mike Batchelor. *3D Game Modeling & Animation: Principles & Practices.* Jones & Bartlett Learning, 2017.
2. Galanakis, Michael. *Blender 3D By Example.* Packt Publishing, 2015.
3. O'Connor, Michael. *Mastering Autodesk Maya 2016: Autodesk Official Press.* Sybex, 2015.
4. Watkins, Dave. *The Focal Easy Guide to Maya 5: For New Users and Professionals.* Focal Press, 2004.
5. Schleifer, Jason. *The Art of Rigging (Vol. 1).* CG Toolkit, 2009.
6. Adams, Ernest. *Fundamentals of Game Design.* New Riders, 2009.
7. Burian, Peter, and Dariush Derakhshani. *Maya 2018 Basics Guide.* SDC Publications, 2017.
8. Kremers, Rudy. *Level Design: Concept, Theory, and Practice.* CRC Press, 2013.
9. O'Sullivan, Ciarán, and R. A. Robson. *Level Up! The Guide to Great Video Game Design.* John Wiley & Sons, 2010.
10. Schell, Jesse. *The Art of Game Design: A Book of Lenses.* CRC Press, 2008.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	AR AND VR INTEGRATION					
Type of Course	DCE					
Course Code	MG8DCEAVE401					
Course Level	400-499					
Course Summary	This course is an introduction to the integration of Augmented Reality (AR) and Virtual Reality (VR) technologies. Students will explore the fundamental concepts, technical aspects, and creative applications of AR and VR. Through hands-on projects and discussions, students will gain experience in integrating these technologies to create interactive and immersive experiences.					
Semester	VIII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Knowledge of 3D modeling and computer graphics is essential, often requiring basic familiarity with popular game engines. Hardware devices such as VR headsets or AR glasses can be beneficial for a more comprehensive learning experience.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Understand the principles and concepts of Augmented Reality (AR) and Virtual Reality (VR).	U	1, 2, 7
2	Understand different AR/VR hardware and software components and their respective functions.	U	1, 2, 7
3	Applying integration of AR/VR technologies into visual effects pipelines and identifying challenges and opportunities for improvement.	A	1, 2, 7, 10
4	Evaluate the impact of AR/VR on visual effects production workflows, considering factors such as efficiency, creativity, and collaboration.	E	1, 2, 7, 10
5	Design and develop AR/VR integration projects, applying concepts and techniques learned throughout the course.	C	1, 2, 7, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Introduction to AR & VR**			
	1.1	Introduction to AR and VR, definitions, history, and evolution. Applications of AR and VR across various industries - gaming, education, healthcare, retail, etc. Understanding the differences between AR and VR experiences.	5	1, 2
	1.2	User experience (UX) design principles for AR and VR - immersion, interaction, and navigation. Ethical considerations in designing AR and VR experiences.	5	1, 2
2	**Technical Fundamentals**			
	2.1	Hardware and software components of AR and VR systems - cameras, sensors, displays, development platforms. Introduction to AR development tools. Hands-on activity - Creating a simple AR experience using a chosen platform.	10	1, 2, 3
	2.2	Introduction to VR development tools. Understanding basic VR development concepts	10	2, 3, 4
3	**Integration and Collaboration**			
	3.1	Exploring existing examples of successful AR and VR integration projects. Analyzing the challenges and opportunities of integrating AR and VR technologies. Brainstorming session - Identifying potential applications of AR and VR integration for different industries.	10	2, 3, 4
	3.2	Guest lecture or industry panel discussion (optional) focusing on AR & VR integration in specific fields. Group work - Developing project proposals for integrating AR and VR in chosen contexts.	15	3, 4
4	**Project Development and Presentation**			
	4.1	Refining project proposals, defining project scope and goals. Collaboratively working on project development using chosen AR/VR development tools. In-class presentations and feedback sessions for ongoing projects.	10	3, 4, 5
	4.2	Finalizing and showcasing student projects through demonstrations. Iterative development and feedback sessions.	10	4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Project Based Learning - Assign a series of projects that progressively challenge students, starting from basic design creations to more complex projects. ● Classroom training - The objective of classroom acting training is to equip students with foundational skills, designing and development techniques. ● Portfolio Development - Conduct practical sessions on building a strong AR and VR application portfolio including tips on presentation, organization, and selection of diverse works. Schedule one-on-one sessions to review and provide personalized feedback on student's portfolios. ● Feedback sessions - Provide timely and detailed feedback on individual and group projects focusing on areas for improvement.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Concept Development	10
Technical Skill and Application Use	10
Progress and Participation	10
Total	30

B. End-Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Project	30
Technical Execution	30
Viva voice	10
Total	70

References

1. Jerald, J. *The VR book: Human-centered design for virtual reality*. New York: Association for Computing Machinery, 2016.
2. Lukas, S.A. *The Immersive Worlds Handbook: Designing Theme parks and Consumer Spaces*. London: Routledge, 2019.
3. Craig, A.B. *Understanding augmented reality: Concepts and applications*. Waltham (Massachusetts): Morgan Kaufmann, 2013.
4. Parisi, T. *Learning virtual reality developing immersive experiences and applications for desktop, web, and Mobile*. Sebastopol, CA: O'Reilly Media, Inc., 2015.
5. Schmalstieg, D. and Höllerer, T. *Augmented reality: Principles and practice*. Boston: Addison-Wesley, 2016.
6. Whyte, J. and Nikolic, D. *Virtual reality and the built environment*. London ; New York: Routledge, 2018.
7. Chen, C.J. *Virtual reality (VR)-based learning environment: Design, develop, Evaluate*. Saarbrucken, Germany: Lambert Academic, 2010.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	MODELLING FOR 3D PRINTING					
Type of Course	DCE					
Course Code	MG8DCEAVE402					
Course Level	400-499					
Course Summary	The course places a strong emphasis on the planning, production, and post-processing phases, ensuring that students undergo a thorough review process at each stage to refine their work and align it with the project's goals. As part of the final project evaluation, students are required to create and submit a minimum of two characters or two objects as 3D prints.					
Semester	VIII	Credits			4	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.	0	3	1	0	75
Prerequisites, if any	Knowledge in 3D modelling software and different types of modelling techniques.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome Upon completion of this course, students will be able to;	Learning Domains*	PO No
1	Interpret different file formats used in 3D modelling for 3D printing.	U	1, 2
2	Demonstrate the ability to use 3D modelling software for creating printable models.	A	1, 2, 5
3	Compare and contrast different modelling approaches and software tools for 3D printing.	An	1, 2, 3
4	Critique the quality of 3D models in terms of their accuracy and functionality for intended purposes.	E	1, 2, 5,1 0
5	Combine various modelling, printing, and finishing techniques to produce high-quality 3D prints with minimal material waste and post-processing effort.	C	1, 2, 5, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Project Planning**			
	1.1	Understanding the Project Brief: Reviewing the provided project brief and identifying key objectives and time constraints.	5	1
	1.2	Developing a Concept: Brainstorming and refining ideas to create a solid concept for the Modelling for 3D Printing.	5	1
	1.3	3D printers and materials, their advantages and limitations.	5	1
2	**Pre-production**			
	2.1	Model sheets for character and props: sheets or documents containing detailed drawings or specifications used by artists as references for creating characters and props.	10	1, 2
3	**Production**			
	3.1	Production Review: Regular reviews of the modelling progress, addressing any issues, and ensuring consistency with the project vision.	30	3, 4, 5
	3.2	Different file formats used in 3D printing (STL, OBJ, etc.).	2	3, 4, 5
4	**Post-Processing and Finishing Techniques**			
	4.1	Final Review and Feedback: Conducting a comprehensive review of the completed project addressing any remaining issues and ensuring alignment with the initial concept.	10	3, 4, 5
	4.2	Finalizing the project by 3D printing it in the desired material, for final Project evaluation and viva voce.	8	3, 4, 5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Project Briefing: Detailed explanation of the Modelling for 3D printing project, including goals, constraints, and assessment criteria. ● Industry Professionals: Invited speakers from the 3D printing industry providing insights and sharing experiences. ● Project development under the guidance of the instructor. Peer collaboration and feedback sessions. Weekly check-ins to monitor progress. ● Final project presentations with instructor feedback.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 30 Marks

CCA Components	Marks Distribution
Model Sheet	10
Technical Skill and Application	10
Progress and Participation	10
Total	30

B. End Semester Evaluation (ESE) - 70 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Record book	10
Viva-Voce	10
3D Print submission	50
Total	70

Please refer the appendix for more details.

References

1. Muralidhara, H. B., and Soumitra Banerjee. *3D Printing Technology and Its Diverse Applications*. Apple Academic Press, 2021.
2. Bell, Charles. *3D Printing with Delta Printers*. APress, 2015.
3. Ingrassia, Michael. *Maya for Games: Modelling and Texturing Techniques with Maya and Mudbox*. Routledge, 2008.
4. Mullen, Tony, and Claudio Andaur. *Blender Studio Projects: Digital Movie Making*. Wiley, 2010.
5. NIIR Board of Consultants & Engineers. *Handbook on Printing Technology (Offset, Flexo, Gravure, Screen, Digital, 3D Printing with Book Binding and CTP)*. 5th Revised Edition, ASIA PACIFIC BUSINESS PRESS Inc, 2019.
6. Murdock, Kelly L. *Autodesk Maya 2020 Basics Guide*. SYBEX, 2020.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	DISSERTATION					
Type of Course	PRJ					
Course Code	MG8PRJAVE400					
Course Level	400-499					
Course Summary	This course on Dissertation paper provides comprehensive guidance and support to students as they embark on their final academic research project. Emphasizing critical thinking, research methodologies, and academic writing, the course covers all stages of dissertation development, from topic selection and literature review to data collection, analysis, and presentation of findings. Through regular workshops, one-on-one mentoring, and peer reviews, learners refine their research questions, develop robust methodologies, and enhance their scholarly writing skills. The course culminates in the production of a well-structured, original dissertation that contributes to the student's field of study, preparing them for professional or academic advancement.					
Semester	VIII	Credits			12	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach					
Prerequisites, if any	Prerequisites for the Dissertation paper include successful completion of foundational courses in research methods and academic writing, as well as approval of a research proposal by the department faculty. Additionally, students should have a strong grasp of their subject area and prior coursework relevant to their chosen dissertation topic.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Comprehend and explain the significance of their research within the broader context of their academic discipline.	U	1
2	Implement appropriate research methodologies and analytical techniques to investigate their research questions.	A	1
3	Critically examine and interpret data to identify patterns, relationships, and insights relevant to their study.	An	1
4	Assess the validity and reliability of their research findings and their implications for the field.	E	2
5	Synthesize information and research findings to produce an original, well-structured dissertation that contributes to the academic discourse in their area of study.	C	2, 4, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1		**Concept of Research**		
	1.1	Meaning and importance of research Types of research Selection and formulation of research problem Identification of a research topic Proposal writing Research design		1
2		**Research Methods**		
	2.1	Traditional Methods - Historical, institutional, legal, philosophical, comparative, ethical methods, etc. Modern Methods - survey of literature, sampling method, questionnaire, schedule, etc., field studies, interview method and focus group discussion, observation method, case study method, content analysis, delphi method, statistical method, experimental method, brainstorming techniques, etc.		1, 2
3		**Data Collection and Data Analysis**		
	3.1	Types of Data - Primary, secondary and tertiary data. Construction and adaptation of instruments Administration of questions and tests Tabulation of data. Data organization in SPSS and Excel Graphical representation of data.		1, 3
	3.2	Analysis of Data - Discussion and interpretation of results Testing of Hypothesis - Logical and statistical techniques.		1, 3, 4
4		**Report Writing**		
	4.1	Organization of the research report preliminaries Contents of Report Bibliography and appendices Style manuals - Criteria for the evaluation of the research report Research project submission		5
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Lectures - Faculty members deliver lectures to introduce key concepts, theories, and methodologies relevant to dissertation research. These lectures provide foundational knowledge and guidance on various aspects of the research process, including topic selection, literature review, methodology design, data analysis, and academic writing. ● Workshops - Interactive workshops allow learners to engage more deeply with specific topics or skills essential for dissertation research. These sessions may focus on refining research questions, conducting effective literature reviews, designing research methodologies, analyzing data using statistical software, or enhancing academic writing and citation skills. ● Seminars - Seminar sessions provide opportunities for learners to present their research progress, receive feedback from peers and faculty, and engage in scholarly discussions related to their dissertation topics. These sessions foster a collaborative learning environment and help learners refine their research ideas and methodologies through constructive criticism and dialogue. ● Individual Consultations - Faculty members offer one-on-one consultations to provide personalized guidance and support to learners throughout the dissertation process. These consultations may involve discussing research ideas, refining research methodologies, addressing challenges or concerns, and receiving feedback on draft chapters or sections of the dissertation. ● Self-Directed Study - Learners are expected to engage in independent study and research outside of scheduled class sessions. This may include conducting literature searches, collecting and analyzing data, writing dissertation chapters, and revising drafts based on feedback received from faculty and peers.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 60 Marks

CCA Components	Marks Distribution
Research Proposal	20
Progress Reports	20
Seminar Presentations	10
Participation and Engagement	10
Total	60

B. Semester End Semester Evaluation (ESE) - 140 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Dissertation Content	60
Research Methodology	30
Critical Analysis and Synthesis	30
Writing Quality and Presentation	20
Total	140

Please refer the appendix for more details

References

1. Kothari, C. R. *Research Methodology*. New Age International Publishers, 1 Jan. 2023.
2. Kumar, Ranjit. *Research Methodology: A Step by Step Guide for Beginners*. 4th ed., SAGE Publications Pvt. Ltd, 13 Aug. 2023.
3. Panneerselvam, R. *Research Methodology*. Prentice Hall India Learning Private Limited, 1 Jan. 2013.
4. Cochran, W.G. *Sampling Techniques*. 3rd ed., John Wiley & Sons, 1977.
5. Ghosh, B. N. *Scientific Method and Social Research*. Sterling Publications Private Limited, 1 Jan. 2015.
6. Goode, William J., and Paul K. Hatt. *Methods in Social Research*. Asia Law House, 1 Jan. 2017.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	ANIMATION PROJECT					
Type of Course	PRJ					
Course Code	MG8PRJAVE400					
Course Level	400-499					
Course Summary	The Animation Project culminates in the creation of a professional-quality animated short film, showcasing the skills and creativity of graduating students. Throughout the project, students engage in all stages of animation production, including concept development, storyboarding, character design, animation, sound design, and post-production. Emphasis is placed on collaborative teamwork, technical proficiency, and narrative storytelling. By the end of the course, students produce a polished animated film, ready for submission to film festivals and professional portfolios, demonstrating their readiness to enter the animation industry.					
Semester	VIII	Credits			12	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.					
Prerequisites, if any	A successful animation project requires a foundation in pre-production concepts. This includes storyboarding and narrative development to bring your idea to life. Additionally, a grasp of animation principles is essential, depending on your chosen technique. Most importantly, a passion for storytelling and a willingness to explore is crucial for bringing your creative vision to the screen.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Apply their knowledge and skills to plan, develop, and produce an animation film. This involves scriptwriting, storyboarding, editing, and incorporating sound design.	A	1, 3, 4, 5, 7, 9
2	Analyze successful short films, considering narrative structure, character development, visual style, use of sound design, and overall effectiveness in conveying the intended message.	An	1, 2, 3, 4, 5
3	Evaluate their own film's strengths and weaknesses, considering technical aspects, storytelling, and audience engagement.	E	1, 2, 4
4	Create a short animation film that showcases their understanding of animation and filmmaking principles, technical skills, and creative vision.	C	6, 7, 8, 9, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Project Planning and Concept Development**			
	1.1	**Project Brief** Reviewing the provided project brief and identifying key objectives, and time constraints. Conducting research and gathering inspiration to inform the animation's visual style, themes, and overall direction.	5	1, 2
	1.2	**Developing a Concept and Storyboarding** Brainstorming and refining ideas to create a solid concept for the animation project. Creating a detailed storyboard to visualize the sequence of events and key moments in the animation.	15	1, 2
2	**Pre-production Review and Asset Preparation**			
	2.1	**Storyboard Review and Asset Planning** Critically reviewing and refining storyboards based on feedback and ensuring alignment with the project goals. Identifying and listing the required assets (characters, backgrounds, props) and planning for their creation.	25	1, 2
	2.2	**Character Design and Animatics Creation** Designing characters for animation, considering the project's style and requirements. Assembling the storyboard into rough animatics to preview the pacing and flow of the animation.	25	1, 2
3	**Production**			
	3.1	**Production Review and Iterative Feedback** Regular reviews of the animation progress, addressing any issues, refining animations, and ensuring consistency with the project vision.	55	3, 4
4	**Post-production and Finalization**			
	4.1	**Editing and Sound Design** Reviewing the animation for pacing, timing, and overall flow, making adjustments as needed. Incorporating audio elements, such as voice overs, music, and sound effects, to enhance the storytelling.	20	4
	4.2	**Final Review and Feedback** Conducting a comprehensive review of the completed animation, addressing any remaining issues and ensuring alignment with the initial concept. Finalizing the animation by exporting it in the desired format.	5	4, 3
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Workshops - Provide hands-on experience in various aspects of animation filmmaking through guest speaker sessions. ● Presentations - Students will present their project proposals and progress updates at specific points in the semester, receiving feedback from peers and instructors. ● Peer feedback sessions - Students engage in constructive peer review of each other's work, fostering critical thinking and learning.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 60 Marks

CCA Components	Marks Distribution
Planning Stage	20
Technical Skills and Execution	20
Time Management	20
Total	60

B. Semester End Semester Evaluation (ESE) - 140 Marks - Project evaluation and viva voce

ESE Components	Marks Distribution
Final Animated Film	80
Process Book	40
Viva-Voce	20
Total	140

Please refer the appendix for more details

References

1. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
2. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
3. Halas, John, and Harold Whitaker. *Timing for Animation*. Focal Press, 2009.
4. Webster, Ian. *Physics for Animators*. Taylor & Francis, 2013.
5. Lasseter, John, and Steve Daly. *The Art of 2D Animation.* Chronicle Books, 2009.
6. Williams, Joseph Labrecque, and Rob Schwartz. *Adobe Animate Classroom in a Book (2021 release)*. Peachpit Press, 2021.
7. Blanc, Jean-Gabriel. *Animated Storytelling: Simple Steps for Creating Animation and Motion Graphics.* Peachpit Press, 2015.
8. Hoisington, Corinne. *Adobe Animate CC: The Basics*. Cengage Learning, 2016.

Mahatma Gandhi University Kottayam

Programme	BA (Hons) Animation and Visual Effects					
Course Name	LIVE-ACTION PROJECT					
Type of Course	PRJ					
Course Code	MG8PRJAVE400					
Course Level	400-499					
Course Summary	This group project involves creating a live-action film with a strong emphasis on scriptwriting, directing, cinematography, sound design, and VFX integration, culminating in a final project and viva-voce assessment to showcase the learners' technical skills and creative vision.					
Semester	VIII	Credits			12	Total Hours
Course Details	Learning Approach	Lecture	Tutorial	Practical / Practicum	Others	
	Experiential, Constructivist and Cognitive learning approach.					
Prerequisites, if any	Prerequisites for the Live-Action project include foundational courses in film production, scriptwriting, and VFX techniques, ensuring students possess the necessary skills in directing, cinematography, and post-production.					

COURSE OUTCOMES (CO)

CO No.	Expected Course Outcome **Upon completion of this course, students will be able to;**	Learning Domains*	PO No
1	Apply their knowledge and skills to plan, develop, and produce a short film. This involves scriptwriting, storyboarding, budgeting, scheduling, filming, animation, editing, visual effects and incorporating sound design.	A	1, 3, 4, 5, 7, 9
2	Analyze successful short films, considering narrative structure, character development, visual style, use of sound design, and overall effectiveness in conveying the intended message.	An	1, 2, 3, 4, 5
3	Evaluate their own film's strengths and weaknesses, considering technical aspects, storytelling, and audience engagement.	E	1, 2
4	Create a short film that showcases their understanding of filmmaking principles, technical skills, and creative vision.	C	6, 7, 8, 9, 10
Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)			

COURSE CONTENT

Content for Classroom transaction (Units)

Module	Units	Course description	Hrs	CO No.
1	**Pre-Production**			
	1.1	Project introduction, brainstorming ideas, and forming teams. Scriptwriting, developing storyboards, and refining the film concept. Script analysis to identify scenes requiring VFX. Concept art to create visual representations of key VFX elements to guide the production team. Pre-production planning like budgeting, scheduling, and resource allocation. Proposal submission and presentation, refining plans based on instructor feedback.	55	1, 2
2	**Production**			
	2.1	Capturing essential footage, sound recording, and managing production logistics. Acquiring any necessary VFX elements, ensuring data backup, and wrapping up production.	50	1, 2, 3
3	**Post-Production**			
	3.1	Editing and assembling the film, incorporating sound design and music. Adding VFX elements and applying color correction. Finalizing the film, ensuring technical quality and narrative coherence. Peer feedback sessions and final film presentations.	35	1, 2, 3
4	**Final Review and Feedback**			
	4.1	Conducting a comprehensive review of the completed film, addressing any remaining issues and ensuring alignment with the initial concept.	10	2, 3, 4
5	**Teacher Specific Content**			

Teaching and Learning Approach	**Classroom Procedure (Mode of transaction)** ● Workshops - Provide hands-on experience in various aspects of filmmaking through guest speaker sessions. ● Group Presentations - The group will present their project proposals and progress updates at specific points in the semester, receiving feedback from peers and instructors. ● Peer feedback sessions - Students engage in constructive peer review of each other's work, fostering critical thinking and collaborative learning.

Assessment Types

MODE OF ASSESSMENT

A. Continuous Comprehensive Assessment (CCA) - 60 Marks

CCA Components	Marks Distribution
Planning Stage	20
Technical Skills and Execution	20
Time Management	20
Total	60

B. Semester End Semester Evaluation (ESE) - 140 Marks

- Project evaluation and viva voce

ESE Components	Marks Distribution
Final Film	80
Process Book	40
Viva-Voce	20
Total	140

Please refer the appendix for more details

References

1. Brinkmann, Ron. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics*. Morgan Kaufmann Publishers, 2008.
2. Wright, Steve. *Digital Compositing for Film and Video*. 3rd ed. Routledge, 2010.
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4. Dinur, Eran. *The Complete Guide to Photorealism for Visual Effects, Visualization and Games*. Routledge, 9 December 2021.
5. Ascher, Steven, and Edward Pincus. *The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age*, Fifth Edition. Plume, 2012.
6. Thomas, Frank, and Ollie Johnston. *The Illusion of Life: Disney Animation*. Disney Editions, 1995.
7. Williams, Richard. *The Animator's Survival Kit*. Faber and Faber, 2009.
8. Halas, John, and Harold Whitaker. *Timing for Animation*. Focal Press, 2009.
9. Webster, Ian. *Physics for Animators*. Taylor & Francis, 2013.