ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA: 3.64) in the Third Cycle,
Graded as Category-I University and granted autonomy by MHRD-UGC)

DIRECTORATE OF COLLABORATIVE PROGRAMMES

Diploma in Animation

Regulations and Syllabus

[For those who join the Course in July 2023 and after]

CHOICE BASED CREDIT SYSTEM

DIPLOMA IN ANIMATION

Name of the Programme	:	**Diploma in Animation (DIA)**
Pattern	:	Semester Pattern
Mode	:	Collaborative Programs
Medium	:	English
Duration	:	One Year
Eligibility	:	A pass in the Higher Secondary Examination (HSC) conducted by the Government of Tamil Nadu, or an examination accepted as equivalent thereto by the Syndicate for admission to Diploma in Animation

Programme Educational Objective:

1. Students will acquire the knowledge and essential skills required for working in various media organizations.
2. Students will acquire critical thinking, research aptitude, ethics and social responsibility skills related to the media industry.
3. Develop, assemble and present a demo reel or portfolio in a manner that meets current industry expectations, and highlights one's creativity, skills and proficiency with relevant animation software and related technologies.

Program Specific Outcomes:

1. Students acquire multiple skills that will enhance their employability in different segments of the Animation, 3D and Entertainment industry.
2. Students understand the ongoing changing trends and keep them updated with the latest technology.They will be able to effectively use technical, conceptual and critical abilities, and appropriate technology tools.
3. Students Inculcate adequate knowledge, skill, dedication and work ethics required for accomplishment of the assigned task.Apply 2d and 3d techniques that demonstrate characters with realistic motion and a full range of emotion in animated characters.

STANDARD OF PASSING AND AWARD OF DIVISION:

a) Students shall have a minimum of 40% of total marks of the University examinations in each subject. The overall passing minimum is 40% both in external and aggregate of Continuous Internal Assessment and external in each subject.

b) The minimum marks for passing in each theory / Lab course shall be 40% of the marks prescribed for the paper / lab.

c) A candidate who secures 40% or more marks but less than 50% of the aggregate marks, shall be awarded **THIRD CLASS**.

d) A candidate who secures 50% or more marks but less than 60% of the aggregate marks, shall be awarded **SECOND CLASS**.

e) A candidate who secures 60% or more of the aggregate marks, shall be awarded **FIRST CLASS**.

f) The Practical / Project shall be assessed by the two examiners, by an internal examiner and an external examine

CONTINUOUS INTERNAL ASSESSMENT:

a. Continuous Internal Assessment for each paper shall be by means of Written Tests, Assignments, Class tests and Seminars

b. 25 marks allotted for the Continuous Internal assessment is distributed for Written Test, Assignment, Class test and Seminars.

c. Two Internal Tests of 2 hours duration may be conducted during the semester for each course / subject and the best marks may be considered and one Model Examination will be conducted at the end of the semester prior to University examination. Students may be asked to submit at least five assignments in each subject. They should also participate in Seminars conducted for each subject and marks allocated accordingly.

d. Conduct of the continuous internal assessment shall be the responsibility of the concerned faculty.

e. The continuous internal assessment marks are to be submitted to the University at the end of every year.

f. The valued answer papers/assignments should be given to the students after the valuation is over and they should be asked to check up and satisfy themselves about the marks they have scored.

g. All mark lists and other records connected with the continuous internal assessments should be in the safe custody of the institution for at least one year after the assessment.

ATTENDANCE:

- Students must have earned 75% of attendance in each course for appearing for the examination.
- Students who have earned 74% to 70% of attendance to be applied for condonation in the prescribed form with the prescribed fee.
- Students who have earned 69% to 60% of attendance to be applied for condonation in the prescribed form with the prescribed fee along with the medical certificate.
- Students who have below 60% of attendance are not eligible to appear for the examination. They shall re-do the semester(s) after completion of the programme.

UNIVERSITY EXAMINATIONS:

Candidate must complete course duration to appear for the university examination. Examination will be conducted with concurrence of Controller of Examinations as per the Alagappa University regulations. University may send the representatives as the observer during examinations. University Examination will be held at the end of each semester for duration of 3 hours for each subject. Certificate will be issued as per the AU regulations. Hall ticket will be issued to the 1st year candidates upon submission of the list of enrolled students along with the prescribed course fee.

EVALUATION OF ANSWER PAPERS:

Answer papers of the University Examinations shall be subjected to evaluation by a Board of Examiners constituted by Alagappa University.

COURSE COMPLETION

Students shall complete the program within a period not exceeding 2 years from the year of completion for the period of study.

PROGRAMME CONTENT AND SCHEME OF EXAMINATIONS

The course of study shall comprise the following subjects according to the syllabus prescribed from time to time.

DIPLOMA IN ANIMATION
Course Structure

Semester	Course Code	Sub. Code	Title of the Paper	Theory| Practical	Credits	Hours/W	Marks		Total
							Int.	Ext.	
I	CC	22011	Introduction to Visual Language and Aesthetics	T	4	5	25	75	100
	CC	22012	Introduction to Classical Animation (2D Animation)	T	4	5	25	75	100
	CC	22013	Visual Storytelling	P	5	10	25	75	100
	CC	22014	Advanced Art for Animation	P	5	10	25	75	100
		Total			**18**	**30**	**100**	**300**	**400**
II	CC	22021	Introduction to 3D animation using Autodesk Maya	T	4	5	25	75	100
	CC	22022	Business of Media and Planning	T	4	5	25	75	100
	CC	22023	Introduction to 3D animation (computer aided)	P	5	10	25	75	100
	CC	22024	Portfolio and Presentation	P	5	10	25	75	100
		Total			**18**	**30**	**100**	**300**	**400**

Note:

For Theory: 1 Credit = 1 Hour

For Practical: 1 Credit = 2 Hours

Course Designed By	BOS Date	Approved By
Mr. Ranjith T Mr. Jayakrishnan S		

SEMESTER I

Course Code: 22011	Introduction to Visual Language and Aesthetics	T	Credits - 4	Hours -5
Objectives	Visual Language and Aesthetics is an important subject for conveying messages and visualizing ideas to an audience. The goals of visual communication are varied, but the primary objective is to create a meaningful connection between the message and its audience			
Unit I	*History of Art*- Artistic productions such as paintings, sculptures, architecture, and the graphic and decorative arts			
Unit II	*Design Fundamentals*- Color Wheel, Color Theory, Imagery, Typography, Composition, Color Properties, Digital painting and drawing techniques, shape/edge, measurement, light (value). Multimedia Software, Multimedia operating systems, Multimedia communication systems			
Unit III	*Drawing Fundamentals*- Anatomy Drawing, Basic Shapes and Proportions, Lines and Contouring, Understanding Light and Shadow, Perspective Drawing, Observation and Creativity			
Unit IV	*Preproduction*- Character design and development Brainstorming a concept, Scripting, Character design, Location scouting, and Model sheet. Developing a character's style, personality, behavior, and overall visual appearance			
Unit V	*Storyboarding and Animatics*- Storyboarding and Animatics, Budgeting Scenes, Shots, Panel, Sequence, perspectives, Animatic			

Reference and Text books

1. Penelope J.E. Davies, et al., Janson's History of Art (9th edition).
2. The Art of the Storyboard: A Filmmaker's Introduction- John Hart
3. BammesGottfriend “The Artist Guide to Human Anatomy”, Dover, 2004.
4. Daniel Carter, and Michael Courtney, “Anatomy for the Artist”, Parragon, 2002.
5. Victor Perard, “Anatomy and Drawing”, Grace Prakashan, 2003

Course Outcomes

- Students visualize concepts and ideas.
- Creative and innovative thinking.
- Students will be able to articulate the role of visual communication within society, and implement the creative process to solve diverse visual communication problems

Course Code: 22012	Introduction to Classical Animation (2D Animation)	T	Credits -4	Hours - 5
Objectives	This module introduces learners to the fundamentals of 2D animation techniques. The conceptualisation, design, and creation of 2D products are examined. Learners gain practical experience in 2D animation and begin to explore the possibilities of visual media.			
Unit I	Fundamentals of 2D Animation- Introduction to 2D Animation, Drawing concept, Incorporating sound into 2D animation.			
Unit II	Layout & Designing Basic- Sketching, Composition of basic elements, still life and assignment of basic drawing, define the perspective of the animation frames by drawing the backgrounds. The relative size of the objects in the background of a flat image, as compared to the action in the foreground, influences how viewers perceive the scene.			
Unit III	Character - Tracing, coloring Creativity and drawing skills, Concentration and focus on the designs, Drawing with Emotions, Layers of animation.			
Unit IV	Timing and spacing - The Fundamentals of Timing Animation and Spacing Animation,.12 Principles of Animation Animated characters and objects have the illusion of gravity, weight, mass and flexibility.			
Unit V	Production / Post-Production - Paint & animate, Basic Understanding of 2D animation and technique, Animation with flash, Portfolio Making.			

Reference and Text books

1. Whitaker and Hales, “Timing for animation”, Focal press, 2007.
2. Preston Blair, “Cartoon Animation”, Walter Foster, 1994.
3. Richard Williams, “The Animator‘s Survival Kit”, Faber and Faber, 2001.
4. The Illusion of Life-Book by Frank Thomas and Ollie Johnston
5. Ken A, Priebe, “The Art of Stop Motion Animation, Thomson course and Technology”, PTR, 2006

Course Outcomes

1. Demonstrate an understanding of the development and history of animation aesthetics.
2. Demonstrate an understanding of the fundamental concepts, principles, and techniques of 2D animation.
3. Create An Animation From Initial Concept to final product.
4. Demonstrate an understanding of design, production, and technology issues around the creation of vector-based animations.
5. Apply a range of animation techniques to the solution of problems involving interrelated concepts and methodologies.

Course Code: 22013	Visual Storytelling	P	Credits -5	Hours -10
Objectives	1. Produce creative works that demonstrate innovation in concepts, formal language and/or materials. 2. Describe, analyze and interpret created artwork. 3. Recognize elements of design in works of art. 4. Analyze, interpret and evaluate the form and content of works of art.			
Unit I	Create decorative art based on the script .			
Unit II	Draw or print a color wheel and paint the color Wheel.			
Unit III	Create an environment using 2 point perspective and 3 point perspective.			
Unit IV	Create a concept development based on a story.			
Unit V	Storyboarding and Animatics of a 30-second film.			

Reference and Text books

1. Penelope J.E. Davies, et al., Janson's History of Art (9th edition).
2. The Art of the Storyboard: A Filmmaker's Introduction- John Hart
3. BammesGottfriend “The Artist Guide to Human Anatomy”, Dover, 2004.
4. Daniel Carter, and Michael Courtney, “Anatomy for the Artist”, Parragon, 2002.
   Victor Perard, “Anatomy and Drawing”, Grace Prakashan, 2003

Course Outcomes

1. Students will be able to articulate the fundamental elements and principles of formalist design that enable a visual message to meaningfully engage an audience.
2. Identify and utilize design history, theory, and criticism from a variety of perspectives, including: art history, communication/information theory, and the social/cultural use of design objects.
3. Utilize relevant applications of tools and technology in the creation, reproduction, and distribution of visual messages.

Course Code: 22014	Advanced Art for Animation	P	Credits - 5	Hours - 10
Objectives	The subject aims to impart knowledge of Animation and its principles as a foundation for the course and enables the students to learn and understand Animation as a medium of communication.			
Unit I	Create a dynamic action pose (character gesture drawing) for the given project.			
Unit II	Create 3 different compositions based on the provided story.			
Unit III	Create character designs and expressions based on the script.			
Unit IV	To create a flip book animation, Animation Cycles(Run,Walk,Striding,Dancing).			
Unit V	Apply the Principles of Animation and animate the following task given project.(A man and a boat are seen jumping into the sea, their expressions captured in detail as they splash into the water. The followthrough on the scene is evident as their movements are captured in detail.)			

Reference and Text books

1. Ollie Johnston and Frank Thomas, "The illusion of life", First Edition, Abbeville press, 1981
2. Harold Whitaker and john Halas, "Timing for Animation", focal Press, Oxford, 2002
3. Maraffi, Chris (2004). Maya Character Creation: Modeling and Animation Controls. New Riders.
4. Oliverio, Gary (2006). Maya 8 Character Modeling. Jones & Bartlett Publishers
5. Allen, Eric & Murdock, Kelly L. (2008). Body Language: Advanced 3D Character Rigging. Sybex Publication.
6. Digital Lighting & Rendering, Second Edition by Jeremy Birn

Course Outcomes

1. Understanding of Basic Principles of Animation. Understanding the process of cell animation and learning line testing machines.
2. How to identify arcs and overlapping actions on humans, creatures, and props.
3. Performance Acting with the character-like interpretation of props.

SEMESTER II

Course Code: 22021	**Introduction to 3D animation using Autodesk Maya**	**T**	**Credits -4**	**Hours - 5**
Objectives	The specific Introduction to 3D animation module students will introduce into 3D computer graphics application and process. They will explore the basics of 3D Modeling, Texturing, Lighting and Rendering process.			
Unit I	*Modeling in Maya* - Modeling is the cornerstone of 3D, basically creating shapes made of mathematical and geometric elements, such as polygons and NURBs.			
Unit II	*Shading in Maya* - Use of Materials and shader, Shader and Texture editing, Shading organic Models, Shading InOrganic Models			
Unit III	*3D Animation and Rigging* - Introduction to 3D Animation, Creating, Edit and working with Animation Graph, Setting up controllers for joints, Simple Skeleton structure with proper joint Orientation.			
Unit IV	*3D Lighting and Rendering* - Understanding Lighting in Cycles, Direct and Indirect Lighting, Light Linking, Final Composition, Creating Composition and Light with the Shaded Models			
Unit V	*3D Dynamics & Editing* - Introduction to Dynamics, Active and Passive Bodies, Creating Basic Simulation andcollusion using Rigid body, Cloth Simulation, Simulation of Brick wall collusion, Introduction to Fluid Effects, Creating fluid simulation.Sound design and editing for animation (Audition and Premiere).			

Reference and Text books

- 3D Animation Essentials-Book by Andy Beane
- The Art of 3D Computer Animation and Effects-Isaac Kerlow
- Blain Brown, “Cinematography: Theory and Practice: Image Making for Cinematographers and Directors”, Focal Press, 2002.
- Gustavo Mercado, “The Filmmaker’s Eye: Learning (and Breaking) the Rules of Cinematic Composition”, Routledge, 1 edition, 2010.
- Animation Methods - Rigging Made Easy- David Rodriguez
- Steven Ascher,The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age”, Plume, Revised, Updated edition, 2012

Course Outcomes

1. Creating and compositing animations on a computer
2. Design and develop simple 3D assets for animation films.
3. Modeling 3D hard surface objects,
4. UV layout and preparing texture maps for several material attributes.
5. 3D CG lighting with 3 point studio lighting setup. 6. Rendering and compositing to final outcome

Course Code: 22022	Business of Media and Planning	T	Credits - 4	Hours - 5
Objectives	Media and Planning Business involves managing media-related businesses and executing campaigns. The media industry creates, produces, distributes, and monetizes content including TV, film, music, print, and digital media. This module covers effective communication, budgeting, implementation, and partnership strategies			
Unit I	Private and Public Sectors: Types of Business Organizations, Key Differences, Co-operatives, Franchises, and Not-for-Profit Businesses.			
Unit II	Importance of Organizational Structures & Business Structures: Key Terms, Pros & Cons. Choose the right structure for success.			
Unit III	Business Studies cover internal and external factors, including owners, managers, staff, customers, suppliers, community, and government.			
Unit IV	Business Studies covers various important topics such as Business Objectives and Strategy, Marketing, Market Analysis, Marketing Strategy, Market Research, Marketing Mix, Human Resources, Production/Operations Management, Accounting and Finance, External Influences, Market Structures, and Macro and microeconomics.			
Unit V	Introduction to Business Communication – Importance, Forms of Structure, and Channels of Communication. Introduction to Entrepreneurship – Theories and Social Responsibility.			

Reference and Text books

1. Gail Resnik, "All You Need to Know About the Movie and TV Business", Touchstone, 1996.
2. Peter Thiel, "Zero to One: Notes on Startups, or How to Build the Future", Crown Business, 2014.
3. Peter Thiel, "Zero to One: Notes on Startups, or How to Build the Future", Crown Business, 2014.
4. Alison Alexander, James Owers, Rodney A. Carveth, C. Ann Hollifield, Albert N Greco, "Media Economics Theory and Practice (LEA's Communication Series)", Lawrence Erlbaum Associates, 2003.
5. Alison Alexander, James Owers, Rodney A. Carveth, C. Ann Hollifield, Albert N Greco, "Media Economics Theory and Practice (LEA's Communication Series)", Lawrence Erlbaum Associates, 2003.

Course Outcomes

- In this module, students will gain an understanding of the importance of business communication, as well as the different types of business organizations.
- Media planning has three main objectives - efficiency, effectiveness, and fulfilling long-term goals. Students must understand these objectives in order to succeed in this field.
- In this module, students can acquire the necessary skills for efficient project budgeting and time management

Course Code: 22023	Introduction to 3D animation (computer aided)	P	Credits - 5	Hours - 10
Objectives	The specific Introduction to 3D animation module refers to quality features of animation creation, focusing on theoretical training and practical training in specialized.			
Unit I	Create a model of props in Maya that matches the provided reference			
Unit II	Create different types of Materials and create a Shading.Create a 3D model of an exterior set with proper lighting and texture.			
Unit III	Create a walk cycle using the character rigs.			
Unit IV	Create a Dialogue animation based on the script. (Add expressions, Poses, Acting, Staging, Interaction with props)			
Unit V	Create a Fluid simulation & rendering			

Reference and Text books

1. Ollie Johnston and Frank Thomas, "The illusion of life", First Edition, Abbeville press, 1981
2. Harold Whitaker and john Halas, "Timing for Animation", focal Press, Oxford, 2002
3. Maraffi, Chris (2004). Maya Character Creation: Modeling and Animation Controls. New Riders.
4. Oliverio, Gary (2006). Maya 8 Character Modeling. Jones & Bartlett Publishers
5. Allen, Eric & Murdock, Kelly L. (2008). Body Language: Advanced 3D Character Rigging. Sybex Publication.
6. Digital Lighting & Rendering, Second Edition by Jeremy Birn

Course Outcomes

Learn the basics of a 3D pipeline to gain insight into the different areas of production.
Work with faculty and engage in the production process as you iterate and refine your shots.One on one feedback and regular group reviews make for a true studio experience.

- Creation of skeleton and point control drivers
- Link skeleton to 3D mesh points
- Skeleton movement with two Kinematics methods
- Application of basic motion principles to 3D models
- Final performance and output of 3D motion(rendering)

Course Code: 22024	Portfolio and Presentation	P	Credits - 5	Hours - 10
Objectives	Encouraging students to create a wide variety of work is crucial for enhancing their design and presentation abilities. A student portfolio provides a great platform to showcase their accomplishments, skills, experiences, and attributes, including their best work and achievements that demonstrate their progress and development of knowledge and skills throughout the program. Displaying students' ability to develop ideas from conception to finalization can significantly boost their skills.			
Unit I	Portfolio basics, importance, elements, types, showcase, development, requirements, do's and don'ts.			
Unit II	Introduction to Digital Portfolio - The Effective Showcasing of Digital Media - Production Techniques - Design Documents and Specialization			
Unit III	Professional presentation techniques for broadcasting, Live-action and Animation portfolios. Understand the process of working with users in bringing ideas from concept to production.			
Unit IV	Market analysis helps determine the best marketing medium to produce such as online, offline, paper-based, digital, etc. 2D and 3D animation movies give a professional and tangible representation of your business. Efficient design and development are important to ensure that they are effective.			
Unit V	A faculty group scores the portfolios using the scoring criteria. Use examples of the standards of performance to ensure consistency across scoring sessions. Research and develop the subject, case studies, process sketches and wireframes, contact information and call to action, conclusion, range format, and portfolio guidelines			

Reference and Text books

- Wiedmer, T.L., "Digital portfolios: Capturing and demonstrating skills and levels of performance", Phi Delta Kappan: SAGE Journals, 1998.
- Rafael Jaen, "Developing and Maintaining a Design-Tech Portfolio A Guide for Theatre", Film and TV, 2006.
- Harold Linton, "Portfolio Design", W. W. Norton & Company, Fourth edition, 2012.
- Sara Eisenman , "Building Design Portfolios, Innovative Concepts for Presenting Your Work". Design Field Guides, 2004
- Rod Judkins, "The Art of Creative Thinking", Sceptre,2015.

Course Outcomes

This module creates a portfolio that showcases the student's comprehension of the course and exhibits their expertise in their field through sketches, concept art, 2D and 3D animations, and design documents.