DEEN DAYAL UPADHYAY KAUSHAL KENDRA
LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034
RESTRUCTURED SYLLABUS - 2019

S. No.	SUBJECT CODE	SUBJECT TITLE	T/L/P	CATEGORY	CR
M.Voc. 3D ANIMATION - 2019					
SEMESTER–I					
1	PAN 1501	Animation Principles and Story Development	T	MC	6
2	PAN 1502	Advanced Drawing for Animation	L	MC	6
3	PAN 1503	Claymation and Stop Motion	L	MC	6
4	PAN 1504	Advanced Graphic Design	L	MC	4
5	PAN 1601	A. Photography	L	ES	4
	PAN 1602	B. Videography			
6	PAN 1001	Communication & Creative Writing	T	SS	4
Total Credits for Semester - I					30
SEMESTER–II					
7	PAN 2501	2D Animation	L	MC	6
8	PAN 2502	Storyboarding	L	MC	6
9	PAN 2503	3D Modeling and Texturing	L	MC	6
10	PAN 2504	Digital Matte Painting	L	MC	4
11	PAN 2601	A. Character Designing	L	ES	4
	PAN 2602	B. Layout Designing			
12	PDJ 2301	Scriptwriting	T	EDS	2
13	PHE 2003	Life Skills Training	L	SS	2
Total Credits for Semester - II					30
SEMESTER–III					
14	PAN 3501	Advanced 3D Modeling	L	MC	6
15	PAN 3502	3D Animation	L	MC	6
16	PAN 3503	Dynamic Simulations	L	MC	6
17	PAN 3504	Media Research	T	MC	4
18	PAN 3601	A. Gaming and Apps Designing	L	ES	4
	PAN 3602	B. Web Designing			
19	PDJ 3301	Video Editing	L	EDS	2

20	PAN	Digital Communication skills	T	SS	2
		Total Credits for Semester - III			**30**
		SEMESTER–IV			
21	PAN	Lighting and Rendering	L	MC	6
22		Advanced Compositing	L	MC	6
23		Media Laws and Ethics	T	MC	6
24		A. 2D Character Animation	L	ES	4
		B. 3D Character Animation			
25		Professional Skills for Media	L	SS	2
26	PAN 4701	Project & Internship	P	PJ	6
		Total Credits for Semester - IV			**30**

PROGRAM SPECIFIC OUTCOMES (PSOs) - M.VOC. 3D ANIMATION - 2019

PSO 1 – List and discuss principles and elements of Design, Animation and Film through its production process.
PSO 2 – Design and Develop Characters and Assets for Animation using relevant software and techniques.
PSO 3 – Demonstrate leadership and presentation skills in workplace and entrepreneurial activities.
PSO 4 – Analyze and research concepts for design and animation to produce socially responsible media content.
PSO 5 - Create concepts and assets using design and animation principles for various domains like Education, Engineering, Entertainment etc. and build a digital and physical portfolio.

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
I	MC		T		6	6
Course Code		**Course Title**				
PAN 1501		**ANIMATION PRINCIPLES AND STORY DEVELOPMENT**				

Course Outcomes

COs	Statements	Bloom's Level
CO1	Experiment with different types of animation and recall technical terms and Pioneers of Animation	**L1, L3**

CO2	Apply principles of animation in their works and will have exposure to Storyboard, character turn around, pose sheet, expression chart etc.	**L3**
CO3	Categorize different stages of animation production and apply in their work	**L3, L4**
CO4	Choose the requirements for creating 2D Cel animations and digital animations	**L3**
CO5	Develop a story idea and convert to script for animation and to storyboard	**L3**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	S	S
CO2	S	S	L	M	S
CO3	S	S	L	M	M
CO4	S	S	L	M	M
CO5	M	M	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: History of Animation, Animation Studios and Animators   HOURS: 10

Animation Definition, History of Animation – Starting from Early approaches to motion in art, Animation before film, Early Animation devices, Traditional Animation – The silent era, Walt Disney & Warner Bros., Snow White & the seven dwarfs, The Television era, Stop-motion, CGI Animation - till date. Major animation studios all over the world, Pioneer Animators, The nine old men and Experimental animations.

UNIT II: Different Types of Animation   HOURS: 20

- Traditional Animation - Cel Animation or hand drawn Animation
- Stop Motion Animation – Puppet Animation, Clay Animation, Cut-out Animation, Silhouette Animation, Model Animation, Object Animation etc.
- Computer Animation – 2D Animation, 3D Animation.

UNIT III: The 12 basic Principles of Animation   HOURS: 20

Squash and stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow In and Slow Out, Arc, Secondary Action, Timing, Exaggeration, Solid drawing, Appeal.

UNIT IV: Animation Production Process, Camera Angles and Shots   **HOURS:** 20

Understand Animation Requirements, Basic steps in Pre-Production, Production and Post-Production. Animation techniques, Technical advancements in animation. Animation equipment - Cel - Light box - Peg holes and Peg bars - Line/Pencil tests, Field charts. Animation Glossary - The exposure sheet (X Sheet), Key frames, In-betweens, Clean-up etc. Layers, Ease in & Ease out, X-Sheet handling, Field Chart usage, Camera Panning, Zoom-in & Zoom-out, Cut-shot, Dissolve transform, trick shot, hook-up poses etc. Layout and composition, Understanding various Camera Angles, Shots and Transitions.

UNIT V: Story Development   **HOURS:** 20

How to create story for animation – Developing story idea or concept, Resources and ideas from life, different genres, types of stories, sources of storyline, creative exercises to create story, Character development in the story, Characterization dialogues, Target audience, animation script, shot, scene, sequence, screenplay, story-boarding, designing the Plot, Plot development and plot devises, story narration, Elements of story, Conflict, Resolution, Storytelling and Visualization of the story.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	The Illusion of Life: Disney Animation	Frank Thomas and Ollie Johnston	Walt Disney Productions	1981	First Edition
2.	The World History of Animation	Stephen Cavalier	Aurum Press,	2011	First Edition
3.	Cartoon Animation	Preston Blair	Walter Foster Publishing	1994	First Edition
4.	Timing for Animation	Harold Whitaker and John Halas	Elsevier/Focal Press	2009	First Edition
5.	How to Make Animated Films	Tony White	Focal Press	2013	Second Edition
6.	Character Animation-2D Skills for Better 3D	Steve Roberts	Taylor & Francis	2012	Second Edition
7.	The Animator's Survival Kit	Richard Williams	Faber and Faber	2001	First Edition
8.	Story: Substance, Structure, Style and the Principles of Screenwriting	Robert McKee	IT Books	1997	First Edition
9.	The Way of the Storyteller	Ruth Sawyer	Penguin Books	1977	Reprint Edition

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition

1.	The Anime Encyclopaedia: A Guide to Japanese Animation.	Helen Mc Carthy & Jonathan Clements	Stone Bridge Press	2001	First Edition
2.	Animation from Pencils to Pixels: Classical Techniques for the Digital Animator	Tony White	Taylor & Francis	2012	First Edition
3.	Enchanted Drawings: The History of Animation	Charles Solomon	Knopf	1989	First Edition
4.	Cartoons: One Hundred Years of Cinema Animation	Giannalberto Bendazzi	Indiana University Press	1995	Fourth Edition
5.	Of Mice and Magic	Leonard Maltin	McGraw-Hill	1980	First Edition
6.	Before Mickey: The Animated Film, 1898-1928	Donald Crafton	University of Chicago Press	1993	First Edition
7.	The Animator's Workbook: Step-By-Step Techniques of Drawn Animation	Tony White	Watson-Guptill	1988	First Edition

Online References

S.No.	Title	Link
1.	Disney – The Magic of Animation	https://www.youtube.com/watch?v=EVQflnGcx4k
2.	Principles of Animation	https://www.youtube.com/watch?v=haa7n3UGyDc&feature=youtu.be
3.	YouTube Video on 12 Principles of Animation	https://www.youtube.com/watch?v=haa7n3UGyDc&feature=youtu.be
4.	History of Animation	https://en.wikipedia.org/wiki/History_of_animation
5.	Types of Animation	https://www.youtube.com/watch?v=NZbrdCAsYqU

Teaching Methodology

Extensive Theory & Practical sessions, Chalk and Talk Lectures, Seminars, ICT based presentations, Video Lectures, Group Discussions; Interactive activities; Drawing Sessions, Traditional Animation Sessions using Light-box, Workshops, Guest Lectures, Industry Experts, Assignments, Industry Visits, Movie Showcase, Mini-project; MCQs etc.

Evaluation Pattern

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Written = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
I	MC	L			6	6

Course Code	Course Title
PAN 1502	**ADVANCED DRAWING FOR ANIMATION**

Course Outcomes

COs	Statements	Bloom's Level
CO1	Illustrate the human anatomy and plants in different views ang angles	**L2**
CO2	Apply light and shade to still life and human anatomy	**L3**
CO3	Apply Pivot points to the human anatomy	**L3**
CO4	Develop layouts for storyboards	**L5**
CO5	Imagine backgrounds for game and set design	**L5**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	S	L	S	S
CO3	S	S	M	S	S
CO4	S	S	L	S	S
CO5	S	S	L	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT-1: Proportion and Perspective: **Hours: 10**
Study of Ideal proportion of male and female figure with different ages and other different props. To introduce Gesture Drawing: Outdoor study of leaves, plants, trees, flowers for building background design.

UNIT-2: Anatomy and Drawing: **Hours: 20**

Understanding of the relationship of bones and muscles at rest and in movement. To be able to translate this to creating and maintaining correct volumes. Studying human and animal movement through sequential drawings, gesture drawing

UNIT-3: Live Pose Study: **Hours: 20**

Understanding the character design, background design, character pose, camera angles and story board frame by frame. Dynamic Figure Drawing of solid live poses with quick gesture drawings. Understanding of Mechanics and pivot points in skeleton emphasise the construction of drawings.

Unit-4: Basics of story board Fundamental: **Hours: 20**

Study of Thumbnails for story board, layout and Animation. To study the principle of Animation.

Unit-5: Action and Emotion: **Hours: 20**

Motion drawing including Human, Animal and Birds. Focus on human emotion, extreme poses, weight, balance and expression. Methods of lip-syncing to sound breakdowns.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	The Animator's workbook	Tony White	Watson-Guptill	1997	Revised edition 1 ISBN-13: 978-0823002290
2	The Artists Complete Guide to Figure Drawing	Ryder, Anthony	Watson-Guptill	1999	1 ISBN:
3	Drawing the head and hand	Andrew Loomis	Titan Books	2011	1 ISBN- 978-0857680976

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	New Drawing on the Right Side of the Brain Workbook	Betty Edwards	Souvenir Press Ltd.	2003	ISBN: 978-0285636644

Teaching Methodology

Extensive drawing sessions, Demos, Model sessions, Video Lectures, Discussions, Interactive activities, Mini-project, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Studio Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks

External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	MC	L			6	6

Course Code				Course Title
PAN 1503				CLAYMATION AND STOP MOTION

Course Outcomes

COs	Statements	Bloom's Level
CO1	Demonstrate the essentials of Claymation techniques	L1
CO2	Demonstrate basic of modeling using clay	L2
CO3	Develop the skills and sub skills of character modeling	L3
CO4	Discover the anatomy of different characters	L4
CO5	Adapt to the advancement in using model	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	M	L	M
CO2	S	S	L	L	S
CO3	M	M	M	L	M
CO4	M	M	S	M	L
CO5	M	L	S	M	M

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Basics of Clay Modeling	Hours: 18
Model from a still life set-up in the classroom, a sculptural equivalent in clay, emphasizing inter-relationships of form, space and surface, use different types of clay; plasticine, terracotta	

Unit-2: Types of Clay Modeling   **Hours: 18**

Create different characters in clay, Cartoons, human figures, Animals, Props etc. **ClayModeling Techniques:** Sculpting tools handling, Clay handling techniques, Analyzing and understanding the challenges faced during clay modeling and shooting, Props & lip-synch handlings, Preparation of a prototype work product/pre-visualisation for review.

Puppet building – puppet construction-puppet Animation.

Unit-3: Process and techniques of stop-motion animation   **Hours: 18**

Camera angles, Character positioning, Frame by Frame controls, Positioning and actions of secondary characters and Props, Different types of stop motion animation.

- Traditional frame-by-frame capture
- Claymation, Cut-out animation, Silhoutte animation, Found object animation, hand drawn animation

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Unit-4: Introduction to stop-motion animation software   **Hours: 18**

Introduction to available software for Stop-Motion Animation, Learning to use Monkey Jump Software, Preparation of the following stop motion animation end-products, Film, Television series, Advertisement, Education content, Application of stop motion animation techniques, adding audio to animation

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Unit-5: Concept Creation for Stop Motion Animation   **Hours: 18**

How to create action and movement of form, how to create your own concept, understanding the limitations and challenges of the medium, Creation and Execution of the concept

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	The Art of Stop motion animation:	Ken A Priebe			
2	Stop motion: Craft skills for model Animation	Susannah Shaw			
3	Stop motion: Passion, Process and Performance	:Barry JC Purves			
4	Creating 3D Animation - The Aardaman Book of Film making	Peter Lord & Brian Sibley			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	Stop motion Armature Machining: A Construction Manual:	Tom Brierton			
2	A Century of Stop Motion Animation from Melies to Aardaman	Ray Harry Hausen			
3	Stop motion Filming and Performance	Tom Brierton			
4	Stop motion Puppet Sculpting	Tom Brierton			

Teaching Methodology:

Extensive Practical sessions with required theory classes, Drawing Sessions, Sculpting using clay, Studio Practice, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Evaluation Pattern:

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
I	MC	L			4	4
Course Code			**Course Title**			
PAN 1504			Advanced Graphic Design			

Course Outcomes

COs	Statements	Bloom's Level
CO1	Identify various aspects traditional drawing and digital design.	**L3**
CO2	Apply the elements and principles of design	**L3**
CO3	Analyze the composition of brand design with idea to concept.	**L4**
CO4	Compose a digital Ad with relevant software implementing the design principles.	**L6**

CO5	Make up a digital illustration for different mediums of media.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	M	S
CO2	S	M	S	L	S
CO3	M	S	S	M	S
CO4	S	M	M	L	M
CO5	S	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-I: Introduction   **HOURS:** 10

Graphic design and its role in visual communication, Introduction to Drawing, Free flowing designs, Geometric Designs, Positive and Negative space, Elements of Design –Dot, Line, Shape, Value/Tone, Texture, Space. Principles of Design – Balance – Symmetrical or Asymmetrical, Repetition / Rhythm, Focus / Emphasis / Dominance, Unity / Harmony, Scale, Proportion, Contrast, Depth.

Unit-II: Color Theory   **HOURS:** 10

Colour wheel, lightness, saturation hue, Typography-typefaces, point size, tracking, kerning, and leading, Page layout techniques-image placement, text layout and style, Texture- use and simulation of textures- natural, Experimental design using artificial texture, Photography as texture background, Textured typography

Unit-III: **Common uses of graphic design**   **HOURS:** 10

Identity (logos and branding), Publications (magazines, newspapers and books), Print advertisements, posters, Website graphics and elements, signs and product packaging, kiosk layout.

Unit-IV: Clean Plate   **HOURS:** 15

Selection tools, Input/output formats and color spaces. Canvas size vs. Image size, Resizing and resampling images, Layer and blending modes, Selection tolls, cropping images,

Essential keyboard shortcuts, Retouching techniques, Contrast and Color balance, histogram. Alpha channels

Unit-V: Working with 3D   **HOURS:** 20

Working with Video and 3D files, Texture Painting for 3D objects: Revisiting clone brush and Healing brush, Texture painting. Manipulations: Advanced Layer Manipulations, Image Optimization, understanding animation and making moving images, Animated GIF Images.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Adobe Photoshop CS6: Learn by Video	Kelly McCathran and video2brain	Training in Visual Communication	Jun 18, 2012	2nd Edition
2.	Visual QuickStart	Peter Lourekas and Elaine Weinmann	GuideA, ug	18, 2012	1st edition
3.	History of Graphic Design	Philip B. Meggs, Alston W. Purvis,Meggs	Pearson Publications, United Kingdom,	November 2011	5 th Edition
4.	Computer Graphics: Principles and Practice in C	James D. Foley, Andries van Dam	Addison,Wesley Professional	1982	2 nd Edition

Recommended Reading:

1. **Adobe Resources Photoshop**
   https://www.adobe.com/in/products/photoshop.html?promoid=PC1PQQ5T&mv=otherIllustrator :
   https://www.adobe.com/in/products/illustrator.htmlInDesign:
   https://www.adobe.com/in/products/indesign.html

   https://faculty.washington.edu/farkas/dfpubs/Farkas-Farkas-Graphic%20Design-Ch11Principles%20of%20Web%20Design.pdf

   https://d3ui957tjb5bqd.cloudfront.net/ebooks/BeginnersGuidetoBranding.pdf

Multimedia – http://www.slideshare.net/kenshin1017/introduction-to-multimedia-4663053

Elements & Principles of Design – http://teaching.ellenmueller.com/drawing-i/resources/elements-principles-of-2d-design/

Design Principles – http://www.design-skills.org/design_principles_guidelines.html

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
I	ES	L			4	4

Course Code			Course Title
PAN 1601			PHOTOGRPHY

Course Outcomes

COs	Statements	Bloom's Level
CO1	Explain the visual composition techniques and technical skills	L2
CO2	Develop to work on the DSLR Camera.	L3
CO3	Apply photographic concepts and Lighting	L3
CO4	Analyse artistic composition and design	L4
CO5	Explain the lighting techniques used in photography.	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	M	L	S	L

CO3	S	S	L	S	S
CO4	S	S	L	S	M
CO5	S	S	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I Aesthetics	**HOURS:** 12

The Psychology of Visual Perception - Visual Aesthetics - Art of Filmmaking - Stages in Brief.

UNIT II Composition	**HOURS:** 12

Photography as a communication tool - Basics of visual composition - Visuals - Image Sizes - Camera Angles - Elements and Principles of picture composition - Balance and Structure - Composing movement, rule of space - Rule of odd - Rule of third - Golden triangle etc. - Perspective and depth of field - foreshortening.

UNIT III Camera	**HOURS:** 12

Basic features of DSLR camera - human eye and camera - Principles of Image formation - Properties of light and its control - Shutter - Lenses and exposure controls - Aperture, focus and depth of field, depth of focus. Colour Temperature, Direction, and Quality of Light etc. Measurement of light - Light meters. Histogram - Understanding basics of histogram.

UNIT IV Shooting for Chroma-key	**HOURS:** 12

Modern day Travelling Mattes and how they work: Luma-Key matte, Chroma-key matte, Difference mattes, Blue Screen matte, Green Screen mattes, etc. Green Vs. Blue screen, shadow matting, poorly lit green screens and its problems, Pulling the Mattes, different type Keyes

UNIT V Lighting techniques for Chroma-key Shoot	**HOURS:** 12

Basic Setups for Shooting Green Screen: Lights- Key, Fill, Back, Side Spill suppressor light - Matte keying fabrics and materials, Flood lights an Umbrella lights, Lighting the backing, Lighting the talent, creating tracking markers for motion tracking, White balancing the camera before shooting, Shooting with HD camera. Matching with background objects, interacting with the background and objects

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Jack Newbart, Industrial Photography, Am Photo		Watson Guptill Publications, New York.	1989	
2.	Basic Principles of Photography	Gerald Millerson			
3.	Grammar of Shot	Roy Thompson	Focal Press		Second edition
4.	*The Photographer's Eye: Composition and Design for Better Photography*	Freeman, Michael.			
5.	*Film Art: An Introduction*	Bordwell and Thompson			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	*Movies & Methods*	Nichols,Bill.			
2.	*Basic Photography*	Langford J. J.			
3.	How to read a film	James Monaco			
4.	The T.V. Production Handbook	Zetti Herbert			
5.	Elements of film	Lee .R. Bobker			
6.	The Art of Pictorial Composition	Wolohomok			

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

1.	Category	Hours/Week	Total Hours	Credits

2.	**Semester**		**L**	**T**	**P**		
I	ES	L			4		4
Course Code			**Course Title**				
PAN 1602			**VIDEOGRAPHY**				

Course Outcomes

COs	Statements	Bloom's Level
CO1	Examine and handling skills of different video cameras with proficiency	L4
CO2	Apply knowledge on variety video Angles and formats.	L3
CO3	Explain and exploration of different concepts (news, events, marriage, documentation)	L5
CO4	Identify the various compositional techniques.	L3
CO5	Develop the aesthetics of Lighting and Video production.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	S	L	S	S
CO3	S	S	M	S	S
CO4	S	M	L	S	L
CO5	S	S	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus:

UNIT I: Video Camera Types and Formats	HOURS: 12

Analog vs. Digital - FPS, Video Formats, NTSC, PAL SEQCAM - Different Types of Video Cameras - VHS, U-Matic, Beta, DV, Dig Beta, HDTV. Video Production Techniques - Film Cameras/Persistence of Vision.

UNIT II: Basics of Video Camera	HOURS: 12

Video Camera Operations - Parts of the Camera, Camera, Mounting Devices/Lens/Filters - Types of Camera Shots, Camera Angles, Camera Movements - Studio Setup and Operations - Single

Camera and Multi-Camera Setup.

UNIT III: Compositional Techniques   **HOURS:** 12

Emphasis, DOF, Focus-Rule of Third/180 Degree rule - Framing, Aspect Ratio, Wide Screen Video, Framing Subject - Lead Room, Headroom - Composition & Movement - Different Types of Lens, Filters.

UNIT IV: Lighting Techniques   **HOURS:** 12

Three Point Lighting -Lighting for Indoor/Outdoor - Artificial, Natural Light, Hard and Soft Lights – Reflectors - Indoor Lights.

UNIT V: Production Techniques   **HOURS:** 12

Aesthetics of Video Production – Grammar - Basic Videography Rules

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Industrial Photography, Am Photo	Jack Newbart	Watson Guptill Publications, New York.	1989	
2.	Basic Principles of Photography	Gerald Millerson			
3.	Grammar of Shot	Roy Thompson		Focal Press	Second edition
4.	*Five Cs of Cinematography*	Mascelli,Joseph V.			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	How to read a film:	James Monaco			
2.	The T.V. Production: Handbook	Zetti Herbert			
3.	Elements of film	Lee .R. Bobker			
4.	The Art of Pictorial Composition	Wolohomok			

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
I	FC		T		4	4
Course Code		**Course Title**				
PAN 1001		**COMMUNICATION AND CREATIVE WRITING (VOC)**				

Course Outcomes

COs	Statements	Bloom's Level
CO1	Define communicate types, process, goals and barriers.	L1
CO2	Demonstrate presentation skills through group discussions, public speaking and interview skills.	L2
CO3	Selecting and applying word power and expressions from literary texts.	L3
CO4	Examine creative writing skills with the processes and the challenges.	L4
CO5	Evaluating grammar accuracy.	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	S	M	S
CO2	M	S	S	S	S
CO3	M	M	S	M	S
CO4	S	S	S	S	S
CO5	L	L	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus:

UNIT I	HOURS: 12

Introduction-Understanding Communication-The Communication purpose/goal, process, barriers, channels and types. Importance of Communication in the 21st century

UNIT II	HOURS: 14

Self-introduction and concept introduction techniques – selling and negotiation skills, effective listening, effective reading, rebuttals, faqs, for power presentations. **Nonverbal** communication and behavior in GDs, public speaking and interviews.

UNIT III	HOURS: 10

The power of words in thinking, speaking and writing- same words as different parts of speeches. Styles of writing, types of compositions, appreciation of stories and poems.
- R. K. Narayan's short story, *The Axe*
- Native American poem, *How to make Good Baked Salmon from the River*
- An Extract from the French novella, *The Man Who Planted Trees*

UNIT IV	HOURS: 12

Creative writing (processes and challenges of creative writing). Fictional and Non-Fictional writings- Short Story Writing and Poetry Compositions. Media writing- Characteristics of Print and Broadcast Media, New media, Travel internet, mobile phones and writing for blogs.

UNIT V	HOURS: 12

Subject verb agreement, prepositions, tenses, active passive voice, direct indirect speech and punctuation. Describe the organization's health, safety and security policies and procedures.

Books for Study:

S.No.	Title of the Book	Author	Publisher	Year	Vol./ Edition
1.	*Effective Communication*	John Adair	Pan Macmillan Ltd, London	2003	Unabridged edition
2.	*How to Prepare for*	Hari Mohan	Tata McGraw-Hill	2005	

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
	Group Discussion and Interview	Prasad	Publishing Company Ltd		
3.	*The Cambridge Introduction to Creative Writing*	David Morley	Cambridge University Press	2007	First edition

Books for Reference:

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	*Essentials of Business Communication*	Mary Ellen Guffey and Dana Loewy	CENGAGE Learning Custom Publishing	2012	International edition
2.	*The Elements of Style*	William Strunk Jr, and E. B. White	Pearson Publications, United Kingdom	1999	4th edition
3.	*How To Write Like a Professional*	J. L. Barkas	Arco Publishing, Inc., New York	1985	
4.	*Mass Communication in India*	Kumar.J. Keval	Jaico Publishing House	2013	4th Kindle Edition

Teaching Methodology

Student presentations orally and written, Classroom Lectures, Group Discussion, Workshops, Guest Lectures.

Evaluation

Internal 50% - CA I & CA II = 80 Marks and Faculty Evaluation = 20 Marks
External 50% - End Semester Evaluation – 100 Mark

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	MC	L			6	6
Course Code			**Course Title**			
PAN 2501			2D ANIMATION			

Course Outcomes

COs	Statements	Bloom's Level
CO1	Demonstrate ideas effectively in visual form and in 2D digital space using 2D software.	L2
CO2	Examine Animated objects and figures from existing animated movies and sequences and relate them to original concepts.	L4, L2
CO3	Interpret the concepts, principles and theories involved in the physics of animation in all aspects of drawing.	L2, L5
CO4	Experiment with ideas, believable action and emotion effectively by employing principles of animation and performance in all aspects of drawing.	L3
CO5	Create 2D animated sequences from development of the original concept through design to final film or video production.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	S	S
CO2	M	S	M	M	S
CO3	S	S	L	S	S
CO4	S	S	L	S	S
CO5	S	S	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: Introduction to 2D Animation Software   HOURS: 10
Introduction to Adobe Animate software, Workspace and Workflow overview, Customize the workspace, Using the Stage and Tools Panel, Understanding timeline, Tools and their usage, Property inspector - Library panel - Color panel, Understanding layers, Layer folder, Drawing using pencil, line and brush tools - About overlapping shapes – Snapping – Working with color, strokes and fills - choosing colors, choosing line style, designing and alignment of elements, drawing panels - Time-line animation. Working with project - Importing artwork - Scale content / stage size. Using Rulers, guides, grid, Test and Publish. Learn about vector and bitmap graphics - Selection objects - Moving, copying and deleting objects - Arranging object - Stack, Align, Group, Break apart groups and object.

UNIT II: Symbols and Tweening animation   **HOURS:** 20

Basics of Animation, Methods of Animation, Technical Animation creation. Applying layer type - adding sounds. Working in the timeline, Key frame Animation, working with symbols, Classic Tween, Motion tween, Shape tween, Break apart and distribute. Intro to Motion, Guide Motion, Guide Paths, Mask layers, Creating Buttons, Using Fonts, Setting up scenes for first project, Publishing movies, Working with custom colours and gradients, Practicing principles of Animation. Timing for Animation: Ease in & Ease out, Camera Panning, Zoom-in & Zoom-out, Cut-shot, Dissolve transform. Using symbols, instances and library assets - Symbols overview - Types of symbols - Create symbols - Convent animation on the Stage into a movie clip.

UNIT III: BG & Layout Creation   **HOURS:** 20

Background Designing, Layout Creation, Over-layers creation - Story-boarding to Animatics – Storyboard – Using Camera, visual continuity, Hook-ups, OL & UL, Props, transitions. Camera panning techniques. Visualise the Characters, Location and story props. Creation of Animatic - Scanning storyboard panels and synchronizing it with the sound tracks. Layout Composition – Background, Composition, Background colouring, - Camera Movements Staging, Scaling.

UNIT IV: Timelines and ActionScript   **HOURS:** 20

Creating motion - Creating key frames - Representations of animation in the Timeline - Frame rates - Frame-by-frame animation - Onion skinning – Move the playhead. Create frame-by-frame animation, Character Construction, Character Rigging, Symbol Construction, Symbol Animation, Symbol Library Management, Creating Buttons, Button states, working with scenes, Mask layers, Ease-in, Ease-out. Using Principles of animation, Loops, Cycles and Holds, Walk cycles, SFX in Flash. Introduction to action scripting in flash and using it for interactivity.

UNIT V: Animation and Interactivity   **HOURS:** 20

About Inverse Kinematics, Bone styles, Pose layers – Add bones to symbols – Add bones to shapes – On stage controls. Animate an armature in the timeline - Mask layers - Using Timeline effects - Special effects - Filter – Animation Filters - Create preset filter libraries - Blend modes in Flash - Working with text - Working with sound - Working with video, Publish settings. Applying the principles of animation. Understanding and applying complex movie clip properties, layers, library, Buttons etc. How to use story-board effectively, how to plan the action before starting animation, how to work in a team for animation. Creating your own / group project, Understanding the different industries and domains where 2D animations can be used like – Entertainment, Education, Technical, e-learning etc.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	The Encyclopedia of	Richard Taylor	Running Press	1996	First Edition

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
	Animation Techniques: A Comprehensive Step-By-Step Directory of techniques				
2.	How to Write for Animation	Jeffrey Scott	The Overlook Press	2003	First Edition
3.	Writing for Animation, Comics and Games	Christy Marx	Focal Press	2006	First Edition
4.	Animation Writing and Development: From Script Development to Pitch	Jean Ann Wright	Focal Press	2005	First Edition
5.	Animation: The Whole Story-	Howard Beckerman	Allworth Press	2003	First Edition

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	How to Draw What You See	Rudy De Reyna	Watson-Guptill	1996	First Edition
2.	Figure Study Made Easy	Aditya Chari	Grace Prakashan	2008	Eleventh Edition
3.	Figure Drawing Without a Model	Ron Tiner	David & Charles	1997	First Edition
4.	Classic Human Anatomy: The Artist's Guide to Form, Function and Movement	Valerie L. Winslow	Watson-Guptill	2008	First Edition
5.	Anatomy for the Artist	Sarah Simblet	Penguin UK	2001	First Edition
6.	The Art of Animal Drawing: Construction, Action, Analysis, Caricature	Ken Hultgen	Dover Publications Inc.	1993	First Edition
7.	Animal Drawing: Anatomy and Action for Artists	Charles R. Knight	Dover Publications	1959	First Edition
8.	Animation from pencils to pixels: classical techniques for digital animators	Tony White	Taylor & Francis	2006	First Edition
9.	Animation Art: From Pencil to Pixel, the world of Cartoon Anime and CGI	Jerry Beck	Harper Design	2004	First Edition

Online References

S.No.	Title	Link
6.	Principles of Animation	https://en.wikipedia.org/wiki/12_basic_principles_of_animation
7.	YouTube Video on 12 Principles of Animation	https://www.youtube.com/watch?v=haa7n3UGyDc&feature=youtu.be
8.	History of	https://en.wikipedia.org/wiki/History_of_animation

	Animation	

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits	
		L	T	P			
II	MC	L			6	6	
Course Code						Course Title	
PAN 2502						STORYBOARDING	

Course Outcomes

COs	Statements	Bloom's Level
CO1	Illustrate different types of storyboard	L2
CO2	Apply Camera angles and shots to the storyboard	L3
CO3	Change a script into a storyboard	L5
CO4	Develop layouts for storyboards	L5
CO5	Imagine backgrounds for game and set design	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	S	L	S	S

CO3	S	S	M	S	S
CO4	S	S	L	S	S
CO5	S	S	L	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT-1: Basics of Story Board   **Hours: 18**

Understanding the Concept and Story Development: Introduction to Principles of Drawing, Scripting & Story boarding for animation: Creation and Development. Storyboard – Definition, Importance of storyboarding, Storyboard formats, Composition rules – Concept of panels and its usages, Camera angles and shots, visual continuity, Hook-ups, OL & UL, Props, transitions.

UNIT-2: Types of Story Board   **Hours: 18**

Introduction of Story Board and Types of Story Board. Scripting & Story boarding for animation. Creation and Development.

UNIT-3: Techniques of Shots & Cameras   **Hours: 18**

Applying Angles and Shots: Understanding different camera angles and shots and applying in your own group project. Camera Panning techniques, Zoom-in & Zoom-out, Cut - shot, Dissolve transform, trick shot, hook-up shot etc. Using standard symbols in story-board to depict the camera angles, zooming options etc. Creating your own animatics.

UNIT-4: Introduction to Character Design & Props   **Hours: 18**

Props Design: Create your own cartoon character and its relative props. Understanding the Character Bible: size relation chart and their respective props etc.

UNIT-5: Workflow of 2D   **Hours: 18**

Understanding the 2D Animation Workflow: Understanding the entire pre-production process involved in 2D Animation. Story-boarding to Animatics – Camera panning techniques. Visualise the Characters, Location and story props. Create a story-board for their own characters, dialogues, Experiment different types of story-board, Creation of Animatic - Scanning storyboard panels and synchronizing it with the sound tracks.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	How to Draw Animation- Learn the Art of Animation from Character Design to Storyboards and Layouts	Christopher Hart	Watson-Guptill	1997	Revised edition 1 ISBN-13: 978-0823023653
2	The Art of the Storyboard - Storyboarding for Film, TV, and Animation	Wendy Tumminello	Watson-Guptill	1999	1 ISBN: 978-0240803296
3	The Art of the Storyboard - Storyboarding for Film, TV, and Animation:	John Hart	Focal Press	1999	1 ISBN- 978-0240803296

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Prepare to Board! Creating Story and Characters for Animation Features and Shorts	Nancy Beiman	Focal Press Ltd.	2012	2nd edition ISBN: 978-0240818788

Teaching Methodology

Extensive drawing sessions, Demos, Model sessions, Video Lectures, Discussions, Interactive activities, Mini-project, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Studio Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	MC	L			6	6
Course Code				**Course Title**		
PAN 2503				3D Modeling and Texturing		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Develop a prop model with basic primitives shapes.	**L3**

CO2	Inspect the mesh flow and subdivisions to make a proper 3D model.	**L4**
CO3	Support the 3D shapes with proper material and texture map to bring out a photorealistic render output.	**L6**
CO4	Compose the 3D model by keeping first hand references for further modifications and justifications.	**L6**
CO5	Create a walkthrough with appropriate camera animation on their own styles.	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	S	S
CO2	M	M	S	M	L
CO3	S	S	S	M	M
CO4	S	L	S	L	M
CO5	S	S	S	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Introduction to modeling tools	**Hours: 18**
Modeling with polygon – Modeling props and objects - working with faces, edges and vertex -- advantage of low poly modeling and high poly model _ introduction to the basic texturing in Maya

Unit-2: Set Modeling	**Hours: 18**
Introduction to set modeling - modeling castle, building etc – advanced props modeling - measurements and scale in Maya - Modeling an environment With polygons, types of shaders and materials in Maya

Unit-3: Introduction to Texturing	**Hours: 18**
Modeling with subdivision surfaces – subdivision surface levels – refining surface components – texturing techniques for subdivision surfaces –NURBS Topology.

Unit-4: Conversion of Polygons	**Hours: 18**
modelling with Polygons using nurbs curves – Modeling with NURBS - Modeling with tools like loft, revolve etc – Convert nurbs to polygons - polygons to nurbs

Unit-5: UVs & Photoshop Texturing	Hours: 18

UV texturing: preparing the textures from Photoshop for Set modelling - UV mapping and types of UV mapping - Uses of hybershade - nodes in hypershade

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Introducing Autodesk Maya 2015	DariushDerakhshani	Jon Wiley & Sons	2014	2nd Edition
2.	Maya Character Creation: Modeling and Animation Controls	Maraffi, Chris	New Riders	2004	1st edition
3.	Animation from pencils to pixels: classical techniques for digital animators,	Tony White	ISBN-10: 0240806700		
4.	Introducing Autodesk Maya 2012	DariushDerakhshani		2012	

Recommended Reading:

1. 3ds Max Speed Modeling for 3D Artists by Thomas Mooney.
2. Beginning Blender: Open Source 3D Modelling, Animation, and Game Design by Lance Flavell, Apress
3. 3D Modelling and Animation by Michael G, Igi Publishing.
4. The fundamentals of 3D Modeling , textiring and Animation Author Chopine, Focal press
5. 3D Modeling For Beginners: Learn everything you need to know about 3D Modeling Author: Danan Thilakanathan
6. 3D Modelling, Animation, and Rendering, Michael E. Mortenson, Createspace.
7. Exploring 3D Modeling with Cinema 4D, Author Munir Hamad
8. Blender 3D Printing , Vicky Somma

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	**MC**	**L**			**4**	**4**
Course Code					**Course Title**	
PAN 2504					DIGITAL MATTE PAINTING	

Course Outcomes

COs	Statements	Bloom's

		Level
CO1	Apply drawing tablet effectively	**L3**
CO2	Demonstrate how to utilize the tools within Photoshop	**L2**
CO3	Explain the basics of brushes and the basic tools involved in digital painting	**L2**
CO4	Create shapes, layers with brushes.	**L6**
CO5	Develop knowledge about the uses, scopes, and key frames of Roto.	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	S	S
CO2	M	M	S	M	L
CO3	S	S	S	M	M
CO4	S	L	S	L	M
CO5	S	S	S	M	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I Digital Paint Introduction	**HOURS:** 12
The Photoshop Workspace, Brush Basics - Pen Tool Basics - Capture Brush Tip Shapes Adding and changing Brush Dynamics -Painting and Blending Techniques - watercolour and oil painting using Photoshop-Illustration techniques.	

UNIT II Set design for 2D Animation	**HOURS: 12**
Creating Shape Layers and Paths - Stroking Paths with Brushes – Drawing - Sketching and painting of the background elements - Value and color in character creation - Mood lighting - Using and blending edges in painting, creating textures and patterns, Painting a cloud, Painting simple and fantasy backgrounds.	

UNIT III: Masking Techniques	HOURS: 12

Creating, Saving, and Loading Selections - Combining and Modifying Selections - Channels and Masking Techniques - preparing the background plate - articulated mattes - plate restoration, plate extension - adding 3D elements - creating sky mattes, static matte - set extension - color grading.

UNIT IV: Rotoscopy	HOURS: 12

Rotoscoping - Uses and advantages of rotoscoping, Creating rotos with splines, Hierarchical parent and child roto shapes, Interpolation technique, Keyframe rotos, Final inspection, Rotoscope motion blur and semi transparency.

UNIT V: Retouch	HOURS: 12

Wire/Rig removal techniques, Removing unnecessary elements from the frames.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Digital Character Design and Painting	Don Seegmiller			
2.	Bold Vision: A Digital Painting Bible	Gary Tonge			
3.	Digital Fantasy Painting	Michael Burns			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Graphic Design New Basics	Princeton	Architectural Press		
2.	Beginners Guide to Digital Painting in Photoshop	Aleksande and Tilbury.			
3.	Practical Techniques of Digital Art Masters		3dtotal Publishing		
4.	An Insight into Creative Drawing		3dtotal Publishing.		
5.	A Guide for the Realist Painter		James Gurney	2010	

Teaching Methodology:

Extensive Theory & Practical sessions, Computer Lab sessions, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Evaluation Methodology:

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	ES	L			4	4
Course Code			**Course Title**			
PAN 2601			Character Designing			

Course Outcomes

COs	Statements	Bloom's Level
CO1	Recall and reproduce the Principles of drawing involving the anatomy of humans, cartoons, animals and birds.	L1
CO2	Express Drawings of humanoids, animals and birds in motion while applying the underlying principles and techniques of movement.	L2
CO3	Demonstrate the concept of visual continuity in Storyboards and Animatics	L3
CO4	Develop character specifications for animation using turn arounds, Line ups and model sheets.	L4
CO5	Create a complete character bible.	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	S	L	S	S
CO3	S	S	M	S	S
CO4	S	S	L	S	S
CO5	S	S	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Understanding the Concept and Story Development   **Hours:12**

Introduction to Principles of Drawing, Scripting & Story boarding for animation: Creation
and Development.

Unit-2: Character Design fundamentals   **Hours:12**

Styles in character design, Character Design specification and description, Character stereotypes,
Using shape and form language in character design. Layering elements in character design.
Collecting references, Silhouette exploration techniques, flushing out the design, Clean up, Colour
theories and application techniques, Lighting, Final illustration render.

Unit-3: Principles of Characters and Props Design   **Hours:12**

Different types of characters, different body shapes for cartoon characters, Head shapes and
characteristics, Hands. Designing additional props for the character, Character turn around and
model sheets, Character line-up, Generating pose and expression for reference.

Unit -4: Understanding the Character Bible   **Hours:12**

Original character creation and its turn-around including Front, ¾ pose, profile and Back poses,
size relation chart and their respective props etc.

Unit-5: Storyboards and Animatics   **Hours:12**

Storyboards: Definition, Why we need storyboards, Types of storyboards, Storyboard formats.
Elements of storyboard: Perspective, Staging, Composition, Lighting and color. **Storyboard for
Animation and motion pictures:** Basic camera movements in motion pictures, Illustrating camera
motion in storyboards, Different types of shots, Principles of camera angles, Concept of visual
continuity. The 180 degree rule. Transitions
Animatics: Definition of animatics, Uses of animatics. Creating sound tracks to use in animatics,
creating animatic using simple video editing software (Shortcut).

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	How to Draw Animation-Learn the Art of Animation from Character Design to Storyboards and Layouts:	Christopher Hart			
2.	The Art of the Storyboard-Storyboarding for Film, TV, and Animation	John Hart			
3.	Exploring Storyboarding	Wendy Tumminello			

4.	How to Draw What You See	Rudy De Reyna			
5.	Figure Study Made Easy:	Aditya Chari			
6.	Figure Drawing Without a Model:	Ron Tiner			
7.	Classic Human Anatomy: The Artist's Guide to Form, Function and Movement:	Valerie L. Winslow			
8.	Anatomy for the Artist	Sarah Simblet			

Essential Reading:

1. The Encyclopedia of Animation Techniques: A Comprehensive Step-By-Step Directory of
2. techniques
3. An Inspirational Gallery of Finished Works: Richard Taylor
4. How to Write for Animation: Jeffrey Scott
5. Writing for Animation, Comics and Games: Christy Marx
6. Animation Writing and Development: From Script Development to Pitch: Jean Ann Wright

Teaching Methodology:

Extensive Theory & Practical sessions, Drawing & Coloring Sessions, Computer Lab sessions, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Assignments:

- Designing a character for 2D animation using Photoshop.
- Generate 4 stages of character design along with a final rendering for presentation.
- Develop the turnaround for the same character.

Evaluation Methodology:

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II	ES	L			4	4
Course Code			**Course Title**			
PAN2602			Layout Designing			

Course Outcomes

COs	Statements	Bloom's Level
CO1	Create a stage based on the storyboard and script.	L1
CO2	Develop layouts for different camera movements like pan and tilt	L2
CO3	Define and give examples for different kinds of layouts	L3
CO4	Create drawings for the purpose of creating a stage	L4
CO5	Recite terminologies linked to layout design	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	L
CO2	S	S	L	M	L
CO3	S	S	M	S	S
CO4	M	S	L	S	L
CO5	S	S	S	S	L

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Understanding the BG Design	Hours:12

Background Designing, Layout Creation, Over-layers creation in 2Dand 3D. Sketching exercises, Perspective fundamentals, drawing curved surfaces using perspective, Drawing complex 3D Forms in perspective. Understanding Light and shadows.

Unit-2: Applying BG Layouts and Over Layers	Hours:12

Drawing organic and inorganic subjects in background, Basic architectural elements, Composition principles, Composing elements of environment, Layering foreground mid-ground and background, Line weights and their application, Creating shadows using hatching and cross hatching techniques, Choosing colors for the background. Understanding layers and their properties in both 2D cel animation and Flash animation, About overlapping layers.

Unit-3: Introduction to Compositing	Hours:12

Picture Plane, Closed & Open Composition, Gestalt, Positive & Negative Space, Point of View. Concept Creation based on the Elements and Principles of Design. Drawing from reference, Drawing from memory, Live sketching Assignments.

Unit-4: Background Styles	Hours:12

Studying and Understanding different Background design styles, Creating spec sheet for your own style. Introduction to 3D backgrounds and working with the layout design. Creating Relevant props in 3D for the film and Virtual Reality.

Unit-5: Create BG, Layout and 2D Compositing	Hours:12

Create background, layout and over layers, props etc. for your own story and apply the compositing techniques. Creating reference sheet. Finding the shape and form, applying perspective to the design sketch, Layering elements of layout for animation effects (such as parallax, focus pull etc.,). Detailing the Background sketch, Creating moods using light and color. Rendering the Background.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	The Art of 3D Computer Animation and Effects	Christopher Hart			
2	Autodesk Maya 2014 Essentials	John Hart			
3	3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design	Wendy Tumminello			
4	How to Draw What You See	Rudy De Reyna			

Recommended Reading:

1. The Art of the Storyboard - Storyboarding for Film, TV, and Animation: John Hart
2. Exploring Storyboarding: Wendy Tumminello
3. How to Draw What You See: Rudy De Reyna
4. Figure Study Made Easy: Aditya Chari

Teaching Methodology:

Extensive Theory & Practical sessions, Drawing Sessions, Guest Lectures, Industry Experts, Assignments, Industry Visits. 3D Animation Movie Studies – Analyzing 3D Animation Movies – Toy Story Tangled, Rio, Up, Rango etc.

Assignments:

Room Model with objects, Over-layer handling, Set model creation in 3D with texturing, lighting.

Experiment exercise on unwrapping techniques using a simple model. How to create photo-realistic textures consistent with the creative look of the production. For eg. Students can shoot the tree texture from the campus and wrap it to the tree form created in MAYA and show a tree trunk.

Evaluation Methodology:

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
II		L			2	2
Course Code				**Course Title**		
PDJ 2301				SCRIPTWRITING		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Recognize ideas to write animation story for the target audience	**L2**
CO2	Interpret the story into screenplay with reference hero's journey	**L3**
CO3	Organize the scene to several shots and distinguish the composition	**L4**
CO4	Construct the Script in its workflow and present it	**L6**
CO5	Creating Scripts for various Fiction programs	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	M	L	L
CO2	L	M	S	L	L
CO3	L	L	M	S	L
CO4	L	L	S	S	M
CO5	L	L	L	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Elements of story and script	Hours: 6
Introduction to plot, characterization, conflict, synopsis, and three-part narrative structure.	

Unit-2: Genre and media:	Hours: 6
Animation genres, key script formats, structure of films, television and radio scripts, and characteristics of animation scripts	

Unit-3: Idea generation and story creation:	Hours: 6
Developing the story ideas, developing the conflicts and relationships between antagonist and protagonist, developing the the sub-plots, character arc and plot twists.	

Unit-4: Understanding the professional art:	Hours: 6
Inter-textual adaptation techniques, scene construction, scene break, transformation of scene down into screenplay.	

Unit -5: Artist and audience centred scripts:	Hours: 6
Audience specific, genre-driven, fantasy and multimedia specific scripts for animation projects.	

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	Screenplay	Syd Field	Kindle	1984	
2	The Short Screenplay	Gurskis,Dan	Couse Technologies	2006	

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1	Animation Writing and Development: Form Script Development to Pitch	Wright, Jean Ann	Focal Press	2005	
2	Basics: Animation Script Writing	Welles, Paul	ACA	2007	

Teaching Methodology

ICT based presentations with Images and Videos; Video Lectures; Group Discussions; Interactive activities; Industry expert Guest Lectures; Mini-project etc.

Evaluation Pattern

Internal 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		

III	MC	L		6	6
Course Code			**Course Title**		
PAN 3501			Advanced 3D Modeling		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Explain the basics of 3D character modeling.	**L1**
CO2	Outline the 3D cartoon character modeling.	**L2**
CO3	Develop the skills to create realistic character models with proper mesh flow (topology).	**L3**
CO4	Explain the basics of blend shape and facial expressions	**L4**
CO5	Organize Shapes, combine blend shapes into our Rig, Create a Base Control to Drive Shapes	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: Character modeling HOURS: 10
Character modeling is the process of transforming a concept, essentially an idea, into a three-dimensional model. The character artist builds the model from the ground up using tools such as polygon box modeling, hard surface modeling, and digital sculpting techniques. Overview of pipelines and software tools for character modeling. wireframe, surface, and solid. Each type has its own creation and editing techniques. A wireframe model is a skeletal description of a 3D object. low poly model, high poly model

UNIT II: Cartoon character modeling	HOURS: 20

Building a smart and efficient character base mesh, Defining facial features and anatomical primitives Modeling eyes Modeling teeth and mouth Modeling eyelids and anatomical face structure, Facial modeling and edge looping techniques Assembling all the pieces Seamlessly integrating and unifying all the pieces

UNIT III: Realistic character models	HOURS: 20

Sculpting Realistic Face, Sculpting Realistic Skin Detail, Create Hair, Beard and Eyebrows with Fibermesh, Human Head and Hand Anatomy, Sculpting realistic Cloth for Characters, Making your Character Model Realistic, Refine and add any final anatomical details to the character. Build in any remaining clothing, armor, and props.

UNIT IV: Character blend shapes	HOURS: 20

Face Topology Overview, Checking our Model, Maya Modelling Toolkit for Retopo approaches for creating blendshapes, modeling different shapes, Transferring the expressions, Blendshape targets in professional models,Symmetrical, Mirror, Flip or Split Shapes, Organize Shapes, Connect Blendshapes into our Rig, Create a Base Control to Drive Shapes, Control Layout and Connection to Shapes, EyeLook Control Setup Mouth Position Control

UNIT V: Facial deformation Blend shape	HOURS: 20

Techniques for facial deformation Blend shape based facial movement Modeling facial deformation targets, Blendshape refinement, Compressing blendshapes, Eyelid Concepts, Simple Joint Blink Setup Lips & Eyebrow Rig Setup, Jaw Corrective Shape, Sticky Lips, High-resolution facial poses, Test Animation

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
9.	Introducing Autodesk Maya 2014	Dariush Derakhshani	Sybex	2013	Edition.1
10.	Mastering Maya 2009	Eric Keller, Eric Allen, and Anthony Honn	Sybex	2009	Edition.1

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	101 Autodesk Maya Tips	Dave Girard	Amazon Digital South Asia		

			Services,Inc		

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	MC	L			6	6
Course Code				Course Title		
PAN 3502				3D Animation		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Classify the principles of 3D animation.	L2
CO2	Apply the 12 principles of animation in 3D animation.	L3
CO3	Make use of knowledge in Key frames and graph editor	L3
CO4	Explain the basics of 3D character animation	L5
CO5	Test skills and Techniques to Create different types of animation.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	L	S
CO2	S	S	S	L	L
CO3	S	S	S	M	M

CO4	S	S	M	L	L
CO5	S	S	S	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-I: Basic of 3D animation	**HOURS:** 12

Basic principles of animation, Timing and spacing, Illusion of a bouncing ball, bouncing ball in animation, Mass (weight) and materials of a ping pong ball, basketball, and bowling ball, simulation tools of 3D animation, timing and spacing, Understanding the difference between internal and external forces. Understanding Emotions, forces and gravity.

Unit-II: The 12 basic Principles of Animation	**HOURS:** 12

12 animation Principles - squash and stretch, and anticipation, simulate locomotion, The principles of balance, gravity, posing, weight applied to the mechanics of body movement. mechanics of walking: bends and rotations in the hips and feet. Human walk cycle and treadmill walk cycles using cycled animation curves (and cycle with offset), relevant action for anticipation, difference between "Overlapping Action" and "Secondary Action"

Unit-III: Use of IK and FK rig	**HOURS:** 20

Use of IK and FK rig, Animation tools like graph editor, Understanding the use of Graph editor, Dope sheet, camera sequencer, time editor and trax editor. Gain knowledge on Facial expression for 3D Animation Preparing and importing audio for facial animation timing Animating faces for emotion and dialogue Facial GUI vs. facial joint array vs. blend shape driven expressions.

Unit-IV: Detailing character animation	**HOURS:** 20

Initiate character movements, weight shifting in a body, movements of lift and drop of feet, Breaking up the relative timing of parts of the body. Relationship between action and mood, create an authentic character dialogue performance, Importance of Guideline- Line of action,

Unit-V: Different types of animation	**HOURS:** 20

Animation techniques such as cell animation, classic characters, cut out animation, stop- motion effects, puppet stop motion, pixilation, optical printing, vector / key framed animation, sand animation, silhouette animation, pin-screen animation, Chinese shadow puppetry and rotoscope techniques, History of animation in India, Growth of Indian animation companies and studios, emerging trends in Indian animation industry and outsourcing demands, future trends in animation.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Stylized rendering techniques for scalable real-time 3d animation	Lake, Adam, et al.	proceedings of the 1st international symposium on Non-photorealistic	2000	1 Edition

			animation and rendering		
2.	3D animation essentials.	Beane, Andy.	John Wiley & Sons	2012	1 Edition
3.	Principles of traditional animation applied to 3D computer animation.	Lasseter, John	Proceedings of the 14th annual conference on Computer graphics and interactive techniques..	1987	14th Edition

Teaching Methodology

Intensive Practical sessions coupled with workshops and discussion with expert from the industry, Workshops & Seminars, Guest Lectures, Assignments, Industry Visits

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	MC	L			6	6

Course Code				Course Title
PAN 3503				Dynamic Simulations

Course Outcomes

COs	Statements	Bloom's Level
CO1	Define the Basic Concepts of dynamics and playing with particles	L1
CO2	Explain the use of various fields and solvers and its uses in creating effects	L2
CO3	Applying suitable type of constraints and fields for creating real time animation effects	L3
CO4	Classify the different types of fluids simulation and create basic simulations	L4
CO5	Create special effects for the real time footage and render it in appropriate formats.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5

CO1	L	L	L	L	L
CO2	M	M	M	M	M
CO3	L	L	L	L	L
CO4	M	M	M	M	M
CO5	M	M	M	M	M

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: PARTICLES AND FIELDS	**HOURS:** 18

Particles and fields: Emitting Particles - Particle Grid -Fill objects with particles- create liquids from particles – particle collision- goals – Sprites – rendering the particle – control particles using fields.

UNIT II: SOFT BODY AND RIGID BODY	**HOURS:** 18

Rigid body and Soft body: Constraint types – (point, hinge, slider, cone-twist, spring hinge)- create collision between compound objects

UNIT III: FLUIDS	**HOURS:** 18

Creating fluid – Modifying –object interaction with dynamic fluids – playing fluids – texturing and shading fluids

UNIT IV: SIMULATIONS	**HOURS:** 16

Open water effects: Ocean – pond – wakes – floating objects – convert wave displacement to polygons – add locators.

UNIT V: EFFECTS	**HOURS:** 20

Creating fire- fireworks – flow effects – curve flow – surface flow – create lightning – creating shatter effects – creating smoke effects.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Special Effects: An Oral History	Pascal Pinteau			
2.	Special Effects: The	Richard Rickitt			

	History and Technique:				

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Maya Visual Effects: The Innovator's Guide:	Eric Kellu			
2.	Digital compositing for Film and Video	Steve Wright			

Teaching Methodology

Intensive Practical sessions coupled with workshops and discussion with expert from the industry, Workshops & Seminars, Guest Lectures, Assignments, Industry Visits

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks

External: 50% - Semester Examination – Practical = 100 Marks.

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	MC		T		4	4
Course Code					**Course Title**	
PAN 4503					Media Research	

Course Outcomes

COs	Statements	Bloom's Level
CO1	Label and classify different methods of research	**L1**
CO2	Outline the process involved in research and data collection	**L2**
CO3	Identify different sample groups and evaluate the selection	**L3**
CO4	Interpret data in a study without any ethical bias	**L4**
CO5	Design a qualitative study on different media related topics to enhance society	**L5**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-I: Introduction to Research and its need in media: **HOURS:** 12
Types of research: Exploratory and Conclusive research, Quantitative and Qualitative research; Process of research: Identifying the Problem, hypothesis, analysis and evaluation, result. Problems faced in the research process; Using case studies and cross referencing (literature review), citation, etc.

Unit-II: Research proposal and abstracts   **HOURS:** 12
Content and types of proposals: Solicited and UnSolicited ; Exploratory Research Designs, Case study, Expert opinion survey, Focus groups; Descriptive Research Designs: Cross-sectional studies and Longitudinal studies.

Unit-III: Sampling   **HOURS:** 12
Types of sampling, Simple random, Systematic, Stratified and Cluster sampling; Probability and Non Probability sampling; Sampling size; sampling errors. how to take a sample, direct and indirect influence over the sample taken and its problems in research.

Unit-IV: Data collection and Questionnaire Design   **HOURS:** 12
Primary and Secondary Data, Sources (Observation, personal interviews) Advantages and disadvantages, demographics; Process of Questionnaire design, open and close ended Questionnaire, Advantages and Disadvantages.

Unit-V: Testing of Hypotheses and reporting   **HOURS:** 12
Testing of Hypotheses and reporting; Case study of research on advertising for marketing and politics, qualitative research sample study and execution.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Media and Communication Research Methods	Berger, Arthur Asa.	Sage Publication, New Delhi,	2000	
2.	Mass Media Research	Roger, Wimmer. D & Dominick, Joseph R.	Wadsworth Publications, London	2000	

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Qualitative Media Analysis	Altheide, David L.	Sage Publication, New Delhi	1996	
2.	Media Research Methods	Gunter, Barrie.	Sage Publication, New Delhi	2000	

Teaching Methodology

Emphasis on case studies and literature review of both political, social and marketing (advertising research) and some sample case studies on how media research can be used to push for political or marketing gain i.e installing the concept of ethical research, eg the idea of low fat foods and weight loss, etc

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	ES	L			4	4
Course Code			Course Title			
PAN3401			Gaming and Apps Designing			

Course Outcomes

COs	Statements	Bloom's Level
CO1	Classify the principles of Game level design with plan to reach out to gamers.	L2
CO2	Demonstrate knowledge of different game character interaction.	L2
CO3	Compare and build a relation between game character with users expectations	L2,L3
CO4	Create and discuss application design in terms of context framework.	L6
CO5	Illustrate the game level design for appropriate platforms.	L2

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Introduction to Gaming and concepts **Hours: 20**

Basics and History of Game Design: Introduction to gaming and concepts. Meaning and definition, Classification of gaming, Game production process, Pre production for Gaming – Concepts and ideas, Game assets design, Production environment steps and planning – Implementation in 2D and 3D. Post production – Compositing and editing, sound designing. Introduction to Game Design, Game Type - Simplest Game, Elements of Gaming, Causes and Consequences of gaming, Game Worlds, Understanding the Market, Business of Games and Entrepreneurship List of Genre, Traditional Game Development Workflow, Game Brainstorming, Game Development for Modern Platforms, Games and Society

Unit-2: Production Plan   **Hours: 20**

Game Storyline, Games benefit from stories, Game as a story, Three-Act Structure and Rising Action, Story Purpose; Aesthetics & Gameplay, Ideation, Prototyping and Playtesting, Visualization, User Experience & Design; Game Design Document: Define the Art & Concepts - Pre-Production for game – Mindmap, Moodboard, Storyboarding, Flowchart, Player checklists, Prototyping and Playtesting, Visualization, Building a Team, Evaluating and Refining, Game Presentation; The game rulebook, Visualizing the game world, Level Design, Navigation and Time, Moveset, Linear vs. Non-Linear, Two types of navigation, Level design in local spaces, Game lives, Rules and Discovery - Introduction to Rules, What are the rules?, Importance of game rules;

Unit-3: Rules, Character, Assets – 2D and 3D and Environment Lighting   **Hours: 20**

Introduction to Characters - Friend and Enemy, Roleplaying & Character Motivation, Characters and Character Goals, Character Brief Character design for Game, Game Density, Mood & Story, Proportion; Multiplayer Rules and Balance, Properties and Rules, Making a game world, Explorer/ Alien Sketching, Animals sketching, 2D Ink Drawing, 2D Vector Drawing, 3D modeling, 3D Game Engines, 2D Game Engines, Mod kits, Modeling with Quads Polygons VS Tri-polygons Rigging, Skinning, Weights, Animation, Atmosphere, Lighting techniques, Importance of lighting, Atmospheric fog and colors. Mechanics and Dynamics

Unit-4: Web Apps   **Hours: 20**

Introduction to Web Applications, Understanding Graphical User Interface designing, Practical exercises in designing Interface for Web apps and websites, Mobile Interaction Design: User Research, Usability Inspection Methods & Intro to Usability Evaluation, Guerrilla Usability Testing & Field Visits, The Process of Design Creation, Accumulated Design Knowledge & Task Redesign, Navigation Design & Design Rationale, Intro to Visual Design, User Interactivity, Multiple View Controllers & Navigation, Persistence & Networking

Unit-5: Mobile Apps   **Hours: 20**

Introduction to Mobile Applications, Designing of apps for Android and IOS operating systems, Understanding the limitations of the different devices and their specifics, Practical exercises in designing Interface for mobile apps and mobile sites, Virtual Reality & Augmented Reality: Virtual sets – Application and uses of Virtual reality in day to day life. Augmented Reality – Immersive – Location based – Aided Learning Conversion of 3D objects from digital to real life models.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	This is not a game: A guide to alternate reality gaming	Szulborski, D.	Incunabula	2005	1 edition
2.	Designing gaze gestures for gaming: an investigation of	Cite Istance, Howell, et al.	Proceedings of the 2010 Symposium on Eye-Tracking Research &	2010	1 edition

		performance		Applications.		
3.		Designing puzzles for collaborative gaming experience–case: eScape	Manninen, Tony.	eScape	2005	1 edition

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	ES	L			4	4
Course Code			**Course Title**			
PAN 3402			Web designing			

Course Outcomes

Cos	Statements	Bloom's Level
CO1	List the Methods and Techniques of Developing a Simple Website	**L1**
CO2	Identify the Standard Web Page Language	**L3**
CO3	Apply CSS, Tables, loops, popups in web page development	**L4**
CO4	Explain about web templates	**L5**
CO5	Create and Maintain Web Page	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	L	S
CO2	M	S	S	L	S

CO3	S	S	M	M	M
CO4	L	S	M	S	S
CO5	S	M	L	M	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT 1: Fundamentals of Design	**HOURS: 10**

Fundamentals of Design - Elements of Design - Principles of Design - Web Design - Introduction to Internet – WWW- History and Origin - Multimedia Technology -Hyperlink, Navigation - HTML (Hypertext Mark-up Language) - HTML Codes - Creating Basic Webpage

Unit-II: Image Compositing	**HOURS:** 20

Principles of Beautiful Web Design – Imagery - Image Sources - Cropping Photoshop - Adjustments - File Formats and Resolutions - Borders and Edge - Treatments Texture, Points Line, Shape -Volume and Depth – Pattern - Building Texture Application - Grouting and Setting

Unit-III: Developing of interactive webpage	**HOURS:** 20

Introduction to Dreamweaver - Creative Cloud, CSS - Developing Dynamic Cross - Interactive Web Pages – Buttons – Hyperlink – Tables-JavaScript – Introduction Variables - IF-Else-Event Handling - Introduction to Java Script Object - Loops-Interactivity - Pop Ups

Unit-IV: Create Web Templates	**HOURS:** 20

Collecting Different Website Themes - Website Template Design - Introduction to Online Free Web Templates - Web Portfolio

Unit-V: Creating Webpage	**HOURS:** 20

Creating Webpages - Creating the Website – Saving -Working on the Website - Titling –Host – URL-Hypertext Transfer Protocol

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Professional Computer Graphics: Principles and	Hughes, John F.	Wesley Publications, Boston	2013	1 Edition

	Practice		Addison		
2.	The Principles of Beautiful Web Design	Beard, Jason	Site Point Books, Melbourne	2010	1 Edition
3.	Computer Graphics Software Construction	Rankin, John R.	Prentice Hall Publications, Australia	1989	
4.	Principle of Interactive Computer Graphics	Newman, William M. and Sproull	McGraw Hill Publications	1989	

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
III	EDS	L			2	2
Course Code				**Course Title**		
PDJ 3301				Video Editing		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Outline the importance of Editing and roll of editor	L2
CO2	Organize the raw footages and files in a structured way	L3
CO3	Apply suitable techniques to filter the suitable footages using various methods and techniques	L3
CO4	Choose the appropriate methods and apply suitable effects so as to make the output in a reasonable manner	L5
CO5	Create and add special effects to make the output more effective	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	L	S
CO2	M	S	S	L	S
CO3	S	S	M	M	M
CO4	L	S	M	S	S
CO5	S	M	L	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-I: TOOLS AND INTERFACES	**HOURS:** 6

User Interface – Workflow overview – Shapes and Presets – Animating the Text – Adding Effects – Using Compositions and Layers - Understanding and Editing of Videos – Timecode- Trimming layers-Trimming before replacing- Transitions-Splitting- Slowing Down.

Unit-II: APPLYING EFFECTS	**HOURS:** 6

Glow, Texture, Cycore, Blur, Distortion, Scatter, Lens Flares, Lightning etc. - Stabilizing and Tracking Motion - Creating and Animating texts – Use of Animated Digital Paint– Motion Paths – Masking and Keying – Compositing – Working in 3D.

Unit-III: EDITING	**HOURS:** 6

Working with Interface –Importing footage and Stills –Dealing with Missing Media- Organizing Items in Bins – Setting Markers – Setting In and Out Points – Three-Point Editing-Editing in Time Line: Navigating Timeline- Moving Clips- Trim Editing – Rolling Edits- Making Slip and Slide Edits – Creating Title from Template – Creating Title from Scratch – Super Imposing Title – Title Roll or Crawl.

Unit-IV: TRANSITIONS & EFFECTS	**HOURS:** 6

Adding Transitions- Effects Control Window-Video Effects- Animating Effects- Colour Corrections- Application of Motion in Titles.

Unit-V: AUDIO EDITING	**HOURS:** 6

Adjusting Audio Volume and Panning – Multichannel Clips into Mono Clips – J & L Cut Audio Edits –Noise Removal - Audio Effects – Exporting workflow.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Make the Cut	Lori Jane Coleman A.C.E & Diana Friedberg			
2.	Compositing Visual Effects	Steve Wright			
3.	Digital Compositing for Film and Video	From Focal Press			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Video Production Handbook	From Focal Press			21st Edition
2.	HD Cinematography	From Focal Press			
3.	Nonlinear Editing-Bryce Button	From Focal Press			
4.	Grammar of Edit	From Focal Press			

Teaching Methodology

Intensive Practical sessions coupled with workshops and discussion with expert from the industry, Workshops & Seminars, Guest Lectures, Assignments, Industry Visits

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
III	SS		T		2	2
Course Code					**Course Title**	
PAN 3601					Digital Communication Skills	

Course Outcomes

COs	Statements	Bloom's Level

CO1	List the various terminologies in digital communication.	**L1**
CO2	Identify digital media communication goals.	**L3**
CO3	Distinguish the difference between analog and digital communication.	**L4**
CO4	Assess verbal, nonverbal and digital communication skills.	**L5**
CO5	Develop writing skills for the various social media platforms.	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	L	M	L	M
CO2	M	L	L	L	L
CO3	S	L	M	L	M
CO4	S	L	S	L	M
CO5	L	L	M	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit – I -Introduction to communication and digital communication: Hours: 6

A brief history of communication. The evolution of digital communication. Advantages, disadvantages, and the required skillsets in digital communication.

Unit – II Digital media etiquettes: Hours: 6
A general introduction to etiquettes and manners. The background and description of digital media etiquettes. The social and ethical aspects. A chart of the main points of etiquettes. Touring the websites. Digital citizenship.

Unit III-The media: internet and e-mail: Hours: 6

E-mail and internet communication. Professional e-mail message and guidelines. Useful phrases for emails and official communication. Fake news recognition.

Unit – IV Presentation skills: Hours: 6

Practical tips for writing and speaking. Effective communication through PPTs. The language of the digital world. Social media dos and don'ts in presentation.

Unit- V –Digital content creation: **Hours: 6**

Determine the purpose, track and analyse it. Promote content on social media. Utilize photos and multimedia. Content marketing.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	.*Digital Cultures: Understanding New Media*	Creeber, Glen and Martin, Royston	McGraw Hill, United Kingdom	2009	
2.	*The Elements of Style*,	<u>Strunk Jr, William.</u>and <u>White</u>E. B.	Pearson Publications, United Kingdom	1999	
3.	*Effective Communication,*	Adair, John.	Pan Macmillan Ltd, London	2003	

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	*Essentials of Business Writing*	Guffey, Mary Ellen.	SouthWestern College Publications Ohio,	2000	
2.	*Citizen Journalism: Global Perspectives*	Eds. Throes, Eina and Allan, Stuart.	Peter Lang, New York	2009	
3.	*The New Digital Storytelling*: *Creating Narratives with New Media*	Alexander, Bryan.	USA: ABC-CLIO,	2011	

Teaching Methodology

Classroom sessions, group discussion, workshops, guest lectures.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
IV	MC	L			4	4
Course Code				**Course Title**		
PAN 4501				Lighting and Rendering		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Classify the principles of CGI lighting.	L2,L4
CO2	Demonstrate knowledge of different render engines for appropriate lighting.	L2
CO3	Compare and build a relation between CGI lighting with real-time lighting.	L2,L3
CO4	Create and discuss lighting with render passes in terms of live compositing.	L6
CO5	Combine the direct and indirect light source for appropriate render.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Introduction to CGI Lighting	Hours: 20

Introduction to CGI Lighting - What is Digital Lighting, Cinematography Documentary: "Visions of Light", Lighting Techniques for Computer Generated Imagery, Storytelling with lighting, Composition, The human eye, Wave vs. ray models, Color, Surface reflection

Unit-2: Physics of lighting	Hours: 20

Math for illumination models, Light and surface physics, Illumination, Model examples, Basic Lighting – Daylight - Midday - Sunset - Cloudy - Moonlight - Dappled - Stained Glass - Rasterizing, Ray tracing Vs Ray casting.

Unit-3: Surface Shaders	Hours: 20

Illumination, Surface geometry, Surface generation techniques, Color and shape generation, Aliasing and Antialiasing, Blend, Vertex Color & Vertex Paint, Tiles, Unwrap UVW Baking

Textures, Normal Maps Vs. Bump Maps, Displacement Maps Vs. Normal Maps, Bump and Displacement shaders, Stochastic patterns, Hi-Res onto Low-Res, Turbulence

Unit-4: Light & Shadows	Hours: 20

New linking to Objects (and sets) workflow, Reason for light linking – matching live footage lighting, Light attributes – What you're adjusting and why – show manipulators, Light Fog, Intensity Curves, Depth map, Reuse / Share depth maps, Ray traced, Shadow Techniques (For realism and Optimization), Adding hard or soft shadows to a scene, Shafts of Light – light fog, Trouble – shooting section for shadow problems.

Unit-5: Digital Rendering and Compositing	Hours: 20

Layering and compositing, Render Engines – Arnold, Renderman, Redshift, Octain, Mantra, Vray, Iray, Mentalray, Motion Blur, OptiFX Techniques and Tips, Occlusion – as applies to light glow, Selective Ray tracing, Multithreaded tile – based batch renderer concepts, Multipass layer render – AO, Shadow, RGB, ZDepth, Vector Motion, Normal, Reflection, Direct Illumination, Diffuse, Beauty.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Advanced RenderMan: Creating CGI for Motion Picturesalternate reality gaming	Apodaca, Anthony A. and Larry Gritz.	Morgan Kaufmann	2000	1 edition
2.	Painting with Light	Alton, John.	University of California Press	1995	1 edition

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Film Lighting	Malkiewicz, Kris	Prentice Hall Press	1986	1 edition

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
IV	MC	L			4	4

Course Code	Course Title
PAN4502	Advanced Compositing

Course Outcomes

COs	Statements	Bloom's Level
CO1	Distinguish between the total production knowledge and also to create knowledge about compositing.	**L4**
CO2	Explain the green matte and blue matte clip, with other Production Clips.	**L5**
CO3	Build knowledge how the layers are adjusted to create a composite.	**L6**
CO4	Combine Visual effects to the video clip.	**L6**
CO5	Compose the render to give the final out.	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-1: Introduction to Node Based Compositing	Hours: 20

User Interface, Menu Tab, channels, Viewer, basic merge operations, Properties Bin, colour space, colour sampling, Tools, Merge, Addmix, Node graph

Unit-2: Mattes and Roto	Hours: 10

Generating mattes and masks, Single frame Roto , Usage of Subtract Roto, Segmenting Roto For a Character, usage of Feather in Roto, Keylight, Open spline for hair Roto

Unit-3: Motion tracking	Hours: 20

One Point Track, pattern and keyframe tracking and refining tracks. Stabilizing and matchmoving, Two-point track. Four-point Track, Planar Tracking, exporting corner pins from the tracker

Unit-4: Importing cameras and Geometry	Hours: 20

Keyer – Primatte - Keylight - Projection Mapping - Basic Stereoscopic - IBK Color – Gizmo -

Introducing the 3D System-Building 3D Geometry with Models

Unit-5: Colour correction basics - Grain Management	Hours: 20

Grade Node - Colour Correction/Matching, Hue Correct & Hue Shift - Adding Particles: Different types of effect making like fire, dust, etc. - output video formats - Rendering and exporting-Encoding & compression options for movies.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Visual Effects and Compositing	Jon Gress			
2.	The Filmmaker's Guide to Visual Effects	Eran Dinur			

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Adobe After Effects CC Classroom in a Book	Brie Gyncild			**2nd Edition**
2.	Nuke 101- Nuke 101-Professional Compositing and Visual Effects (Digital Video & Audio Editing Courses)Professional Compositing and Visual Effects (Digital Video & Audio Editing Courses)	Ron Ganbar			

Online Resources:

1. Visual Effects and Compositing - Jon Gress

2. The Filmmaker's Guide to Visual Effects – Eran Dinur.

3. Adobe After Effects CC Classroom in a Book By Lisa Fridsma and Brie Gyncild

Teaching Methodology

Intensive Practical sessions coupled with workshops and discussion with experts from the industry, Workshops & Seminars, Guest Lectures, and Assignments. Movie Showcase

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
IV	MC		T		4	4
Course Code				**Course Title**		
PAN 4503				Media Laws and Ethics		

Course Outcomes

COs	Statements	Bloom's Level
CO1	List laws in regarding media both Indian and World laws	**L1**
CO2	Identify and explain copyright infringements and breaches in free speech in a digital environment	**L2**
CO3	Distinguish various acts that in regards to media laws	**L3**
CO4	Interpret contracts, and ethical problems faced in an industry environment	**L4**
CO5	Evaluate case studies and discuss how breaches can be avoided	**L5**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

Syllabus

Unit-I: Introduction to media laws:	**HOURS:** 12

World media laws and Indian media laws, role of media in society; History of media laws, Interpretation of laws, Indian Constitution: Contempt of court, Parliamentary privileges, Libelity, free speech and Ethical dilemmas and issues

Unit-II: Laws and sections:	**HOURS:** 12

Constitutional Law, Criminal Law, Civil Law; Media laws on Intellectual property, copywriting; Civil and criminal law of defamation, Prasar Bharti Act (Broadcasting); Censorship- The Official Secrets act, Central Board of Film Certification. Litigation.

Unit-III: Cyber Laws	**HOURS:** 12

Cybercrimes, social media platform rules and regulations Implications on designs and other media based Intellectual property, magic remedies, ethical conundrum, gatekeeping and gatekeepers in digital mediums.

Unit-IV: Take on digital India and Piracy	**HOURS:** 12

Pirated software use, contract breaches, non-disclosure, legal payment claim. Obscenity in Indian laws, fair use in coverage, reporting and documentaries; Ethical issues in regards to monopoly.

Unit-V: Case Study on Ethics	**HOURS:** 12

Press Council of India in regards to digital mediums, The effects of meme trends and role of social media and it's ethical standing of the content creators and influencers- YouTube case study of Pewdiepie (demographic problems and indirect influences in T series sub battle and shooting case), Logan Paul (Japanese forest subside screening case) and Jake Pual (influencing kids into gambling and scam marketing) in regards to ethical standing in advertising etc.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Digital Media Law	Ashley Packard	Wiley-Blackwell	2013	Second Edition
2.	*Cyber Laws for every Netizen in India*	Vijayshankar, Na.	Ujvala Consultants Pvt Ltd., Bangalore	1999	First Edition
3.					

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	*Constitution of India*	Durga Das Basu	Lexisnexis	2013	21st Edition
2.	*Law of the Press*	DD Basu	Prentice Hall	2006	
3.	Makers of Modern India	Ed. Ramachandra Guha	Penguin, New Delhi	2010	
4.	Journalistic Ethics	PK Menon	Pointer Publishers, Jaipur	2005	

Teaching Methodology

Daily analysis of different case studies and cross comparison of news reports done by different publications. Bring to light different cases faced by media professionals in regards to media laws and ethics. Using and showcasing proper social media PR in regards to advertising based on demographics. Panel discussion, debate, group activities, weekly case reviews, library visits, screening of documentary films in English, presentations, seminars & workshops.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Theory = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
IV	ES	L			6	6
Course Code					**Course Title**	
PAN 4401					2D Character Animation	

Course Outcomes

COs	Statements	Bloom's Level
CO1	Experiment with the advanced techniques of 2D animation in both traditional and digital space.	**L3**
CO2	Apply the principles of animation in 2D character animation exercises and sequences.	**L3**

CO3	Analyze and animate characters in accordance to script, storyboard and animatic with appropriate voice and timing.	L4
CO4	Maximize effective use of Movement, Timing and Weight in animation.	L6
CO5	Create 2D Animation project applying the production process of 2D animation based on current industry trends and practices.	L6

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	S	S
CO2	S	S	L	S	S
CO3	M	S	M	M	S
CO4	M	M	L	M	S
CO5	M	S	M	S	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: Advanced 2D Cel Animation Techniques   HOURS: 20

To focus on traditional, hand-drawn character animation. Use of Light box, Capture device, Line testing software, Pencil tests, Inking, and other Cel animation skills will be taught. Advanced cel animation practices, improve traditional cel animation skill by various exercises and assignments, How to plan the action before starting animation, How to work in a team for animation, Applying the principles of animation, Exercises in Posing and Character emotion for different actions. Animation Exercises: Run cycle, Character lifting a heavy object, Jumping and landing, Head turn, Four legged walk cycle.

UNIT II: Advanced 2D Digital Animation   HOURS: 14

Acting Skills for Animation: How to observe, act and emote. Understand and develop acting skills. Understanding and applying complex movie clip properties, advanced tweening techniques, layers, library etc. Understanding advanced timing in animation, Coloring, BG and Layout creation in Adobe Animate. Animation Exercises: Tail and flag animation, Run cycle, Head turn, Four legged walk cycle.

UNIT III: Character Rigging in Adobe Animate & Bone Tool   HOURS: 16

Character animation in Adobe Animate using frame-by-frame animation, hand-drawn animation,

vector based animation, character rigging using movie clip, character rigging using bone tool. Animation Exercises: Character lifting a heavy object, Jumping and landing, Character expressions and emotions, change in character emotions, Coughing, eating, laughing, rubbing hands.

UNIT IV: Dialogue and Lip-sync	HOURS: 20

Understanding the production workflow for 2D Animation. Characters and Props creation in 2D, background with over-layers creation, Effects animation like Fire, Smoke, explosion, water, other EFX, 2D compositing. Understand and experiment voice modulations and mimicry and how to use it for animation and dubbing.
Animation Exercises: Dialogue or monologue of a character, two character dialogue, Lip sync chart.

UNIT V: Create 2D Digital Character animation project	HOURS: 20

2D character animation project: Animating for 1-minute own story. Apply industry-standard storyboard techniques to animation. Complete the entire process of animation including Pre-production, Production and post-production for a one-minute story as final project in 2D character animation.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	ANIMATION (2D DIGITAL): Advanced	3G E-learning LLC	3G E-learning LLC		First Edition
2.	Animation From Pencils to Pixels	Tony White			First Edition
3.	Sketching for Animation	Peter Parr			First Edition
4.	The Animator's Survival Kit	Richard Williams	Faber and Faber	2001	First Edition
5.	Acting for Animators	Ed Hooks	Routledge	2013	Revised Edition
6.	Cartoon Animation	Preston Blair	Walter Foster Publishing	1994	First Edition
7.	Timing for Animation	Harold Whitaker	Elsevier/Focal Press	2009	First Edition

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	Disney Animation: The Illusion of Life	Frank Thomas, Ollie Johnston	Walt Disney Productions	1981	First Edition

2.	Animation: From Script to Screen	Shamus Culhane	St. Martin's Press	1990	First Edition
3.	The Animator's Workbook: Step-By-Step Techniques of Drawn Animation	Tony White			
4.	Art of Animation	Bob Thomas	Walt Disney	1958	First Edition
5.	Character Animation Crash Course!	Eric Goldberg	Silman-James Press	2008	First Edition

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	**T**	**P**		
IV	ES	L			4	4
Course Code				**Course Title**		
PAN 4402				3D Character Animation		

Course Outcomes

COs	Statements	Bloom's Level
CO1	Develop storyboard for character animation.	**L3**
CO2	Translating storyboards to 3D animation.	**L5**
CO3	Compose scenes for 3D animation.	**L6**
CO4	Compose the facial expressions for 3D characters	**L6**
CO5	Create an animation on their own styles.	**L6**

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	L	S
CO2	M	S	S	L	L
CO3	S	S	S	M	M
CO4	S	S	S	L	M
CO5	S	S	S	M	S

* S- Strong; M-Medium; L-Low

Syllabus

Unit-I: Storyboard inputs	HOURS: 12

Understanding the 2D storyboard, introduction to 3D camera animation according to storyboard, concept of character placement and layout in a scene, understanding the concept of staging, basics of creating animation scene file for animation, referencing and reference editor.

Unit-II: Concept of 3D character animation	HOURS: 12

Concept of 3D character animation, blocking the animation, creating character weight in 3D animation, different feelings in the character, understanding of timing and blocking characters with timing.

Unit-III: Type of 3D character animation	HOURS: 20

Type of 3D character animation, 3D character cartoon animation, realistic animation, character snappy animation, character walk, character feelings, body part action change mood

Unit-IV: Character facial expressions	HOURS: 20

Techniques Character facial expressions, techniques of lips synch, animating other languages by pronunciations, creating secondary action for a character create an authentic character dialogue performance, How to approach, Importance of Guideline- Line of action,

Unit-V: Animation styles	HOURS: 20

Understanding the difference between animation styles, concept of quadruped animation and it's styles, Characterization to model, creating own styles of animation, chains whip action. common animation scenarios in comparison to the real world, trends in animation industry and outsourcing demands, future character animation.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	The Animator's Survival Kit	Richard Williams	Faber and Faber	2001	First Edition
2.	Timing for Animation	Harold Whitaker	Elsevier/Focal Press	2009	First Edition

Books for Reference

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2.	Art of Animation	Bob Thomas	Walt Disney	1958	First Edition
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External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		
IV	FC	L			2	2
Course Code					**Course Title**	
PAN 4001					Professional Skills for Media	

Course Outcomes

COs	Statements	Bloom's Level

CO1	Inspect and categorize their works based on the program.	L1
CO2	Formulate a plan and build a solid strategy of marketing their skills for various fields.	L3
CO3	Construct their works based on the categorical nature of the outputs and produce a show reel.	L3
CO4	Distinguish the traits of their work when presented in a production environment.	L4
CO5	Justify their work via presentation skills with audio video as a medium.	L5

Mapping of COs-PSOs

Course Outcomes	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	L	S
CO2	M	S	S	L	L
CO3	M	S	S	M	M
CO4	M	S	M	L	L
CO5	M	S	S	L	S

* S- Strong; M-Medium; L-Low

Syllabus

UNIT I: Showreel/DemoReel and Video Resume: **HOURS:** 20
Introduction to Showreels and Demoreels. Timing & Speed, content favour, showcasing workflow and outputs. Client demos vs Personal Demos. Labeling and Placement orders. Animation Exercises: Run cycle, Character lifting a heavy object, Jumping and landing, Head turn, Four legged walk cycle.

UNIT-II: Showreel/DemoReel and Video Resume: **HOURS: 12**

Introduction to Showreels and Demoreels. Timing & Speed, content favour, showcasing workflow and outputs. Client demos vs Personal Demos. Labeling and Placement orders.

UNIT-III: Presenting works and Showcasing   **HOURS: 12**

How to select works for a resume, Narrowing the content, Resumes in the Digital Age: Webpages, Blogs, etc. and key words. Cover Letters, Tailoring Your Resume to your needs.

UNIT-IV: Visual Style   **HOURS: 12**

Types of Resumes: Chronological Resume, Functional Resume, Combination Resume. Rules: Length, Font, Spacing, Layout and Sections. Objective and Skill relevance. Design Principles.

Unit-V: Interview skills   **HOURS: 12**

Common interview questions, attitude and body language. Researching the Employers: what employers look for, The Mock Interview, Phone / Online Interviews, Behavioral Interviews, Closing note for the Interview.

Books for Study

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	---				
2.	---				
3.	---				

Books for Reference

S.No.	Title of the Book	Author	Publisher	Year	Vol./Edition
1.	---				
2.	---				
3.	---				

Teaching Methodology

Extensive Theory & Practical sessions, Computer Lab sessions, ICT based presentations, Video Lectures, Group Discussions, Interactive activities, Mini-project, MCQs, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks

Semester	Category	Hours/Week			Total Hours	Credits
		L	T	P		

IV	PJ			P	6	6
Course Code				**Course Title**		
PAN 4701				Project & Internship		

To Create a 1-min Animation Film

Pre-Production- The project will involve a story proposal followed by Scripting & Storyboarding, with emphasis on screenplay, frame setting which is then later converted to an Animatic. Production and Post-Production – Asset creation, rigging, Animation, audio video editing, titling and rendering.

Evaluation Pattern

Internal: 50% - CIA-I + CIA-II + III Component = 30 + 30 + 40 Marks = 100 Marks
External: 50% - Semester Examination – Practical = 100 Marks