

# **LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF) FOR POSTGRADUATE PROGRAMMES**

**(With effect from 2022-23)**

**M.Voc. 3D Animation  
Department of 3D Animation  
DDU KAUSHAL KENDRA**



**LOYOLA COLLEGE (AUTONOMOUS)  
CHENNAI 600034**

## PREFACE

M. Voc. 3D Animation, a vocational degree program offered under the DDU KAUSHAL Kendra scheme, focuses on imparting practical skills related to digital media and animation. It is an art form that creates an illusion of life, and a creative field of study that has been blooming over the contemporary period due to the needs and wants of a wide range of industries. Studying animation deals with understanding the basics of a variety of fields of physical science like anatomy and kinetics to name a few.

The learning outcome-based curriculum framework (LOCF) for M. Voc. degree in 3D Animation is designed keeping in mind the need to cater to a wide range of stakeholders starting from students themselves. Its objective is to create awareness of the structure of the animation industry and the changes it goes through over time thereby helping students prepare for the industry of animation as they move on to get themselves acquainted with it.

The curriculum is also aligned with the framework created by MESC (Media and Entertainment Skills Council) to assist the students in excelling in the standards that this creative field requires both technically and creatively on a global scale. MESC also conducts exams for various job roles, which have national and international relevance.

Learning outcome-based approach is one of the salient features of this degree as the entirety of the same was built around the skill levels that the students exhibit. This approach intends to deliver in terms of understanding the history, the need, and the concepts and inducing the levels of creativity that the industry requires at large. The curriculum and the assessment methods are assigned with appropriate cognitive levels as per Bloom's Taxonomy. The Objective Based Evaluation (OBE) evaluation methods will pave the way for the assessment of cognitive levels of the students and evaluate the expected course outcome attainment.

Students are expected to learn the history of animation and its role in this era of technology. Furthermore, they are persuaded into exhibiting the needs the industry requires in various technologies related to either 2D or 3D animation. They get to learn through 'immersive learning' that is entirely built around the learner-centric approach wherein the students learn from a wide variety of learning aids ranging from presentations and videos to demo sessions under the close guidance and mentorship of faculties and industry experts.

The knowledge they acquire in the form of performance skills will help students make a smooth transition into the industry of animation, through a variety of means like workshops, guest lectures, internships, projects, etc.

The curriculum has been structured in a way that students get an understanding of the skill and the industry while having meaningful exposure to the industry itself and the way it works. The academic and practical exposure provided by the department is expected to empower the students with a great prospect of employability and entrepreneurial experience that helps in the holistic development of the individual with both technical and life skills.

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## **VISION AND MISSION OF LOYOLA COLLEGE**

### **VISION**

Towards holistic formation of youth, grounded in excellence, through accompaniment to serve the humanity.

### **MISSION**

- To provide inclusive education through an integral and holistic formative pedagogy.
- To promote skills that prepare them for the future.
- To kindle in young minds the spirit of social and environmental justice with a blend of academic excellence and empathy.
- To stimulate critical and conscientious scholarship leading to meaningful and innovative human capital.

### **CORE VALUES**

- Cura Personalis
- Pursuit of Excellence
- Moral Rectitude
- Social Equity
- Fostering solidarity
- Global Vision
- Spiritual Quotient

## **VISION AND MISSION OF THE DEPARTMENT**

### **VISION**

To create a sustainable industry aligned academic ecosystem that empowers students in innovation, entrepreneurship and employability.

### **MISSION**

- Providing inclusive and Job-oriented training
- Bridging gap between the academia and industry
- Boosting creativity and cultivating robust skill sets
- Encouraging faculty with learning on latest technological advancements
- Facilitating use of media to foster positive changes within society

**PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)**  
**(School of Media Studies)**

<b>PEO 1</b>	<p><b>PROFESSIONAL AND TECHNICAL SKILL DEVELOPMENT</b></p> <p>To impart industry specific skills, develop creativity, knowledge to the students in media studies and to make them socially responsible and prudent citizens.</p>
<b>PEO 2</b>	<p><b>CORE COMPETENCY AND ACADEMIC EXCELLENCE</b></p> <p>To develop scope and enhance the core competencies in the chosen area of specialization and to provide access to quality education through the use of modern tools and techniques and to empower them with entrepreneurial skills.</p>
<b>PEO 3</b>	<p><b>LOCALLY AND GLOBALLY RELEVANT CURRICULUM</b></p> <p>To constantly strive to innovate, revise, update and upgrade the curriculum on par with the international standards and teaching methodologies to cater to the needs of the students and to make the teaching and learning relevant to the local and global context.</p>
<b>PEO 4</b>	<p><b>SOCIAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY</b></p> <p>To integrate social responsibility, concern towards the environment and create content for sustainable development into the curriculum of all media and communication specializations.</p>
<b>PEO 5</b>	<p><b>HOLISTIC DEVELOPMENT AND PROFESSIONALISM ETHICS</b></p> <p>To prioritize experiential learning through specialized and customized training and to understand the importance of life skills, holistic development, professional attitude, ethics, collaboration, critical thinking, accountability and multidisciplinary approach.</p>
<b>PEO 6</b>	<p><b>INCLUSIVE AND ENABLING LEARNING ENVIRONMENT</b></p> <p>To provide access to students, preferentially the underprivileged, an academic environment which is conducive to academic excellence, the urge of discovery, creativity, inventiveness, leadership and life-long learning.</p>

**PROGRAMME OUTCOMES (POs)**  
**(School of Media Studies)**

<b>PO 1</b>	<p><b>DISCIPLINARY KNOWLEDGE AND SKILL DEVELOPMENT</b></p> <p>Students will apply the inter-disciplinary knowledge acquired in classrooms and labs in real life situations and work environment. They will internalize the importance of arts that will enable them to become skilled professionals.</p>
<b>PO 2</b>	<p><b>REFLECTIVE THINKING AND EFFECTIVE COMMUNICATION</b></p> <p>Students will enhance their communication skills such as reading, writing, listening and speaking, visualising which will help them to express their ideas and views clearly and improve/acquire critical thinking.</p>
<b>PO 3</b>	<p><b>PROFESSIONALISM AND ETHICS</b></p> <p>Students will demonstrate the core competencies and professional ethics in their discipline through Analytical reasoning, Problem-solving, Research-related skills, Cooperation/Teamwork, Scientific reasoning and Reflective thinking and will emerge as entrepreneurs and become employable in various positions.</p>
<b>PO 4</b>	<p><b>SOCIAL SKILLS AND INCLUSIVITY</b></p> <p>Students will imbibe moral and social values in personal and social life leading to highly cultured and civilized personality and sensitized to gender, age, caste, religion, race, ethnicity and region and use education as a tool for equity, emancipation and empowerment of humanity.</p>
<b>PO 5</b>	<p><b>MEDIA EDUCATION AND ENVIRONMENT SUSTAINABILITY</b></p> <p>Students will understand socio-cultural, economic, political and media issues and will contribute towards the betterment of the human living environment and sustainable growth.</p>
<b>PO 6</b>	<p><b>SELF- DIRECTED AND LIFELONG LEARNING</b></p> <p>Through media and communication literacy, students will engage in self-paced and self-directed learning for personal development, professional accomplishment and social advancement.</p>
<b>PO 7</b>	<p><b>MULTICULTURAL COMPETENCE AND LEADERSHIP QUALITY</b></p> <p>Students will exhibit moral and ethical awareness/reasoning, Leadership readiness/qualities, Multicultural competence, diversity and become competent, committed, conscious, creative, and compassionate men and women for others.</p>

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**  
**(Department of 3D Animation)**

PSO 1	Demonstrate mastery of knowledge and skills relating to the advanced principles of design, animation and film.
PSO 2	Identify and analyse the different phases of animation production process to effectively communicate concepts to all target audience.
PSO 3	Design and develop assets, dynamic effects and simulations exhibiting technical skills for animation through the use of multiple software.
PSO 4	Express communicative and leadership abilities to excel in the workplace by imbibing ethical practices.
PSO 5	Compose and create animation sequence for various fields like education, engineering and entertainment.
PSO 6	Build industry awareness and exposure through internships, field visits and projects to explore career opportunities.
PSO 7	Create a professional portfolio to enhance employability and entrepreneurship, exhibiting knowledge, skill competency and sustainable development.



### Correlation Rubrics

<b>High</b>	<b>Moderate</b>	<b>Low</b>	<b>No Correlation</b>
3	2	1	0

### Mapping of PEOs with Vision and Mission

	<b>PEO 1</b>	<b>PEO 2</b>	<b>PEO 3</b>	<b>PEO 4</b>	<b>PEO 5</b>	<b>PEO 6</b>
<b>Vision</b>	3	3	3	3	3	3
<b>Mission 1</b>	3	3	3	2	3	3
<b>Mission 2</b>	3	3	3	2	3	3
<b>Mission 3</b>	3	2	2	3	3	3
<b>Mission 4</b>	3	2	2	3	3	3

High Correlation – 80%

Moderate Correlation – 20%

Low Correlation – 0%

### Mapping of POs with PEOs

	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>
<b>PEO 1</b>	3	3	3	3	3	3	2
<b>PEO 2</b>	3	3	3	3	2	2	2
<b>PEO 3</b>	3	3	3	3	3	3	3
<b>PEO 4</b>	2	3	3	3	3	3	2
<b>PEO 5</b>	3	3	3	3	3	3	3
<b>PEO 6</b>	3	3	3	3	3	3	3

High Correlation – 86%

Moderate Correlation – 14%

Low Correlation – 0%

### Mapping of PSOs with PEOs – M.VOC. 3D ANIMATION

	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>	<b>PSO 7</b>
<b>PEO 1</b>	3	3	3	3	3	3	3
<b>PEO 2</b>	3	3	3	3	3	3	3
<b>PEO 3</b>	3	3	2	3	3	3	3
<b>PEO 4</b>	3	2	3	3	3	3	3
<b>PEO 5</b>	3	2	3	3	2	3	3
<b>PEO 6</b>	3	3	2	3	3	3	3

High Correlation – 88%

Moderate Correlation – 12%

Low Correlation – 0%

**Mapping of PSOs with POs – M.VOC. 3D ANIMATION**

	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>	<b>PSO 7</b>
<b>PO 1</b>	3	3	3	3	3	3	3
<b>PO 2</b>	3	2	2	3	3	3	3
<b>PO 3</b>	3	3	3	3	3	3	3
<b>PO 4</b>	3	2	2	2	3	3	3
<b>PO 5</b>	3	2	3	3	3	3	3
<b>PO 6</b>	3	3	3	3	3	3	3
<b>PO 7</b>	2	2	2	3	3	3	3

High Correlation – 82%

Moderate Correlation – 18%

Low Correlation – 0%

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI**  
**DEPARTMENT OF 3D ANIMATION**  
**(2021 - Restructured Curriculum)**  
**OVERALL COURSE STRUCTURE (M.Voc. 3D Animation)**

<b>M.Voc. 3D ANIMATION</b>					
<b>S. No.</b>	<b>CODE</b>	<b>COURSE TITLE</b>	<b>T/L</b>	<b>CATEGORY</b>	<b>CR</b>
<b>SEMESTER-I</b>					
1	PAN1MC01	Animation History & Principles	T	MC	6
2	PAN1MC02	Advanced Drawing for Animation	L	MC	6
3	PAN1MC03	Stop Motion Animation	L	MC	6
4	PAN1MC04	Digital Matte Painting	L	MC	4
5	PAN1ME01	A. Animation Film Making	L	ME	4
	PAN1ME02	B. Photography			
6	PAN1SK01	Communication & Creative Writing	T	SK	4
<b>Total Credits for Semester - I</b>					<b>30</b>
<b>SEMESTER-II</b>					
7	PAN2MC01	2D Animation	L	MC	6
8	PAN2MC02	Script Writing & Storyboarding	L	MC	6
9	PAN2MC03	3D Modeling and Texturing	L	MC	6
10	PAN2MC04	Animation Film studies	T	MC	4
11	PAN2ME01	A. Character Designing	L	ME	4
	PAN2ME02	B. Concept Art			
12	PDJ2ID01	Digital Marketing	T	ID	2
13	PHE2LS03	Life Skills Training	L	LS	2
<b>Total Credits for Semester - II</b>					<b>30</b>
<b>SEMESTER-III</b>					
14	PAN3MC01	Advanced 3D Modeling	L	MC	6
15	PAN 3MC02	Rigging & 3D Animation	L	MC	6
16	PAN3MC03	Dynamic Simulations	L	MC	6
17	PAN3MC04	Media Research	T	MC	4
18	PAN3ME01	A. Game art and design	L	ME	4
	PAN3ME02	B. Web Designing			

19	PDJ3ID01	Video Editing	L	ID	2
20	PAN3SK01	Leadership skills	T	SK	2
<b>Total Credits for Semester - III</b>					<b>30</b>
<b>SEMESTER-IV</b>					
21	PAN4MC01	Lighting and Rendering	L	MC	6
22	PAN4MC02	Advanced Compositing	L	MC	4
23	PAN4MC03	Media Laws and Ethics	T	MC	4
24	PAN4ME01	A. Virtual and Augmented Reality	L	ME	4
	PAN4ME02	B. 2D Character Animation			
25	PAN4SK01	Professional Skills for Media	L	SK	2
26	PAN4PJ01	Animation Project	P	PJ	5
27	PAN4SI01	Internship	P	SI	5
<b>Total Credits for Semester - IV</b>					<b>30</b>

#### Major Elective (ME)

Sem	CODE	COURSE TITLE	T/L/P	CATEGORY	CR
I	PAN1ME01	A. Animation Film Making	L	ME	4
I	PAN1ME02	B. Photography	L	ME	4
II	PAN2ME01	A. Character Designing	L	ME	4
II	PAN2ME02	B. Concept Art	L	ME	4
III	PAN3ME01	A. Game art and design	L	ME	4
III	PAN3ME02	B. Web Designing	L	ME	4
IV	PAN4ME01	A. Virtual and Augmented Reality	L	ME	4
IV	PAN4ME02	B. 2D Character Animation	L	ME	4

#### Courses offered to other Departments

S. No.	CODE	COURSE TITLE	T/L/P	CATEGORY	CR
1	PDJ2ID01	Digital Marketing	T	ID	2
2	PDJ3ID01	Video Editing	L	ID	2

MC – Major Core; ME-Major Elective; ID-Inter-Disciplinary; MO-MOOC; LS-Life Skills; SK-Soft Skills;

CD-Cross Disciplinary; VA- Value Added; SI-Summer Internship; SL-Service Learning; PJ-Project

**M.Voc. 3D ANIMATION Restructured LOCF Curriculum**  
(Effective from the Academic Year 2022-23)

<b>PART</b>	<b>SEMESTER 1</b>	<b>SEMESTER 2</b>	<b>SEMESTER 3</b>	<b>SEMESTER 4</b>
MAJOR COURSE (MC)	22 H 22 C	22 H 22 C	22 H 22 C	14 H 14 C
MAJOR ELECTIVE(ME)	4 H 4 C	4 H 4 C	4 H 4 C	4 H 4 C
SOFT SKILLS (SK)	4 H 4 C	-	2 H 2 C	2 H 2 C
INTER-DISCIPLINARY COURSE (ID)	-	2 H 2 C	2 H 2 C	-
MOOC(MO)	-	-	-	-
LIFE SKILLS(LS)	-	2 H 2 C	-	-
CROSS-DISCIPLINARY COURSE (CD)	-	-	-	-
VALUE ADDED COURSE(VA)	-	-	-	-
INTERNSHIP (SI)	-	-	-	5 H 5 C
SERVICE LEARNING (SL)	-	-	-	-
PROJECT (PJ)	-	-	-	5 H 5 C
<b>TOTAL HOURS / CREDITS</b>	<b>30 H 30 C</b>	<b>30 H 30 C</b>	<b>30 H 30 C</b>	<b>30 H 30 C</b>

**Total Credits: 120 (FOR 4 SEMESTERS)**

### A SUMMARY OF HOURS & CREDITS

Components	Total Hours	Total Credits
MAJOR COURSE MC	80	80
MAJOR ELECTIVE ME	16	16
SOFT SKILLS (SK)	8	8
INTER-DISCIPLINARY COURSE (ID)	4	4
MOOC MO	-	-
LIFE SKILLS LS	2	2
CROSS -DISCIPLINARY COURSE CD	-	-
VALUE ADDED COURSE VA	-	-
INTERNSHIP SI	5	5
PROJECT PJ	5	5
SERVICE LEARNING SL	-	-

Course Code	PAN1MC01
Course Title	Animation History and Principles
Credits	06
Hours/Week	06
Category	Major Core (MC) - Theory
Semester	I
Regulation	2022

### **Course Overview**

1. Animation is an art form that creates an illusion of life and movement. The possibilities of animation are infinite. It is a visual art of creating movement using a series of still images, drawings, objects or models.
2. The aim of this course is to teach the history and the evolution of animation and the basic requirements for animation.
3. This course will teach the 12 fundamental principles of animation and to gain knowledge about applying the same in animation.
4. The different units of this course will also explain the different types of Animation with apt examples from animation series and movies.
5. This course explains the animation production process and various camera angles and shots.
6. The course also includes the Glossary or key terms used in the animation industry.

### **Course Objectives**

1. To understand the history and evolution of animation, in the Indian and International context.
2. To understand the basic animation requirements and the technical terms associated with animation.
3. To understand the different stages of animation production process and various types of animation.
4. To apply knowledge of workflow and principles of animation and camera angles and shots

<b>SYLLABUS</b>		
<b>UNIT</b>	<b>CONTENT</b>	<b>HOURS</b>
<b>I</b>	<p><b>History of Animation</b>  Animation: Definition, History of Animation, Starting from Early approaches to motion in art, Animation before film, Early Animation devices, The silent era, The Television era, Evolution of Traditional Animation, Snow White &amp; the seven dwarfs.</p> <p><b>Animation Studios:</b> Walt Disney Animation Studios, &amp; Warner Bros. Animation, Major animation studios all over the world.</p> <p><b>Animators:</b> Disney's The nine old men, Pioneer Animators - Indian and International.</p>	<b>12</b>
<b>II</b>	<p><b>Different Types of Animation</b>  Traditional Animation - Stop-motion Animation, CGI Animation - till date. <b>Traditional Animation:</b> Cell Animation or hand drawn Animation, or frame by frame animation.</p> <p><b>Stop Motion Animation:</b> Puppet Animation, Clay Animation, Cut-out Animation, Silhouette Animation, Model Animation, Object Animation and other Experimental Animations.</p> <p><b>Computer Animation:</b> 2D Digital Animation, 3D Animation using various software.</p>	<b>16</b>
<b>III</b>	<p><b>The 12 basic Principles of Animation</b>  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.</p>	<b>14</b>
<b>IV</b>	<p><b>Animation Production Process</b>  Overview of Animation production process – Entire process from script to screen for an animation movie or short.</p> <p>Steps in Pre-Production, Production and Post-Production.</p> <p><b>Animation as a story telling medium</b>  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</p> <p><b>Animation as a Visual Form:</b> Animation as an artistic</p>	<b>18</b>



	medium and as a design medium. A study of various design and painting, to understand and analyse different styles and visual language.	
V	<p><b>Animation Glossary &amp; Techniques, Camera Angles and Shots</b> Animation techniques, Technical advancements in animation – Animation equipment, Cell, Light box, Peg holes and Peg bars - Line/Pencil tests –Field charts.</p> <p>Animation film reviews and studies.</p> <p><b>Animation Glossary:</b> - The exposure sheet (X Sheet), Key frames, Breakdowns, In-betweens, Clean-up, Line tests etc. Layers, Ease in &amp; Ease-out, X-Sheet handling, Field Chart usage, Camera Panning, Zoom-in &amp; Zoom-out, Cut-shot , Dissolve transform, trick shot, hook-up poses etc. Layout and composition, Understanding various Camera Angles, Shots and Transitions.</p>	18
<p><b>Text Books</b></p> <ol style="list-style-type: none"> <li>1. Thomas, F., &amp; Johnston, O. (1981). <i>The Illusion of Life: Disney Animation</i>, first hyperion ed.ed. <i>Disney Editions (Walt Disney Productions)</i>.</li> <li>2. Cavalier, S., &amp; Chomet, S. (2011). <i>The world history of animation</i> (Vol. 416). Berkeley, CA:University of California Press.</li> <li>3. Blair, P. (2020). <i>Cartoon Animation with Preston Blair, Revised Edition!: Learn techniques for drawing and animating cartoon characters</i>. Walter Foster Publishing.</li> <li>4. Whitaker, H., &amp; Halas, J. (2013). <i>Timing for animation</i>. Routledge. Focal Press.</li> <li>5. White, T. (2013). <i>How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation</i>. Routledge.</li> <li>6. Roberts, S. (2012). <i>Character Animation: 2D skills for better 3D</i>. Routledge.</li> <li>7. Williams, R. (2012). <i>The animator's survival kit: a manual of methods, principles and formulas for classical, computer, games, stop motion and internet animators</i>. Macmillan.</li> </ol>		
<ol style="list-style-type: none"> <li>8. McKee, R. (1997). <i>Story: Substance, Structure, Style and the Principles of Screenwriting</i>. Sivu79-88. "4. <i>Structure and Genre</i>.</li> <li>9. Sawyer, R. (1962). <i>The way of the storyteller</i>.</li> <li>10. Culhane, S. (1990). <i>Animation: from script to screen</i>. Macmillan.</li> </ol>		
<p><b>Suggested Readings</b></p> <ol style="list-style-type: none"> <li>1. Jonathan, C. L. E. M. E. N. T. S., &amp; McCarthy, H. (2006). <i>The Anime Encyclopedia: A Guide to Japanese Animation Since 1917</i>.-Revised and Expanded Edition.-Berkeley.</li> <li>2. White, T. (2012). <i>Animation from pencils to pixels: Classical techniques for</i></li> </ol>		

*digital animators*.Routledge.

3. Solomon, C. & Books, W., (2009). *Enchanted drawings: the history of animation*.
4. Bendazzi, G. (1994). *Cartoons: One hundred years of cinema animation*. Bloomington, IN, 39.
5. Maltin, L., & Beck, J. (1980). *Of mice and magic: A history of American animated cartoons* (p.0). New York: McGraw-Hill.
6. Crafton, D. (1993). *Before Mickey: the animated film 1898-1928*. University of Chicago Press.
7. White, T. (1986). *The animator's workbook*. Phaidon.
8. Muybridge, E. (2012). *The human figure in motion*. Courier Corporation.

#### **Web Resources**

1. <https://bit.ly/3ugApqz>
2. <https://bit.ly/3ux8GIZ>
3. <https://bit.ly/3CWPZf2>
4. <https://bit.ly/3KZszZd>
5. <https://bit.ly/3qmjMJ6>
6. <https://bit.ly/3ugrm9c>

#### **Course Outcomes**

<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Experiment with different types of animation and recall technical terms and the pioneers of animation	K1, K2
CO 2	Apply principles of animation in their works and have exposure to storyboard, character turnaround, pose sheet, expression chart etc.	K3
CO 3	Categorize different stages of animation production and apply in their work	K4
CO 4	Choose the requirements for creating 2D traditional and digital animations.	K5
CO 5	Develop a story idea and convert it into a script for animation.	K6

Course Code	PAN1MC02
Course Title	Advanced Drawing for Animation
Credits	06
Hours/Week	06
Category	Major Core (MC) - Theory
Semester	I
Regulation	2022

**Course Overview**

1. Understanding the Study of Ideal Proportions of Male and Female Figures
2. Understanding Live Pose Studies and Dynamic Figure Drawing Studies
3. Different types of perspective drawings are also explained in the different units of this course
4. Understanding the Anatomy relationship between bones, muscles, and movement..

**Course Objectives**

1. To understand the proportion of male and female figures.
2. To understand Live Pose Study and Dynamic Figure Drawing Study
3. To understand the different types of perspectives
4. To apply knowledge of anatomy to human poses

**SYLLABUS**

Unit	CONTENT	HOURS
I	Proportion: Study of the ideal proportion of male and female figures with various ages and props.	10
II	Live Pose Study: Dynamic Figure Drawing of solid live poses with quick gesture drawings. Understanding skeleton mechanics and pivot points emphasize the construction of drawings	12
III	Emotion, and Action: Focus on human emotion, extreme poses, weight, balance, and expression	18
IV	Perspective: Spatial depth, one-point perspective, two-point perspective, and three-point perspective Linear Perspective, Aerial Perspective, and Multi-point perspective	18
V	Anatomy: Learning the relationship between bone and muscle as well as seeing how this translates into volume and how it changes in movement. Studying human and animal movement through sequential drawings and gesture drawing.	20

**Text Books**

1. Ryder, A. (1999b). The Artist's Complete Guide to Figure Drawing: A Contemporary Perspective On the Classical Tradition (First ed.). Watson-Guptill.
2. Loomis, A. (2011). Drawing the Head and Hands (Reprint ed.). Titan Books.
3. White, T. (1988). The Animator's Workbook: Step-By-Step Techniques of Drawn Animation (Later Printing ed.). Watson-Guptill.

**Suggested Readings**

1. New Drawing on the Right Side of the Brain Workbook by Betty Edwards (2003–04-30) Spiral-bound. (2022). SOUVENIR PRESS LTD.
2. Muybridge, E. (1955). The Human Figure in Motion. Dover Publications.

**Web Resources**

1. [http://www.toadhollowstudio.com/wp\\_blog/online-drawing-lessons-videos-exercises](http://www.toadhollowstudio.com/wp_blog/online-drawing-lessons-videos-exercises)
2. <http://www.drawingcoach.com/>
3. <https://www.thedrawingwebsite.com/>
4. <https://animationresources.org/instruction-preston-blairs-advanced-animation/>
5. [http://www.toadhollowstudio.com/wp\\_blog/online-drawing-lessons-videos-exercises/](http://www.toadhollowstudio.com/wp_blog/online-drawing-lessons-videos-exercises/)

**Course Outcomes**

COs	CO Description	Cognitive Level
CO 1	Illustrate the human proportion of male and female figures	K1, K2
CO 2	Applying Live Pose Study to Dynamic Figure Drawing	K3
CO 3	Apply different types of Action and Emotion to your drawings	K4
CO 4	Develop imagination drawings in perspective	K5
CO 5	Imagine Pivot points on the human anatomy	K6

Course Code	PAN1MC03
Course Title	Stop Motion Animation
Credits	06
Hours/Week	06
Category	Major Core (MC) - Practical
Semester	I
Regulation	2022

### Course Overview

1. This course will aid in skill development of software's to develop storyboards and stop motion animation.
2. This module will enable to work in a group to collaborate and create and write fictional and non-fictional stories.
3. It enables in working with sequences to create multi-media presentations.
4. Conceptualization, creativity and visual aesthetics are of major concerns to create stop motion.
5. A variety of materials and techniques will be used for various aspects of stop motion animation.

### Course Objectives

1. To understand the concepts of stop motion animation and usage of tools and techniques in animation.
2. To associate cut outs, object animation using different objects.
3. To produce silhouette animation and other experimental stop motion animation.
4. To demonstrate effective shapes for each body parts using proper techniques and skills.
5. To experiment and create cartoon characters using clay and create a cartoon character and animate it with proper lip-sync and facial expressions.

### SYLLABUS

Unit	CONTENT	HOURS
I	Paper cut: Introduction to the concept of Stop motion animation - Concept of Paper cut out animation - Animating ball bouncing using stop motion animation - Create paper cut-outs and animate it using stop motion animation.	12
II	Object Animation: stop motion animation using objects– puppets and toys can be used as objects.	15
III	Silhouette Animation: Create silhouette walk and run cycle animation with any paper model - objects or puppets.	15
IV	Clay Model: Discover the Cartoon anatomy of different characters - Introduction to cartoon character animation in Stop Motion - Tools and techniques of Animation - Model a Cartoon character using clay.	16

V	Experimental Animation: clay model advancement - facial expression - Design the expression for each clay model character - Understand to animate Lip Sync of a cartoon clay model - Animate Facial Expression of a cartoon clay model.	20
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<p><b>Text Books</b></p> <ol style="list-style-type: none"> <li>1. Shaw, S. (2017). Getting Animated. In <i>Stop Motion: Craft Skills for Model Animation</i> (pp. 31-46).Routledge.</li> <li>2. Priebe, K. A. (2011). <i>The advanced art of stop-motion animation</i>. Cengage Learning.</li> <li>3. Williams, R. (2001). <i>The Animator's Survival Kit: A Working Manual of Methods, Principles and Formulas for Computer, Stop-motion, Games and Classical Animators</i>. Faber.</li> <li>5. Blair, P. (2020). <i>Cartoon Animation with Preston Blair, Revised Edition!: Learn techniques for drawing and animating cartoon characters</i>. Walter Foster Publishing.</li> <li>5. Whitaker, H., &amp; Halas, J. (2013). <i>Timing for animation</i>. Routledge.</li> <li>6. Muybridge, E. (2012). <i>The human figure in motion</i>. Courier Corporation.</li> </ol>
<p><b>Suggested Readings</b></p> <ol style="list-style-type: none"> <li>1. Purves, B. J. (2014). <i>Stop-motion Animation: Frame by Frame Film-making with Puppets and Models</i>. Bloomsbury Publishing.</li> <li>2. White, T. (2013). <i>How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation</i>. Routledge.</li> <li>3. Pressman, J. (2019). “There’s Nothing Quite Like a Real Book”: Stop-Motion Bookishness. In <i>The Printed Book in Contemporary American Culture</i> (pp. 155-176). Palgrave Macmillan, Cham</li> </ol>
<p><b>Web Resources</b></p> <ol style="list-style-type: none"> <li>1. <a href="https://www.aardman.com/">https://www.aardman.com/</a></li> <li>2. <a href="https://www.dreamworks.com/movies/chicken-run">https://www.dreamworks.com/movies/chicken-run</a></li> <li>3. <a href="https://www.cateater.com/">https://www.cateater.com/</a></li> <li>4. <a href="https://www.wallaceandgromit.com/">https://www.wallaceandgromit.com/</a></li> <li>5. <a href="https://www.laika.com/our-films/coraline">https://www.laika.com/our-films/coraline</a></li> </ol>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	State and discuss the concept of Stop motion animation.	K1, K2
CO 2	Apply the production process of Paper modeling and animate characters according to their creativity.	K3
CO 3	Experiment effective use of puppets and objects and each part of the body using proper techniques of silhouette.	K4
CO 4	Distinguish the tools and techniques of animation and create cartoon character using clay.	K5
CO 5	Produce a cartoon character and animate it with proper lip-sync and facial expressions.	K6

Course Code	PAN1MC04	
Course Title	Digital Matte Painting	
Credits	4	
Hours/Week	4	
Category	Major Core (MC) - Practical	
Semester	1	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. Digital Matte painting is a subject that integrates the basics of digital drawing/design into a digital composition</li> <li>2. It helps students learn technical skills required for creating a digital matte.</li> <li>3. It also teaches the basics of understanding composition and relativity of subjects that acts as the first step for subjects that follow across the program.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To understand the principles of design and design elements</li> <li>2. To understand a scene setup</li> <li>3. To understand visual relativity and placement of layers</li> <li>4. To understand lighting setup for a scene.</li> <li>5. To create a matte using learnt technical and theoretical content.</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTENT	HOURS
I	<b>Introduction to graphic design</b> Introduction to graphic design, role of design in society, visual elements of graphics design, color wheel ,color spectrum, shapes ,geometric, organic, textures ,pattern, space , form ,typography, space, contrast – hierarchy, alignment, balance, proximity , repetition, functions.	8
II	<b>Graphic Design in the Industry</b> Branding, design brief – iconography – typography, design in prints, newspapers, magazines, posters, understanding audience, digital design , web , promotion.	12



III	<b>Introduction to Matte Painting</b> What is matte painting? History , Paint vs Pixels , Setting Up Workspace , Custom Brushes , Photoshop Panels , Image based brushes	8
IV	<b>Characters and Composition</b> Computer Graphics, Perspectives, Setting up vanishing points, Digital Drawing, Faces, Characters, Character Matching, Superimposing Characters and backgrounds	12
V	<b>Lighting, Texturing and Color Correction,</b> Finding Light and Dark sides, Cast Shadows, Blending Modes, Finding Reference Textures, Levels, Curves, Creating Sky, Lighting the scene, Relighting.	12

### Text Books

1. Harrower, T., & Elman, J. M. (2013). *The Newspaper Designer's handbook*. McGraw-Hill.
2. Strunk, W. (2020). *The elements of style*. BoD - Books on Demand.
3. Mattingly, D. B. (2011). *The digital matte painting handbook*. Wiley.
4. 3DTotal Publishing. (2017). *Beginner's Guide to Digital Painting in photoshop: Characters*.
5. Focal Pr. (2010). *Digital painting techniques: Practical techniques of digital art masters*.

### Suggested Readings

1. Payne, E. A. (2016). *Composition of outdoor painting*. Distributed by DeRu's Fine Arts.
2. Robertson, S., & Bertling, T. (2013). *How to draw: Drawing and sketching objects and environments from your imagination*. Design Studio Press.
3. 3DTotal Publishing. (2014). *Sketching from the imagination: An insight into creative drawing*.
4. Gurney, J. (2010). *Color and light: A guide for the realist painter*. Andrews McMeel.

### Web Resources

1. <https://www.clipstudio.net/how-to-draw/archives/156700>
2. <https://www.digitalartsonline.co.uk/tutorials/photoshop/create-an-epic-digital-matte-painting/>
3. <https://www.digitalartsonline.co.uk/tutorials/photoshop/create-an-epic-digital-matte-painting/#2>
4. <https://www.adobe.com/in/creativecloud/design/discover/matte-painting.html>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	List and Interpret the elements and principles of design.	K1,K2
CO 2	Identify the purpose and scope for digital matte in production	K3
CO 3	Analyze the elements of a digital matte.	K4
CO 4	Estimate the usage of various matte painting techniques.	K5
CO 5	Compose a digital matte for a production.	K6

Course Code	PANIME01	
Course Title	Animation Film Making	
Credits	4	
Hours/Week	4	
Category	Major Elective (ME) - Practical	
Semester	1	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. Animation Film Making is a subject that deals with the art of filmmaking for animation</li> <li>2. It helps students learn technical skills required for creating video content for animation.</li> <li>3. It helps students capture and integrate reality into animation.</li> <li>4. It iterates the development of the process of filming for animation</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To understand the history of film making and animation</li> <li>2. To understand film lighting</li> <li>3. To learn camera handling and techniques</li> <li>4. To understand the rules and the setup for filmmaking</li> <li>5. To create a video film.</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTENT	HOURS
I	Basics of a Camera 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	8
II	Compositional Techniques 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.	8

III	Sheets to the Screen  Narrative Shot - Story Idea - Creative Obstacles - Development of an idea - Visual Design - Elements - Ideas - Principles - Creatives - Production Planning	8
IV	Storytelling through Lights  Three Point Lighting -Lighting for Indoor/Outdoor - Artificial, Natural Light, Hard and Soft Lights – Reflectors - Indoor Lights - Lighting Subjects - Cheating with lights - Light Wrapping	12
V	Aesthetics in Visuals  Film Language, Film Grammar and Film Analysis - Visual Aesthetics -Shot Creatives	16

#### **Text Books**

1. Briggs, C. (2020). *Animating short stories: Narrative techniques and visual design*. New York, NY.
2. Mascelli, J. V. (1998). *The Five C's of cinematography: Motion picture filming techniques*. Silman-James Press.
3. Thompson, R., & Bowen, C. J. (2013). *Grammar of the shot*. Focal Press.
4. Gibbs, J. (2007). *Mise-en-scene: Film style and interpretation*. Wallflower.
5. White, T. (2013). *How to make animated films: Tony White's complete masterclass on the traditional principles of animation*. Focal Press, Taylor & Francis Group.
6. Cavalier, S. (2011). *The World History of Animation*. University of California Press.
- 7.

#### **Suggested Readings**

1. Katz, E. (1979). *The International Film Encyclopedia*.
2. Katz, S. D. (2019). *Film directing shot by shot: Visualizing from concept to Screen*. MichaelWiese Productions.
3. Laybourne, K. (1998). *The animation book: A complete guide to animated filmmaking, from flip-books to sound cartoons to 3-D animation*. Three Rivers Press.

**Web Resources**

1. <https://guides.nyu.edu/Cinema/film-collections>
2. <https://www.filmsite.org/rebert.html>
3. <https://www.udemy.com/course/video-production/>
4. <https://www.adorama.com/alc/13-videography-tips-for-more-professional-looking-videos>

**Course Outcomes**

<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Define and relate the visual elements of a filmmaking setup.	K1,K2
CO 2	Experiment with the various composition techniques and their significance.	K3
CO 3	Analyze the elements of an animation film and dissect it.	K4
CO 4	Justify the usage of various techniques to suit visual storytelling.	K5
CO 5	Create a video output with required visual storytelling.	K6

Course Code	PAN1ME02	
Course Title	Photography	
Credits	04	
Hours/Week	04	
Category	(ES) - LAB	
Semester	I	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. The subject deals with the basics of Photography</li> <li>2. Basic knowledge on Compositing</li> <li>3. This subject furnishes knowledge on DSLR Camera</li> <li>4. How to shoot for Chroma –Key</li> <li>5. How to create video content for Marketing</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To Explain the visual composition techniques and technical skills</li> <li>2. To acquire knowledge to work on the DSLR Camera.</li> <li>3. To Apply photographic concepts and Lighting</li> <li>4. To Analyze Shooting for Chroma-key</li> <li>5. To Explain the lighting techniques used for Chroma-key Shoot</li> </ol>		
<b>SYLLABUS</b>		
<b>Unit</b>	<b>CONTENT</b>	<b>HOURS</b>
I	<b>Aesthetics</b> The Psychology of Visual Perception - Visual Aesthetics - Art of Filmmaking -Stages in Brief.	12
II	<b>Composition</b> 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.	12

III	<p><b>Camera</b></p> <p>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. Color Temperature, Direction, and Quality of Light etc. Measurement of light - Light meters.</p> <p>Histogram - Understanding basics of histogram.</p>	10
IV	<p><b>Shooting for Chroma-key and lighting techniques.</b></p> <p>Luma-Key matte, Chroma-key matte, Difference mattes, Green Vs. Blue screen, shadow matting, poorly lit green screens and its problems, Pulling the Mattes, different type Keys.</p> <p>Lights- Key, Fill, Back, Side Spill suppressor light - Matte keying fabrics and materials. Umbrella lights, Lighting the backing, Lighting the talent, creating tracking markers for motion tracking, White balancing the camera before shooting, Shooting with HD camera.</p>	10
V	<p><b>Product Photography:</b></p> <p>Tabletop lighting techniques, shooting to layout, styling, and working with an art director, Lightings specific to unique materials such as glass, chrome, etc.</p> <p>Product Photography, Food photography.</p>	8

### Text Books

1. Jack Neubart ,1994, Industrial Photography Paperback,1st edition, Amphoto Books
2. Christopher J. Bowen,2017, Grammar of the Shot Paperback – Illustrated,4th edition, Routledge
3. Morrison, A. O., & Gardner, J. M. (2015). Microscopic image photography techniques of the past,present, and future. Archives of Pathology & Laboratory Medicine, 139(12), 1558-1564.
4. Zuev, L. B., Gorbatenko, V. V., & Pavlichev, K. V. (2010). Elaboration of speckle photographytechniques for plastic flow analyses. Measurement Science and Technology, 21(5), 054014.
5. Sampaio, C. S., Atria, P. J., Hirata, R., & Jorquera, G. (2019). Variability of color matching with different digital photography techniques and a gray reference card. The Journal of prostheticdentistry, 121(2), 333-339.

### Suggested Readings

1. Nichols,1992, Movies Methods V II (Paper) Paperback, 1st edition, University of California Press.
2. Philip Andrews,2008, Langford's Starting Photography: The guide to creating great images Paperback,6th edition, Focal Press

### Web Resources

1. <https://www.youtube.com/c/photographyonline>
2. <https://www.skillshare.com/browse/photography>

### Course Outcomes

COs	CO Description	Cognitive Level
CO 1	Compose the visual composition techniques andtechnical skills	K1, K2
CO 2	Develop to work on the DSLR Camera	K3
CO 3	Express photographic concepts and Lighting	K4
CO 4	Combine artistic composition and design with Lighting	K5
CO 5	Create Food and Product photography with constructive idea	K6



Course Code	PAN1SK01
Course Title	Communication and creative writing
Credits	04
Hours/Week	04
Category	FC
Semester	I
Regulation	2022

**Course Overview**

1. Give an overview of various communication and creative writing concepts and models.
2. Explain how to communicate with a purpose and plan.
3. Introduce learners to various communication and creative writing mastery principles.
4. Provide basic techniques to read, write, speak and listen better (LSRW).
5. Offer insights into creative writing tools and practices

**Course Objectives**

1. To understand the relevance of communication and creative writing concepts and models
2. To understand the benefits of a clear plan and purpose of communication.
3. To examine various principles that guide people to become effective communicators and writers.
4. To understand ways to practice listening, speaking, reading and writing skills consistently.
5. To understand the importance of creative thinking and writing practices and principles.

**SYLLABUS**

Unit	CONTENT	HOURS
I	Grammar and punctuation for eloquence: Communication: Subject verb agreement, prepositions, tenses, active and passive voice, direct and indirect speech and punctuation.	10
II	The responsibility, purpose and process of communication: The types, barriers, channels, methodology, psychology, verbal and nonverbal forms of communication; pleasantries for various situations.	10

III	Writing skills for rudimentary communication: Word choice, formal and informal language, professional writing-letters, email magazines, newspapers, and social media. Types of writing- descriptive, narrative, persuasive, and expository.	10
IV	Creative thinking and advanced writing skills: Creative writing- the purpose, types, and techniques. Technical versus creative; academic versus creative; fictional versus non-fictional writings. Figures of speech in writing. Short stories and creative writing concepts for animation.	10
V	English for professional communication: Communicative language for professionals-self introduction, group discussions, presentation skills, selling and negotiation skills, effective listening, effective reading, public speaking, and interview skills. Describe the organization's health, safety and security policies and procedures.	12

**Text Books**

1. Goutam, A. (2013). Effective communication at workplace. Irc's international journal of multidisciplinary research in social & management sciences.
2. Prasad, H. M. (1998). How to prepare for Group Discussion and Interview. Tata McGraw-Hill Publishing Company.
3. Morley, D. (2007). The Cambridge introduction to creative writing. Cambridge University Press.

**Suggested Readings**

1. Guffey, M. E., & Loewy, D. (2012). *Essentials of business communication*. Cengage Learning.
2. Strunk Jr, W. (1920). *Elements of Style*. US.
3. Yager, J., & Barkas, J. L. (1985). *How to write like a professional*. Arco Pub

**Web Resources**

1. <https://theinvestorsbook.com/effective-communication.html>
2. <https://www.slideshare.net/Panoszp/the-art-of-communication-8198628>
3. <https://www.slideshare.net/tirthamal2010/communication-ppt-26816723>
4. [https://www.slideshare.net/kkr\\_sohail/summary-of-think-and-grow-rich-by-napoleon-hill](https://www.slideshare.net/kkr_sohail/summary-of-think-and-grow-rich-by-napoleon-hill)

**Course Outcomes**

<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Observe various communication and creative writing concepts and models and recognize their significance in the personal and professional settings.	K1, K2
CO 2	Apply communication methods in personal and professional contexts.	K3
CO 3	Analyze principles for mastering communication and creative writing skills.	K4
CO 4	Assess and choose appropriate LSRW (listening, speaking, reading and writing) activities for practice.	K5
CO 5	Construct communication practices to reach full potential and all-around development.	K6

Course Code	PAN2MC01
Course Title	2D Animation
Credits	06
Hours/Week	06
Category	Major Core (MC) - Practical
Semester	II
Regulation	2022

### **Course Overview**

1. The aim of this course is to give an understanding of 2D Animation software, its tools and techniques.
2. Understand the principles of animation using the software, experiment visual storytelling for animation.
3. To learn key-framing, tweening, in-between, coloring and cycle animations
4. The different units of this course will also explain the use of camera, symbols, rigging, text, audio, lip-synch etc.
5. This course helps to produce a Digital 2D Animation project from concept design to final video output.

### **Course Objectives**

1. To understand the 2D Animation software and to create simple digital animations.
2. To use various tools and animation techniques for creating 2D digital animations.
3. To apply knowledge of workflow and principles of animation and camera angles and shots.
4. To create a 2D animation project from visualization to final output.

SYLLABUS		
Unit	CONTENT	HOURS
I	<p><b>Introduction to 2D Animation Software</b></p> <p>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 a 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.</p>	14
II	<p><b>Symbols and Tweening animation</b></p> <p>Basics of Animation, Methods of Animation, Technical Animation creation. Applying layer type - adding sounds. Working in the timeline, Key frame</p> <p>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 colors and gradients, Practicing principles of Animation. Timing for Animation: Ease in &amp; Ease out, Camera Panning, Zoom-in &amp; Zoom-out, Cut-shot, Dissolve transform. Using symbols, instances and library assets - Symbols overview - Types of symbols - Create symbols - Convert animation on the Stage into a movie clip.</p>	16

III	<p><b>BG &amp; Layout Creation</b></p> <p>Background Designing, Layout Creation, Over-layers' creation - Story-boarding to Animatics – Storyboard – Using Camera, visual continuity, Hook-ups, OL &amp; 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 coloring, - Camera Movements Staging, Scaling.</p>	20
IV	<p><b>Timelines and ActionScript</b></p> <p>Creating motion - Creating keyframes - Representations of animation in the Timeline - Frame rates - Frame-by-frame animation - Onion skinning – Move the play head. 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.</p>	16
V	<p><b>Animation and Interactivity</b></p> <p>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.</p>	12

### **Text Books**

1. Taylor, R. C., 1999. *The Encyclopedia of Animation Techniques*. Focal Press, London.
2. Scott, J. (2003). *How to write for animation*. Abrams.
3. Marx, C. (2012). *Writing for animation, comics, and games*. Routledge.
4. Wright, J. (2013). *Animation writing and development: From script development to pitch*. Routledge.
5. Beckerman, H. (2003). *Animation: The whole story*. Allworth.
6. Labrecque, Joseph, 2021. *Mastering Adobe Animate 2021*, Packt.

### **Suggested Readings**

1. De Reyna, R. (2011). *How to draw what you see*. Watson-Guptill.
2. Chari, Aditya, 2008. *Figure Study made easy*, Grace Prakashan.
3. Tiner, R. (1992). *Figure drawing without a model*. David & Charles.
4. Winslow, V. L. (2009). *Classic Human Anatomy: The Artist's Guide to Form, Function, and Movement*. Watson-Guptill Publications.
5. Simblet, S., & Davis, J. (2001). *Anatomy for the artist*. Dorling Kindersley.
6. Hultgren, K. (1993). *The art of animal drawing: Construction, action analysis, caricature*. Courier Corporation.
7. Knight, C. (2013). *Animal drawing: anatomy and action for artists*. Courier Corporation.
8. White, T. (2012). *Animation from pencils to pixels: Classical techniques for digital animators*. Routledge.
9. Beck, J. (Ed.). (2004). *Animation art: from pencil to pixel, the history of cartoon, anime & CGI*. Flame tree.

### **Web Resources**

1. <https://adobe.ly/3KYX2a2>
2. <https://bit.ly/3IqLrPg>
3. <https://adobe.ly/3wn2srb>
4. <https://bit.ly/3JtYeSe>
5. <https://bit.ly/3KYPG6q>
6. <https://bit.ly/3qobJeV>
7. <https://bit.ly/3D0hZ1C>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Demonstrate ideas effectively in visual form and in 2Ddigital space using 2D software.	K1, K2
CO 2	Examine Animated objects and figures from existing animated movies and sequences and relate them to original concepts.	K3
CO 3	Interpret the concepts, principles and theories involved in the physics of animation in all aspects of drawing.	K4
CO 4	Experiment with ideas, believable action and emotion effectively by employing principles of animation and performance in all aspects of drawing.	K5
CO 5	Create 2D animated sequences from development of the original concept through design to final film or video production.	K6



Course Code	PAN2MC02	
Course Title	Script Writing & Storyboarding	
Credits	06	
Hours/Week	06	
Category	Major Core (MC) - Practical	
Semester	II	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. This course emphasizes the students' understanding of the Elements of Storytelling and Scriptwriting</li> <li>2. Students can learn the key script formats and structures of films</li> <li>3. This course enables students to develop plots, characters, and story ideas</li> <li>4. This course discusses camera angles &amp; directing techniques</li> <li>5. Students learn the basics of drawing and know how to use different camera angles and shots for storyboarding.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To describe the elements of the story and script</li> <li>2. To identify and explain the various script formats and structure of films</li> <li>3. To develop the idea generation and story creation skills.</li> <li>4. To apply knowledge of workflow and principles of animation as well as camera angles and shots.</li> <li>5. To develop drawing skills and perspective knowledge for storyboarding</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTENT	HOURS
I	Introduction to plot, character, conflict, synopsis, and three-act structure.	10
II	The structure of films, television, and radio scripts, and characteristics of animation scripts	10
III	Developing the story ideas, developing antagonistic and protagonist relationships, developing subplots, character arcs, and plot twists	18
IV	Techniques of intertextual adaptation, scene construction, scene breakdown and the transformation of the screenplay from the breakdown into a script.	20
V	Identify types of shots, transitions, character staging, camera angles, create sequential narration with accurate perspective, place characters according to storyboards, and then combine them with sound to create animatic.	20

### **Text Books**

1. Field, S. (2018). *The Essential Screenplay (3-Book Bundle): Screenplay: Foundations of Screenwriting, Screenwriter's Workbook, and Screenwriter's Problem Solver*. Bantam.
2. Movshovitz, D. (2017). *Pixar storytelling: Rules for effective storytelling based on Pixar's greatest films*. Bloop Animation.

### **Suggested Readings**

1. Snyder, B. (2005). *Save The Cat! The Last Book on Screenwriting You'll Ever Need*. Michael Wiese Productions.
2. Vogler, C., & Montez, M. (2007). *The Writers Journey: Mythic Structure for Writers, 3rd Edition (3rd ed.)*. Michael Wiese Productions.
3. McKee, R. (2010). *Story: Style, Structure, Substance, and the Principles of Screenwriting*. HarperCollins.
4. Campbell, J. (2008). *The Hero with a Thousand Faces (The Collected Works of Joseph Campbell) (Third ed.)*. New World Library.
5. Cristiano, G. (2012). *The Storyboard Artist: A Guide to Freelancing in Film, TV, and Advertising*. Michael Wiese Productions.
6. Simon, M. A. (2006). *Storyboards: Motion in Art, Third Edition (3rd ed.)*. Focal Press.

### **Web Resources**

1. <https://industrialscripts.com/category/articles/white-papers/>
2. <https://www.scriptreaderpro.com/screenwriting-resources/>
3. <https://scriptmag.com/page/free>
4. <https://www.screenplays-online.de/>
5. <https://sfy.ru/>
6. <http://awesomefilm.com/>
7. <https://www.simplyscripts.com/>
8. <https://thescriptlab.com/>
9. <https://scriptmag.com/>
10. <https://www.creativescreenwriting.com/>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Explore the plot, the characterization conflict, and how to apply the three-act structure to their script.	K1, K2
CO 2	Develop a basic understanding of key script structures, experiment with different media formats, and apply those scripts	K3
CO 3	Develop story ideas, characters, conflicts, and plot twists; develop conflict and relationships between antagonists and protagonists; develop subplots, conflicts, and relationships between antagonists and protagonists.	K4
CO 4	Adapting intertextuality, developing scenes, breaking down scenes, and turning them into screenplays with digital scriptwriting software.	K5
CO 5	Develop a series of hand-drawn storyboards. Utilizing sequential narration, accurate perspective, and proper placement of characters, create an animatic by combining sound and storyboards. Apply basic principles of character staging and camera angles.	K6

Course Code	PAN2MC03	
Course Title	3D Modeling and Texturing	
Credits	06	
Hours/Week	06	
Category	Major Core (MC) - Practical	
Semester	II	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. 3D Modeling and texturing are a guide through the process of 3D asset creation for films and games.</li> <li>2. The course lays the foundation for basic principles of development and the process of 3D modeling and texturing.</li> <li>3. It aids in strong understanding of textures, forms and in-depth details in the virtual world.</li> <li>4. 3D Modeling students get trained in fundamentals of digital sculpting, design, anatomy and painting.</li> <li>5. It is the foundation of creating virtual objects using industry standards software's.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To provide the knowledge to the student into the world of 3D</li> <li>2. To describe and elaborate on the involvement of movie production and understanding the pipeline of 3D animation.</li> <li>3. The program is designed to develop skills in 3D art and build interactive next-generation games.</li> <li>4. Students will acquire in-depth knowledge of 3D production pipeline.</li> <li>5. The student will learn about how to work in 3D space, model, texture, apply lights and finally take render output of his/her creation.</li> </ol>		
<b>SYLLABUS</b>		
<b>Unit</b>	<b>CONTENT</b>	<b>HOURS</b>
I	Overview of 3D Modeling and 3D Pipeline: Overview of 3D Modeling-3D Pipeline Demonstration, 3D software's in industry, 3D path graph- transformation, 2 dimension to 3 dimension- 3 <sup>rd</sup> axis- first hand references and blackout, Interface overview, Editors, viewports and menus, creating a Scenes and project management, Navigation and toolbox (Creating and Manipulating objects), perspective and orthographic windows, hotkeys and creating customized menus,	10

II	<p>NURB's and Primitive Models:  NURBs, curves (Control Vertex, Edit Points, Isopharm, Hull), attaching and detaching curves, inserting knots, reverse curve direction, adding points to a curve, using curve editing tool, Surfaces creation, rebuilding surfaces, Basic Primitive models, tabletop primitives props,.</p>	10
III	<p>Low Poly and High Poly modeling:  3D modelling in art practices, Creating and editing with polygons mesh, Retopology tools, combine, Hard Surface Modelling, polygon Booleans, mirror geometry, polygon smooth and add divisions, polygon cleanups, extruding polygon faces and edges, multi-cut, insert edge loop tool</p>	18
IV	<p>Shaders, Materials and Textures Maps:  Introduction to shading, Introduction to Hypershade, understanding Maya Materials, Arnold materials, Shading and Texturing, texturing using 2D/3Dpainting software, Creating and applying different texture maps (Bump, Normal, Displacement), Texturing tabletop Props.</p>	20
V	<p>UVs, Lighting and Rendering:  UV unwrapping (cut &amp; sew), UV checkerboard mapping, creating UV snapshot, creating camera, types of camera, resolution gate, safe display region, safe action animation fundamentals, using the time slider, setting playback range, setting playback speed, setting keyframes, channel control, editing keyframes, using graph editor, 3D lighting, types of light spotlights  , area lights, volume lights, Mesh light, Photometric light, light theory,  common attributes, Render view, rendering regions, Setting render global- Render Image naming and formats- Batch Rendering.</p>	20

### **Text Books**

1. Murdock, K. (2020). *Autodesk Maya 2020 Basics Guide*. SDC Publications.
2. Rodriguez, A. A., Metzger, R. P., Cifdaloz, O., & Dhirasakdanon, T. (2005). Description of a modeling, simulation, animation, and real-time control (MoSART) environment for a class of electromechanical systems. *IEEE Transactions on Education*, 48(3), 359-374..
3. White, T. (2013). *How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation*. Routledge.
4. Gahan, A. (2012). *3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design for Games and Film*. Routledge.
5. Murdock, K. (2018). *Autodesk Maya 2019 Basics Guide*. SDC Publications.
6. Tickoo, S. (2018). *Autodesk Maya 2019: A Comprehensive Guide*. Cadcim Technologies.
7. Wood, A. (2015). Getting to know software: A study of Autodesk Maya. In *Software, Animation and the Moving Image: What's in the Box?* (pp. 12-59). Palgrave Pivot, London.
8. Wood, A. (2014). Behind the scenes: A study of Autodesk Maya. *Animation*, 9(3), 317-332.
9. Patnode, J. (2012). *Character Modeling with Maya and ZBrush: Professional polygonal modeling techniques*. Routledge.

### **Suggested Readings**

1. Coquillart, S., & DEFORMATION, E. F. F. (1990). A SCULPTURING TOOL FOR 3D GEOMETRIC MODELLING, PROCEEDINGS OF SIGGRAPH '90. *Computer Graphics*, 24(4), 187-196..
2. Bittner, J., & Wonka, P. (2003). Visibility in computer graphics. *Environment and Planning B: Planning and Design*, 30(5), 729-755.
3. Lin, C., Fan, T., Wang, W., & Nießner, M. (2020, August). Modeling 3d shapes by reinforcement learning. In *European Conference on Computer Vision* (pp. 545-561). Springer, Cham..

### **Web Resources**

1. [https://www.worldscientific.com/doi/abs/10.1142/9789814343138\\_0010](https://www.worldscientific.com/doi/abs/10.1142/9789814343138_0010)
2. <https://m.youtube.com/user/mayatoolbelt>
3. <https://books.google.co.in/books>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Select and interpret a prop model with basic primitives 'shapes.	K1,K2
CO 2	Inspect the mesh flow and subdivisions to make a proper3D model.	K3
CO 3	Support the 3D shapes with proper material and texture map to bring out a photorealistic render output.	K4
CO 4	Compose the 3D model by keeping first hand references for further modifications and justifications.	K5
CO 5	Create a walkthrough with appropriate camera animation on their own styles.	K6

Course Code	PAN2MC04
Course Title	Animation Film studies
Credits	4
Hours/Week	4
Category	MC
Semester	II
Regulation	2022

**Course Overview**

1. The course is designed to help understand how Film works and how to translate the same when it comes to an animated film.
2. Going over scripts, storyboards, etc. to ways in which you can work around animation films that are low-budget productions. And creating visual stories.
3. The course will follow screenings followed by the analysis of films both live-action and animated
4. Enabling students to look at various forms and approaches which involve both working with and without structure in making a film.

**Course Objectives**

1. Creating an understanding of what a film is in terms of animation film appeal.
2. Breaking down the process involved in both live-action and animated films
3. Analyzing the film structure in terms of plot, visuals, budgeting and marketing.
4. Criticize film giving consideration to limitations and production value
5. Create the production process while keeping researched target audience and demographics in mind

**SYLLABUS**

Unit	CONTENT	HOURS
I	Animation in Film and Animated Film. Production process and breakdown. Distinguishing Live action limitations and Animation upper limit. Developing characters for animation, Visual appeal and illusion of life in animation, personality complexities. Breaking down the films “Spirited away”, “Grave of the fireflies” and “Howl’s moving castle”	10



II	<p>Story Telling for Animation: Visual Storytelling, the art of communicating messages, emotions, narratives and information. Way to appeal to viewers at a deep and lasting level – “Appeal” target audience study and feedback gathering. Creating Pilot and pre-Pilots via storyboard based animatic. Letting the visual hold, the story. Creating the idea of a hero and Icons. Breaking down the plots for popular animated shows like “Justice league” “Naruto” “Hercules: The Animated Series” “Tom and Jerry”</p>	14
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III	<p>Animation Film Components: Content and typography. Pairing colors usage of color psychology. Iconography, Data visualization, environment visualization. Portrayal using dynamic and exaggerated movement and themes. Breaking down lighting depending on scene and mood, using dynamic light schemes and to create suspense, mystery etc. Consideration for space and depth for a movie and breakdown environments using demographic, music theme and color changes.</p>	18
IV	<p>Animation Film Analysis- Breaking down the visual appeal created by animation. Creating focus points on the frame/scene. The usage of animation in creating infotainment, usage to send a message or create better moral views view the usage of empathic character use i.e. making the lead more relatable sample case studies for moral tuning: “Doraemon”, “Soul”, “Wreck it Ralph”.</p>	18
V	<p>Animation Film Techniques: Integration of Automotronics and LED walls in CG, to create better believable environments and characters eg “Mandalorian”. Cheat usage in animation for better budgeting: frame holding, and reusing shots with different environment, Reusing animation keys with different characters and live-action overlays. Employing limited frames to bring out faster outputs and lower overall production budget.</p>	18

**Text Books**

1. On directing film - David Mamet - Penguin 1992 - ISBN: 978-014017225
2. The Animator's Survival Kit - Richard Williams - Faber & Faber; Main - Revised edition (5 November 2009) - ISBN-10: 9780571238347
3. Production Pipeline Fundamentals for Film and Games, Renee Dunlop, Routledge; 1st edition (14 March 2014) ISBN 0415812291

**Suggested Readings**

1. Mise-en-Scene: Film style and interpretation - John Gibbs - Wallflower press 2002 - ISBN-13: 978-1903364062
2. Grammar of the Film Language, Daniel Arijon - Focal Press, 1976, - ISBN 0240507797, 9780240507798

**Web Resources**

1. [shorturl.at/xITW4](http://shorturl.at/xITW4)
2. [shorturl.at/gnxA6](http://shorturl.at/gnxA6)
3. [shorturl.at/jqITV](http://shorturl.at/jqITV)
4. <https://onanimation.com/category/insight/analysis/>

**Course  
Outcomes**

CO s	CO Description	Cognitive Level
CO 1	List and define various filmmaking terminologies and film making processes	K1, K2
CO 2	Apply the basic elements of Film grammar in animation	K3
CO 3	Distinguish various animation film techniques and its development in history	K4
CO 4	Compare and interpret the various aspects of Animation	K5
CO 5	Create visual stories and animations	K6

Course Code	PAN2ME01
Course Title	A Character Designing
Credits	04
Hours/Week	04
Category	Major Elective (ME) - Practical
Semester	II
Regulation	2022

### Course Overview

1. Create customized character's personality, behavior, aesthetic and overall look and Feel.
2. Experiment on the Character proportion.
3. To Study the real life characters for story and character development.
4. To bring life into their characters and objects by giving them movement.
5. To exaggerate human characters to make them cartoonist.

### Course Objectives

1. To understand the construction and cartoon anatomy study.
2. To Illustrate the production process of character designs in accordance to script.
3. To produce effective facial expressions.
4. To experiment the character's shape, attitude, and size and prepare turn-around model sheet. Experiment different height variations for all the characters.
5. To choose appropriate gesture and appearance that the character demands.

### SYLLABUS

Unit	CONTENT	HOURS
I	Cartoon Anatomy: Understanding the anatomy of a cartoon character design by constructing variety of head shapes and perspectives - Learn the principles of character design such as proportions and exaggeration, expressions, shapes and construction - Experiment on age wise anatomy study for character designing.	09
II	Character Design: Create characters that the script demands and give life to each character - Build the character's traits by choosing appropriate costumes, ornaments and the materials they carry throughout the movie.	11

III	Character proportion: Experiment on different attitudes such as villain, hero, friends, brothers, sisters, parents, animals and also the gender of the character - Produce proper shape, height, weight of the character - Prepare a family chart height wise and prepare a turn-around model sheet for each and every character.	10
IV	Facial Expression: Create the eye blink, lip-syncs and emotions - The facial anatomy is broken down to focus on each feature on the face – Creating a facial expression chart from all view.	10
V	Character Bible: Create appropriate gesture and pose for every character Balance the weight, line of action and improve the strength of the character - Compile the turn-around model sheet, facial expression, hand study and poses with color - Create a character bible for the script and compile it.	12

### **Text Books**

1. Thomas, F., & Johnston, O. (1981). Disney animation: the illusion of life. Disney Editions. *Life, Hyperion, New York, NY, USA.*
2. Williams, R. (2001). *The Animator's Survival Kit: A Working Manual of Methods, Principles and Formulas for Computer, Stop-motion, Games and Classical Animators.* Faber.
3. Blair, P. (2020). *Cartoon Animation with Preston Blair, Revised Edition!: Learn techniques for drawing and animating cartoon characters.* Walter Foster Publishing.
4. Whitaker, H., & Halas, J. (2013). *Timing for animation.* Routledge
5. Muybridge, E. (2012). *The human figure in motion.* Courier Corporation.

### **Suggested Readings**

1. Telotte, J. P. (2019). Letting Go: Representation, Presentation, and Disney's Art of Animation. *Animation, 14(2), 132-148.*
2. White, T. (2013). *How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation.* Routledge
3. Culhane, S. (1990). *Animation: from script to screen.* Macmillan.

**Web Resources**

1. <https://characterdesignreferences.com/>
2. <https://glenkeaneproductions.com/>
3. <https://www.pixar.com/pixar-building-characters>
4. <http://bitly.ws/phYp>
5. <https://glenkeaneproductions.com/june>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Define and indicate the construction of cartoon anatomy study.	K1, K2
CO 2	Illustrate the production process of character design in accordance to script.	K3
CO 3	Produce effective facial expressions.	K4
CO 4	Experiment on the character's shape, attitude, and size and prepare turn-around model sheet for all the characters.	K5
CO 5	Construct appropriate gesture and appearance that the character demands.	K6

Course Code	PAN2ME02	
Course Title	Concept Art	
Credits	4	
Hours/Week	4	
Category	ME - Practical	
Semester	II	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. The course is designed to help create concept art and matte paint for film and games</li> <li>2. We will dive into composition and digital painting techniques for the environment</li> <li>3. Character concepts that will help create a better overview for visualization of the content to be produced.</li> <li>4. Understanding the views of the writer and showcase of the script in painting.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. Create digital concept sketches of environments and characters</li> <li>2. Understand color, form, and depth in a 3D space</li> <li>3. Visualize a scene in regards to the story and facilitate relevant depictions</li> <li>4. Showcase understanding of valid design theory in terms of subject weight and focus.</li> <li>5. Create characters based on story requirements and relevant concept art.</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTENT	HOURS
I	<p>Introduction to Composition:</p> <p>Studying composition using examples from art film while understanding the relationship between form, function, and the story. Perspective, orthographic drawings, and how to locate, source, and collect project reference materials</p>	10
II	<p>Fundamentals and Elements:</p> <p>Digital Painting of props and still life. The focal point, division of space, depth, and rule of third. Lay outing for background. value matrix in color and expansion of levels based on subject and background</p>	10

III	<p>Environments:</p> <p>Study of environments and story while taking into consideration the form and function. Looking at placement and defining focus of elements. Research of existing environments and cross comparing them to mythical sets and how compatible it would be to the story being told. Brush sets and custom overlaps olive samples.</p>	10
IV	<p>Character Design application: fundamental character design principles, techniques, and procedures. Considering personality-based design analysis and exploitation into character blocking, silhouettes, proportion based on various archetypes. Creating Turntables and model sheets including attitude and expression sets.</p>	10
V	<p>Visual Story design: hone color theory skills, understanding of color relationships, composition, light, shadow, and value that are compatible to the overarching story. Study extensions based on the local environment, landscapes, and other demographics.</p>	12

### **Text Books**

1. *Sandberg, Leo* Imagine : creating art for entertainment Stockholm: Fabpics, [2009]
2. *Block, Bruce A*, The visual story : creating the visual structure of film, TV and digital media 2nd ed.: Amsterdam: Focal Press/Elsevier, 2008
3. *Pentak, Stephen; Lauer, David A*, Design basics : Stephen Pentak, David Lauer. Ninth edition: Australia: Wadsworth, 2015.
4. Anatomy and Composition - Modern Day James - Gumroad - 2017 – Editions 1,2,3,4
5. Sketching for Animation - Peter Parr - Good Readers – 2016.
6. The Character Designer (e-book) - Loish, Loopy Dave, Tom Bancroft - 21draw – 2019.

### **Suggested Readings**

1. *John Lasseter*, The Art of Coco Book, Chronicle Books, 2017
2. *Khang Le, Mike Yamada, Felix Yoon, Scott Robertson*, The Skillful Huntsman: Visual Development of a Grimm Tale at Art Center College of Design, Design Studio Press, 2005
3. Designing web Pixar: 45 activities to create your own characters worlds and stories - Pixar - Pixar 2016 -First Edition
4. Disney Animation: The Illusion of Life - Frank Thomas, Ollie Johnston - Walt Disney Productions - 1981 -First Edition

### **Web Resources**

1. Synix designs - Youtube (Digital Painting)
2. Mohammed Agbadi - Youtube (character lighting)
3. Proko - Youtube (anatomy)
4. Marc Brunet – Youtube (concept art)



<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	List different type Character and background design styles	K1, K2
CO 2	Illustrate scenes and compositions based on setting	K3
CO 3	Plan layouts and lighting sets	K4
CO 4	Critic and evaluate the usage of set elements	K5
CO 5	Create a concept art for both environment and characters	K6

Course Code	PDJ2ID01	
Course Title	Digital Marketing	
Credits	02	
Hours/Week	02	
Category	Inter Disciplinary (ID) - Theory	
Semester	II	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. The subject deals with the basics of Digital Marketing</li> <li>2. Basic knowledge on SEO</li> <li>3. This subject furnishes knowledge on Social Media Marketing</li> <li>4. How to email marketing and Lead Generation?</li> <li>5. How to create video content for Marketing?</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To understand Digital Marketing</li> <li>2. To acquire knowledge on S.E.O or S.E.M</li> <li>3. To learn effective platform for promotions.</li> <li>4. To learn structure of Online Marketing</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTENT	HOURS
I	Introduction to Digital Marketing: Basic of Online Marketing, Difference of Internet Marketing vs. Traditional Marketing, Basic terms used in internet marketing, Effective platforms for promotions, how much business can you grab after using internet marketing techniques.	4
II	Search Engine Optimization & Marketing: Introduction to SEO, Search Engine Working, Keyword Research & Planning, On-Page SEO, Off-Page SEO, Link Building, Tools for SEO, Understanding Google Algorithm. What is Google Ad-words, Google Ads Campaign, Sale Campaign, Banner and Search Ads, Banner and Search Ads.	4

III	Social Media and email Marketing: Introduction to Social Media Marketing, Facebook Marketing, Facebook Campaign Creation, Instagram Marketing, Instagram Promotion or ad creation, YouTube. Introduction, LinkedIn Marketing, Twitter Marketing, Introduction to Email Marketing, creating newsletter for Emails, Sending Bulk Emails, Email Marketing Tools	4
IV	Lead Generation & Mobile Marketing: What Is Lead Generation, Lead Generation Process, Creating Landing Page for Lead Generation, Creating Facebook Lead Generation Ads, Adding Lead Magnet to Landing Page. Introduction to Mobile Marketing, Mobile Marketing platforms, Creating Ads for Mobile Apps Increasing downloads through Facebook Ads, how to make business from mobile marketing? Effective mobile marketing strategy.	4
V	Video Marketing and Online Reputation Management: Basic of Video Marketing, Hacks of Video Making, Basic of Premier Pro. Introduction of Online Reputation Management, Reputation Problems Eliminating Negative Websites Consumer Complaint Sites	10

**Text Books**

1. S Kingsnorth, 2019. *Digital marketing strategy: an integrated approach to online marketing*, 2<sup>nd</sup> edition, Sage/CQ Press.
2. Russ Henneberry and Ryan Deiss ,2016, *Digital Marketing for Dummies*, 1<sup>st</sup> edition, Currency
3. Bala, M., & Verma, D. (2018). A critical review of digital marketing. *M. Bala, D. Verma (2018).A Critical Review of Digital Marketing. International Journal of Management, IT & Engineering*, 8(10), 321-339.
4. Wind, Jerry, and Vijay Mahajan. *Digital marketing*. Etas, 2002
5. Morris, Neil. "Understanding digital marketing: marketing strategies for engaging the digital generation." (2009): 384-387.

**Suggested Readings**

1. Russ Henneberry and Ryan Deiss, 2017, *Digital Marketing For Dummies (For Dummies(Business & Personal Finance)) Paperback*, 2<sup>nd</sup> edition, Paperback.
2. Seema Gupta, 2020, *Digital Marketing*, 2<sup>nd</sup> edition, Paperback.

**Web Resources**

1. [shorturl.at/pqOUW](http://shorturl.at/pqOUW)
2. [shorturl.at/iCV13](http://shorturl.at/iCV13)
3. [shorturl.at/wyIM9](http://shorturl.at/wyIM9)

**Course Outcomes**

COs	CO Description	Cognitive Level
CO 1	Understand and appreciate Digital Marketing	K1, K2
CO 2	Integrate and assess the methods of SEO and Marketing	K3
CO 3	Analyse and do Social Media and email Marketing	K4
CO 4	Create Lead Generation for mobile marketing	K5
CO 5	Create Video Marketing and Reputation Management	K6

Course Code	PAN3MC01	
Course Title	Advanced 3D Modelling	
Credits	06	
Hours/Week	06	
Category	Major Core - Practical	
Semester	III	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>Advanced 3D construction techniques develop the skills needed to navigate within a 3D digital modeling workspace</li> <li>Projects involving object, character and architectural modeling will emphasize the aesthetic concepts of spatial proportion.</li> <li>Students will emerge with the ability to create well designed 3D models, and be familiar with the polygonal modeling and surface modeling.</li> <li>To gain knowledge in the practical foundations and understanding the applicability of the practical techniques in CG world.</li> <li>Under the integrated functioning of modeling and the processes by which regulation of sculpting works.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>To give students the competent practical skills in 3D modeling and texturing</li> <li>To understand the physiological processes that regulate the overall sculpting</li> <li>Measure and interpret experimental data and exercises the skills with organic and inorganic models.</li> <li>The objective of the subject is to impart the skills to visualize objects in 3D and also to learn the methodologies of creating 3D environments.</li> <li>To make students understand the detailed process of 3D modelling, Texturing in the created models</li> </ol>		
<b>SYLLABUS</b>		
<b>Unit</b>	<b>CONTENT</b>	<b>HOURS</b>
I	Hard Surface Modeling: Hard Surface Modelling- polygon Booleans- mirror geometry- polygon smooth and add divisions- polygon clean- ups- wireframe model is a skeletal description of a 3D object- low poly model to high poly model. Organic and Inorganic sculpting	10

II	Symmetrical topology and Blendshapes: Polygon box modeling- Build clothing- armor- other props- 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- Extrude cubes to create an arm and a leg. Normal Map- Displacement map-	10
III	Character Skeletal Sculpting: Sculpting, Difference between 2legged model and 4-legged character Facial features and Anatomical Primitives Modeling- Eyes Modeling Teeth- Mouth Modeling eyelidsand anatomical face structure, Facial modeling and edge looping techniques- Mirror the Body, Sculpt geometry tools. Sculpting using Projection mapping	18
IV	Head and body sculpting: Human Head and Hand Anatomy- Face Topology Overview, checking our Model, Maya Modelling Toolkit for Retopo approaches for creating blendshapes- Transferring the expressions- Make an Arm and a Leg- Creature Head modeling. Texture differential modeling.	20
V	Realistic skin, Hair/ Fur, Beard and eyebrows details: Xgen Sculpting Realistic Face, Sculpting Realistic Skin Detail- Create Hair- Beard and Eyebrows using Xgen, sculpting realistic Cloth for Characters, Making your Character Model Realistic, Refine and add any final anatomical details to the character.	20

### **Text Books**

1. Murdock, K. (2020). *Autodesk Maya 2020 Basics Guide*. SDC Publications.
2. Rodriguez, A. A., Metzger, R. P., Cifdaloz, O., & Dhirasakdanon, T. (2005). Description of a modeling, simulation, animation, and real-time control (MoSART) environment for a class of electromechanical systems. *IEEE Transactions on Education*, 48(3), 359-374..
3. White, T. (2013). *How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation*. Routledge.
4. Gahan, A. (2012). *3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design for Games and Film*. Routledge.
5. Murdock, K. (2018). *Autodesk Maya 2019 Basics Guide*. SDC Publications.
6. Tickoo, S. (2018). *Autodesk Maya 2019: A Comprehensive Guide*. Cadcim Technologies.
7. Wood, A. (2015). Getting to know software: A study of Autodesk Maya. In *Software, Animation and the Moving Image: What's in the Box?* (pp. 12-59). Palgrave Pivot, London.
8. Wood, A. (2014). Behind the scenes: A study of Autodesk Maya. *Animation*, 9(3), 317-332.
9. Patnode, J. (2012). *Character Modeling with Maya and ZBrush: Professional polygonal modeling techniques*. Routledge.

### **Suggested Readings**

1. Coquillart, S., & DEFORMATION, E. F. F. (1990). A SCULPTURING TOOL FOR 3D GEOMETRIC MODELLING, PROCEEDINGS OF SIGGRAPH '90. *Computer Graphics*, 24(4), 187-196..
2. Bittner, J., & Wonka, P. (2003). Visibility in computer graphics. *Environment and Planning B: Planning and Design*, 30(5), 729-755.
3. Lin, C., Fan, T., Wang, W., & Nießner, M. (2020, August). Modeling 3d shapes by reinforcement learning. In *European Conference on Computer Vision* (pp. 545-561). Springer, Cham..

**Web Resources**

1. <https://www.youtube.com/c/MayaHowTos>
2. <https://www.youtube.com/c/Autodesk>
3. <https://www.youtube.com/c/MikeHermes>.

**Course  
Outcomes**

<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Observe and visualize the basics of 3D character modeling.	K1,K2
CO 2	Identify the mesh wireframe for 3D cartoon character modeling.	K3
CO 3	Develop the skills to create realistic character models with proper mesh flow (topology).	K4
CO 4	Explain the basics of blend shapes and facial expressions	K5
CO 5	Organize Shapes, combine blend shapes into our Rig, Create a base control to drive shapes	K6



Course Code	PAN3MC02	
Course Title	Rigging and 3D Animation	
Credits	06	
Hours/Week	06	
Category	Major Core (MC) - Practical	
Semester	III	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. Introducing the concept of rigging.</li> <li>2. Explaining the process of key-frame animation in 3D software.</li> <li>3. Experimenting the principles of 3D animation.</li> <li>4. Animating any character in 3D environment.</li> <li>5. Developing their own style of animation using the various techniques in 3D animation.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To apply the concept of rigging for 3D animation.</li> <li>2. To experiment the basics of 3D Animation and its types.</li> <li>3. To demonstrate the effective use of Movement, Timing and Weight in animation.</li> <li>4. To experiment the rotoscope techniques of 3D animation in digital space.</li> <li>5. To produce 3D Animation project based on current industry trends and practices.</li> </ol>		
<b>SYLLABUS</b>		
<b>Unit</b>	<b>CONTENT</b>	<b>HOURS</b>
I	3D Rigging: Introduction to constrains and its types - Basic bones and joints - Attribute Editor - use of Set Driven key- Bone and joint creation - IK and FK rigging - use of Connection Editor – skinning – constrains: Parent constrain – Point constrains – Orient constrain – Scale constrain – Aim constrain – bend shape – special attributes. object and facial setups - Combination curves – arm IK and pole vector – finger setup – foot setup –Tangent	12

II	<p>Animation: Introduction of Keyframing and graph editor – time slider – playback controls - playback range slider – Animation preferences – frame rates - bouncing ball-secondary actions – Graph editor – weight tangents leaner – Path Animation – Procedural deformers – Joint deformers –Destruction of property – facial and lip snq- Hybrid facial rigs</p>	15
III	<p>Trax Editor</p> <p>Character Setup – Animate with arcing motion – modify new clip –Arc with dip – Visor controls</p> <p>Effective use of Movement, Timing and Weight in 3D animation Focusing on hair, tail, and follow-through. Analyzing the timing of human walk cycle and animal walk cycle. Analyzing progressive 3D animation and cycle animation &amp; camera animation.</p>	15
IV	<p>Experiment the 3D Scene file concepts and knowing the difference between shots and scene in 3D Animation.</p> <p>Introduction to camera animation according to story board.</p> <p>Create layout and blocking animation.</p>	18
V	<p>3D Character Animation project based on current industry trends and practices. Create 3D character facial expressions with blend shapes. Create facial expression with facial rig and introduction to lip sync animation. Create complete action sequence with camera movements.</p>	18

**Text Books**

1. Allen, E., & Murdock, K. L. (2011). *Body language: advanced 3D character rigging*. JohnWiley & Sons.
2. Williams, R. (2001). *The Animator's Survival Kit: A Working Manual of Methods, Principles and Formulas for Computer, Stop-motion, Games and Classical Animators*. Faber.
3. Blair, P. (2020). *Cartoon Animation with Preston Blair, Revised Edition!: Learn techniques for drawing and animating cartoon characters*. Walter Foster Publishing.
4. Whitaker, H., & Halas, J. (2013). *Timing for animation*. Routledge.
5. Muybridge, E. (2012). *The human figure in motion*. Courier Corporation.

**Suggested Readings**

1. Wood, A. (2015). Getting to know software: A study of Autodesk Maya. In *Software, Animation and the Moving Image: What's in the Box?* (pp. 12-59). Palgrave Pivot, London.
2. White, T. (2013). *How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation*. Routledge.
3. Culhane, S. (1990). *Animation: from script to screen*. Macmillan.

**Web Resources**

1. <https://www.laika.com/>
2. <https://www.dreamworks.com/>
3. <https://www.pixar.com/>
4. <https://disneyanimation.com/>
5. <https://www.aardman.com/>

**Course Outcomes**

COs	CO Description	Cognitive Level
CO 1	State and discuss the concept of 3D Rigging and Animation.	K1, K2
CO 2	Apply the production process of 3D character animation and animate characters in accordance to script and animatic with appropriate voice and timing.	K3
CO 3	Experiment effective use of Movement, Timing and Weight in 3D character animation.	K4
CO 4	Distinguish the otoscope techniques of 3D character animation in digital space.	K5
CO 5	Produce 3D Character Animation project based on current industry trends and practices.	K6

Course Code	PAN3MC03
Course Title	Dynamic Simulations
Credits	06
Hours/Week	06
Category	Major Core (MC) – Practical
Semester	III
Regulation	2022

**Course Overview**

1. This course aims to give broad knowledge about creating different types of effects.
2. Understanding and applying the concept of 3D effects on the real-time footage
3. Acquiring the knowledge on various types of simulation techniques
4. This course enhances the art of creating special effects according to the need of the footage
5. Indulging the recent technological styles of creating 3D effects.

**Course Objectives**

1. To understand the usage of particles system.
2. To illustrate the difference between soft body and rigid body dynamics.
3. To Know about the techniques of creating special effect.
4. To illustrate the techniques of simulating hair and fur.
5. To understand the concept of cloth animation

**SYLLABUS**

Unit	CONTENT	HOURS
I	Particles and Fields: Emitting particles, emitting particles from different surfaces, applying fields on particles, creating particle grids (2d grid and 3d grid), colliding particles, filling objects with particles, create liquids effects from particles, goals, sprites, rendering the particle, creating and controlling individual particles.	12
II	Rigid and Soft Body Dynamics: Constraints Properties, Create rigid body constraints, Rigid Body types, Rigid Body Simulations, Create soft bodies, Duplicate soft bodies, Render soft bodies with motion blur, Paint soft body weights, Special uses of soft bodies.	15
III	Effects: Creating fire, fireworks, flow effects, curve flow, surface flow , create lightning ,creating shatter effects ,creating smoke effects	15

IV	Hair and Fur: nHair overview and concepts, creating nHair, nHair simulation and caching, Modify and style nHair, nHair constraints, Rendering nHair, samples and techniques for nHair, nHair menu, HairNodes. Creating and fine-tuning Fur.	18
V	Cloth : nCloth Overview and Concepts, Create and Edit nCloth, Createand Edit nCloth Constraints, nCloth attribute presets, nCloth tips and troubleshooting, nCloth Reference	18

<b>Text Books</b>		
<ol style="list-style-type: none"> <li>1. Loney sl, 2005, Elements of statics &amp; dynamics part 2 dynamics,</li> <li>2. Zerouni, Craig. 2007. Houdini On the Spot. Focal Press, US.</li> <li>3. Eric Keller, 2015, Maya Visual Effects the Innovator's Guide: Autodesk Official Press.</li> <li>4. Susan Zwerman, Jeffrey A, 2016. The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures, Focal Press, US.</li> </ol>		
<b>Suggested Readings</b>		
<ol style="list-style-type: none"> <li>1. Roboniell, 2016. Digital Character development: Theory and Practice. CRC Press, US</li> <li>2. Eric Keller, 2015. Maya Visual Effects The Innovator's Guide. Autodesk Official Press.</li> <li>3. Gerald Millerson, 2009. Techniques of television Production, Focal Press.US</li> </ol>		
<b>Web Resources</b>		
<ol style="list-style-type: none"> <li>1. <a href="https://tinurl.com/jbxzip54">https://tinurl.com/jbxzip54</a></li> <li>2. <a href="https://www.sidefx.com/learn/fluids/">https://www.sidefx.com/learn/fluids/</a></li> <li>3. <a href="https://www.sidefx.com/tutorials/">https://www.sidefx.com/tutorials/</a></li> </ol>		
<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Define the types of emitter and particles system suitable for creating 3D effects.	K1, K2
CO 2	Classify the different types of particle system.	K3
CO 3	Demonstrate the art of merging 3D effects with background footage	K4
CO 4	Create liquid simulation using appropriate tools and techniques.	K5
CO 5	Test the various ways of creating and simulating various kinds of 3D effects.	K6

Course Code	PAN3MC04	
Course Title	Media Research	
Credits	04	
Hours/Week	04	
Category	Major Core (MC) – Theory	
Semester	III	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. This course covers the various types of Research and its uses</li> <li>2. The aim is to give basic knowledge about the usage of various kinds of research.</li> <li>3. It covers the various methods adopted for accomplishing research</li> <li>4. In addition, this course enhances various thoughts of achieving outcome for a problem</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To Explain the need of research</li> <li>2. To provide adequate information for continuing the research</li> <li>3. To explain the various types of research and the methods to be followed.</li> <li>4. To know the methods of data collection and rectify errors</li> <li>5. To produce result for the research problem.</li> </ol>		
<b>SYLLABUS</b>		
Unit	CONTEN T	HOURS
I	Research: Definition and types, Nature and scope, Ethics; Need for research, Identifying problem, Research Design, Planning, Research gap, Research Theory and models	10
II	Quantitative Research: Pure and applied, Descriptive, Exploratory Correlation, Explanatory, Historical, Ex-post facto, Experimental.  Qualitative research: Methods (observations, Interviews, Focus group, Surveys, Secondary research), case studies, Approaches: Grounded theory, ethnography, action research, Phenomenological research, Narrative research, Qualitative data Analysis, Advantage and disadvantages of Qualitative research.	10

III	Research Process: Selection of a research problem, Review of literature, Formulating objectives, research questions, hypotheses, Research design. Population and samples, Sampling methods, Sampling error,	10
IV	Data Types- primary data, secondary data: Data measurement levels- nominal, ordinal, interval and ratio; Scales of measurements; Data collection methods- analysis of documents, field observations, interviews; Data collection tools- observation/ field diaries, interview schedules, and questionnaires; Reliability and validity of data; Data analysis: Descriptive statistics; Data analysis software -SPSS; Writing research report	12
V	Structure and types of report, technical report and dissertation, style manual, plagiarism, Citation and acknowledgement, Reproducibility and accountability	10

<b>Text Books</b>		
<ol style="list-style-type: none"> <li>1. Wimmer &amp; Dominick. 2000, <i>Mass Media Research: An Introduction</i>, Wadsworth.Singapore.</li> <li>2. Evanston IISarlow, C. 1994. <i>Basic Research Methods</i>, McGraw- Hill, New Delhi,</li> <li>3. A. Bryman. 2012. <i>Social Research Methods</i>. Oxford University Press.</li> </ol>		
<b>Suggested Readings</b>		
<ol style="list-style-type: none"> <li>1. Susanna Hornig Priest. 1995. <i>Doing Media Research: An Introduction</i>. Sage, California.</li> <li>2. Andy Ruddock, 2017. <i>Exploring Media Research: Theories, Practice, and Purpose</i>. Sage, California.</li> </ol>		
<b>Web Resources</b>		
<ol style="list-style-type: none"> <li>1. <a href="http://shorturl.at/rtxHT">shorturl.at/rtxHT</a></li> <li>2. <a href="http://shorturl.at/gwG07">shorturl.at/gwG07</a></li> <li>3. <a href="https://www.aresearchguide.com/40-media-research-paper-topics.html">https://www.aresearchguide.com/40-media-research-paper-topics.html</a></li> </ol>		
<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Choose appropriate research tools and techniques for continuing research	K1, K2
CO 2	Develop research problems and following appropriate procedures to continue the research	K3
CO 3	Identify samples and collecting data using standard procedures	K4
CO 4	Analyze the data and compile the document.	K5
CO 5	Build theory using appropriate research methods	K6



Course Code	PAN3ME01
Course Title	Game art and design
Credits	04
Hours/Week	04
Category	Major Elective (ME) - Practical
Semester	III
Regulation	2022

**Course Overview**

1. Game art and design is a subject that deals with the game art and level designing and application designing for different platforms
2. It gives the basic understanding of gaming and the relationship between 3D animation, game and applications under different cross platforms.
3. Game design helps students learn application skills required for creating level design content for Gaming.
4. App design helps students learn technical skills required for creating wireframe design content for Applications on different platforms.
5. It enhances students understand and mix reality into animation and Game designing.

**Course Objectives**

1. To creatively and effectively apply design knowledge to gaming environments.
2. To understand the structure and functions of Gaming.
3. Designing the Game assets, Backgrounds and characters etc. Development of a style and visual quality. Drawing story boards. To understand the role of the designer / artist in game development
4. To develop skills in designing Web Pages, Web and Mobile Applications, Understanding User Interface designing.
5. Course will be supported with case studies and example to illustrate digital content migration to new media and its challenges and tips and tricks to make it effective and appealing.

**SYLLABUS**

Unit	CONTENT	HOURS
I	Gaming history and concepts: History of Game Design - Introduction to gaming and concepts- Level Designing Meaning and definition, Genres and classification of games- Game production- Game as a story- Three-Act Structure and Rising Action- Aesthetics & Gameplay- Game Presentation- The game rulebook- Visualizing the game world Ideation- Implementation in 2D and 3D, Game Type- Elements of Gaming- Causes and Consequences of Game- Game Markets - Business of Gaming and Entrepreneurship- Overview of Traditional Games- Games for Modern Platforms and society- Linear vs. Non-Linear.	8

II	Game Design pipeline: Game production process - Pre-production for Gaming – Brainstorming and Storyline, benefit from stories, Concepts and ideas, Mind map, Moldboard, Storyboarding, Flowchart, Game Density, Mood & Story, Proportion- Player checklist, Game assets design, environment designing steps and planning- Production - Visualization, Building a Team, Level Design, Navigation and Time, Move set, Importance of game rules Evaluating and Refining- Explorer/ Alien Sketching- 2D Vector Drawing, 3D modeling, 3D Game Engines, 2D Game Engines, Mod kits, Modeling with Quads Polygons VS Tri-polygons Rigging	12
III	Prototyping and Playtesting, User Experience & Design: Roleplaying & Character Motivation- Character Goals- Multiplayer Rules and Balance, Properties and Rules- Post production – Skinning, Weights, Animation, Atmosphere, lighting techniques, Importance of lighting, Atmospheric fog and colors- Mechanics and Dynamics- Compositing and editing, sound designing. Introduction to Game Design, Character design for Game	12
IV	Application Design: 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- Introduction User Interface designing- Interface for Web apps and websites- Characteristics of Mobile Applications- Mobile Interaction Design.	10
V	UI Frameworks and tools: Generic UI Development- Synchronization and Replication of Mobile Data- Multichannel and Multimodal UIs- Android Intents and Services- Android Networking and Web- Performance and Memory Management- Android Notifications and Alarms- Mobile Agents and Peer-to-Peer Architecture- Packaging and Deploying- Testing.	10

### **Text Books**

1. Koster, R. (2013). *Theory of fun for game design*. " O'Reilly Media, Inc."
2. Crawford, C. (1984). *The art of computer game design*.
3. Hunicke, R., LeBlanc, M., & Zubek, R. (2004, July). MDA: A formal approach to game design and game research. In *Proceedings of the AAAI Workshop on Challenges in Game AI* (Vol. 4, No. 1, p. 1722).
4. Szulborski, D. (2005). *This is not a game: A guide to alternate reality gaming*. Incunabula.
5. Istance, H., Hyrskykari, A., Immonen, L., Mansikkamaa, S., & Vickers, S. (2010, March). Designing gaze gestures for gaming: an investigation of performance. In *Proceedings of the 2010 Symposium on Eye-Tracking Research & Applications* (pp. 323-330).
6. Manninen, T. (2005). Designing puzzles for collaborative gaming experience—case: eScape..

### **Suggested Readings**

1. Taylor, L. N. (2009). Gaming ethics, rules, etiquette, and learning. In *Handbook of Research on Effective Electronic Gaming in Education* (pp. 1057-1067). IGI Global.
2. Manusos, D. O. (2013). Authentic design in gaming changing the rules of play. *Technology and Engineering teacher*, 72(8), 8.
3. Burk, D. L. (2010). Copyright and paratext in computer gaming. *Emerging ethical issues of life in virtual worlds*, 33-53.
4. Zimmerman, E. (2008). Gaming literacy: Game design as a model for literacy in the twenty-first century. In *The video game theory reader 2* (pp. 45-54). Routledge.
5. Lin, H., & Sun, C. T. (2011). The role of onlookers in arcade gaming: Frame analysis of public behaviours. *Convergence*, 17(2), 125-137.

<b>Web Resources</b>		
<a href="https://vimeo.com/69478293">https://vimeo.com/69478293</a> <a href="https://vimeo.com/35238843">https://vimeo.com/35238843</a> <a href="https://vimeo.com/23910134">https://vimeo.com/23910134</a> 4. <a href="https://vimeo.com/1612623425">https://vimeo.com/1612623425</a> . <a href="https://vimeo.com/169163449">https://vimeo.com/169163449</a>		
<b>Course Outcomes</b>		
<b>CO s</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Define and classify the principles of Game level design	K1,K2
CO 2	Demonstrate knowledge of different game character interaction.	K3
CO 3	Compare and build a relation between game character with users' expectations	K4
CO 4	Create and discuss application design in terms of context framework.	K5
CO 5	Illustrate the game level design for appropriate platforms.	K6

Course Code	PAN3ME02
Course Title	Web designing
Credits	04
Hours/Week	04
Category	Elective (ES) – Practical
Semester	III
Regulation	2022

**Course Overview**

1. The subject deals with the basics of Web Designing
2. Basic knowledge on image editing and compositing
3. This subject furnishes knowledge on developing interactive web pages
4. How to create a web page templates?
5. How to create static and dynamic web page.

**Course Objectives**

1. To List the different technics of Developing a Simple Website
2. To Identify the Standard Web Page available
3. To Apply 2D software and create popups, banners.
4. To explore about web templates online.
5. To Create and Maintain Web Page.

**SYLLABUS**

Unit	CONTENT	HOURS
I	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 Webpages	10
II	Image Compositing 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	10
III	Developing of interactive webpage Introduction to Dreamweaver - Creative Cloud, Developing Dynamic Cross - Interactive Web Pages, Buttons, Hyperlink, Table, Interactivity, Pop Ups, 2D software, Web banners , Animating Test , Gif image creating- Dynamic linking ,Static linking.	10

IV	Create Web Templates Collecting Different Website Themes, Website Template Design, Introduction to Online Free Web Templates, Web Portfolio ,Ref WIX.	10
V	Creating Webpage Creating Web Pages, Creating the Website, Saving -Working on the Website, Titling, Host, URL-Hypertext Transfer Protocol. Create a web page in WIX.	12

### Text Books

1. Jason Beard,2020, The Principles of Beautiful Web Design, 4e Paperback, 4th edition, SitePoint
2. Newman, W. M., & Sproull, R. F. (Eds.). (1979). Principles of interactive computer graphics. McGraw-Hill, Inc..
3. Leavitt, M. O., & Shneiderman, B. (2006). Based web design & usability guidelines. Health and Human Services Department.
4. McClurg-Genevese, J. D. (2005). The principles of design. Digital Web Magazine, 13.
5. Lynch, P. J., Horton, S., & Horton, S. (1999). Web style guide: Basic design principles for creating web sites. Universities Press.

### Suggested Readings

1. Sklar, J. (2011). Principles of web design: the web technologies series. Cengage Learning.
2. Beard, J., Walker, A., & George, J. (2020). The principles of beautiful web design. Sitepoint.

### Web Resources

1. <https://vimeo.com/104810175>
2. <https://vimeo.com/46124930>
3. <https://vimeo.com/5671643>

### Course Outcomes

COs	CO Description	Cognitive Level
CO 1	List the Methods and Techniques of Developing a Simple Website	K1, K2
CO 2	Identify the Standard Web Page Language	K3
CO 3	Apply 2D software and create popups, banners	K4
CO 4	Explain about web templates	K5
CO 5	Create and Maintain Web Page	K6

Course Code	PDJ3ID01
Course Title	Video Editing
Credits	2
Hours/Week	2
Category	Inter Disciplinary (ID) - Practical
Semester	3
Regulation	2022

**Course Overview**

1. Video Editing is a subject that deals with the composing and arranging videos to suit a narrative
2. It helps students learn technical skills required for creating a narrative using video content.
3. It helps with learning integration of both audio and visual media into a project.

**Course Objectives**

1. To understand the basics of film narrative
2. To understand nonlinear and linear editing
3. To learn film editing techniques
4. To understand the aesthetics of Digital Intermediate.
5. To create and edit a short audio-visual content.

**SYLLABUS**

Unit	CONTENT	HOURS
I	<b>TOOLS AND INTERFACES</b> 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.	3
II	<b>WORKSPACE EDITING</b> 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 Timeline: Navigating Timeline- Moving Clips- Trim Editing – Rolling Edits- Making Slip and Slide Edits – Creating Title from Template – Creating Title from Scratch – Superimposing Title – Title Roll or Crawl - A Roll - B Roll - Montage Cuts.	5

III	TRANSITIONS & EFFECTS Need for Effects and Transitions - Masks - Adding Transitions- Effects Control Window-Video Effects- Animating Effects- Color Corrections- Application of Motion in Titles.	4
IV	EDITING AUDIO Adjusting Audio Volume and Panning – Multichannel Clips into Mono Clips – J & L Cut Audio Edits –Noise Removal - Audio Effects	4
V	COLOR CORRECTION AND DIGITAL INTERMEDIATE  Visual Language, Color Psychology - Color Grading - Vibrancy and Saturation - Understanding colors and mood - Setting up mood using colors - Digital Intermediate	10

### **Text Books**

1. **Mascelli, J. V. (1998). The Five C's of cinematography: Motion picture filming techniques. Silman-James Press.**
2. **Coleman, L. J., & Friedberg, D. (2010). Make the cut: A guide to becoming a successful assistant editor in film and Tv. Focal Press/Elsevier.**
3. **Wright, S. (2006). Digital compositing for film and video. Focal Press.**

**Bowen, C. J., & Thompson, R. (2018). Grammar of the edit. Routledge, Taylor & Francis Group.**

### **Suggested Readings**

1. **Brown, B. (2016). Cinematography: Theory and practice: Image making for cinematographers and directors. Focal Press.**
2. **Ascher, S., Pincus, E., Keller, C., Brun, R., Spagna, T., McCarthy, S., & Leitner, D. (2013).**

**The Filmmaker's Handbook: A Comprehensive Guide for the Digital age. Plume.**

3. **Wales, L. M. (2017). The Complete Guide to film and Digital Production: The people and the process. Focal Press**

### **Web Resources**

1. <https://helpx.adobe.com/in/premiere-pro/tutorials.html>
2. <https://www.udemy.com/course/learn-how-to-use-premiere-pro-cc-for-beginners/>
3. [https://helpx.adobe.com/in/premiere-pro/how-to/work-explore-panels.html?playlist=/services/playlist.helpx/products:SG\\_PREMIEREPRO\\_1\\_1/learn- path:get-started/set-header:ccx-designer/playlist:ccl-get-started-1/en\\_IN.json&ref=helpx.adobe.com](https://helpx.adobe.com/in/premiere-pro/how-to/work-explore-panels.html?playlist=/services/playlist.helpx/products:SG_PREMIEREPRO_1_1/learn- path:get-started/set-header:ccx-designer/playlist:ccl-get-started-1/en_IN.json&ref=helpx.adobe.com)



<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Define and interpret the visual narrative of a film.	K1,K2
CO 2	Experiment with the various editing techniques and their needs.	K3
CO 3	Analyze the colors associated with a scene and Dissect its nature.	K4
CO 4	Justify the usage of non-linear edits to suit visual story telling.	K5
CO 5	Develop a video output with required visual storytelling.	K6

Course Code	PAN3SK01	
Course Title	Leadership skills	
Credits	02	
Hours/Week	02	
Category	SK	
Semester	III	
Regulation	2022	
<b>Course Overview</b>		
<ol style="list-style-type: none"> <li>1. Give an overview of various vision and mission statements.</li> <li>2. Explain how to be lifelong learners.</li> <li>3. Introduce learners to various emotional intelligence principles.</li> <li>4. Provide basic techniques to assert oneself from inside out.</li> <li>5. Offer insights into life-changing habits in general and time management in particular and their benefits.</li> </ol>		
<b>Course Objectives</b>		
<ol style="list-style-type: none"> <li>1. To understand the relevance of vision and mission concepts and models.</li> <li>2. To understand the benefits of continuous learning.</li> <li>3. To examine various principles that guide people to become emotionally intelligent.</li> <li>4. To understand ways to work with oneself and in a team.</li> <li>5. To understand the importance of imbibing life-changing habits, like time management and their benefits.</li> </ol>		
<b>SYLLABUS</b>		
<b>Unit</b>	<b>CONTENT</b>	<b>HOURS</b>
I	Vision and Mission: The WHY, WHAT and HOW of personal and professional lives, creator-creation alignment, thinking BIG, concrete plan versus wishful thinking, the contribution to humanity. Life vision and mission statement and checklist for life habits.	6
II	Learning: Learning through listening; personalized time for thinking; recording, revising, and reproducing; observation versus seeing, hearing versus listening, and feeling versus thinking. Identifying the barriers and steps to learning.	5

III	Emotional mastery and Stress management Commitment to excel; confidence of control; change management as a challenge not a threat. Transactional analysis, NLP (Neuro linguistic Programming), EFT (emotional freedom), and mind power techniques.	5
IV	Assertiveness and Effectiveness  Respect for self and others; the win-win, purposeful, two way, and precise communication strategy; preventive, corrective, progressive and punitive steps of discipline.	5
V	Life changing habits Emotional habits for perseverance and conflict resolution; prioritizing antic classification of time, strategizing and the 5 'S' system for life discipline; the pilot of life awareness and realization.	5

#### **Text Books**

- 1. Anto vincent, 2016 & 2017, Leadership excellence and you! Master guide to leadership Excellence, Indian Centre for Research & Development of Community Education.**
- 2. Covey, S. R. (2013). The 7 Habits of Highly Effective People: Powerful lessons in personal change. Simon and Schuster.**
- 3. Hill, N. (2011). Think and grow rich. Hachette UK.**

#### **Suggested Readings**

- 1. Khera, S. (2018). You Can Win: A Step-by-Step Tool for Top Achievers. Bloomsbury Publishing.**
- 2. Peale, N. (1953). The Power of Positive Thinking/Norman Vincet Peale.**
- 3. Vom Brocke, J., Schmiedel, T., Recker, J., Trkman, P., Mertens, W., & Viaene, S. (2014). Ten principles of good business process management. Business process management journal.**

#### **Web Resources**

1. <https://positivepsychology.com/self-esteem/>
2. <https://inside.ewu.edu/calearning/psychological-skills/goal-setting/>
3. [https://www.mindtools.com/pages/main/newMN\\_HTE.htm](https://www.mindtools.com/pages/main/newMN_HTE.htm) (Time Management)
4. <https://www.verywellmind.com/stress-management-4157211> (Stress Management)
5. <https://theinvestorsbook.com/effective-communication.html>
6. <https://destinysodyssey.com/personal-development/self-discovery/>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Observe the vision and mission of organizations and personalities and recognize the significance of a personal vision and mission statement.	K1, K2
CO 2	Apply learning practically for personal and professional successes.	K3
CO 3	Analyse emotional intelligence methods and manners for self-mastery	K4
CO 4	Assess oneself dependently, independently, and interdependently	K5
CO 5	Construct life-changing habits, like time management skills, into one's routine.	K6

Course Code	PAN4MC01
Course Title	Lighting and Rendering
Credits	06
Hours/Week	06
Category	Major Core - Practical
Semester	IV
Regulation	2022

### Course Overview

1. Lighting and rendering are a study of mathematically calculating the digital computer graphic elements to mimic the physical behavior of light in that of 3dimensional imagery.
2. It is the art of visual storytelling using different applications in coordination with cinematic techniques in 3D render engines.
3. It helps understand the physics behind the simulation of light, texture and forms.
4. It aids in exploring broader range of styles of photorealistic CGIs.

### Course Objectives

1. To be able to understand the principles of lighting.
2. To be able to apply the manual and technology-based techniques of lighting in Maya and other render engines.
3. To understand the process of rendering and learn batch rendering using Maya and render engines.
4. To learn to develop an effective workflow and pipeline.

## SYLLABUS

Unit	CONTENT	HOURS
I	Introduction Digital Lighting: Overview of Digital Lighting- Cinematography Documentary: "Visions of Light"- Lighting Techniques for Computer Generated Imagery- Storytelling with lighting- The human eye-	10
II	Surface Shading: Light and surface physics- Surface reflection- Maya Materials, Arnold materials, Shading and Texturing- texturing using 2D/3D painting software- Creating and applying different texture maps (Bump, Normal, Displacement), Illumination- Surface generation techniques-	10
III	Physics of CGI Lighting: Wave vs. ray models- Light shaders- Turbulence- Stochastic patterns- Math for illumination models- Physically Based Lighting (PBR)- HDRI Workflow- Combining PBR and Direct Lighting- Render Engines - Arnold, Renderman, Redshift, Octain, Mantra, Vray, Iray, Mental Ray	18

IV	Advanced procedural lighting: Introduction to renderer- Shadow generation- Indirect rendering with Arnold- Volumetric Light- Material Instance- Basic Lighting – Daylight - Midday - Sunset - Cloudy - Moonlight - Dappled - Stained Glass-, Reuse / Share depth maps, Ray traced, Shadow Techniques (For realism and Optimization)	20
V	Photogrammetry and Photorealistic Lighting: Light Fog, Intensity Curves, Depth map -Rasterizing, Ray tracing Vs Ray casting- Real-Time Rendering- Layering and compositing- Aliasing and Antialiasing- 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.	20

<b>Text Books</b>		
<ol style="list-style-type: none"> <li>1. Apodaca, A. A., Gritz, L., &amp; Barzel, R. (2000). <b>Advanced RenderMan: Creating CGI for motion pictures.</b> Morgan Kaufmann.</li> <li>2. Alton, J. (2013). <b>Painting with light.</b> Univ of California Press.</li> </ol>		
<b>Suggested Readings</b>		
<ol style="list-style-type: none"> <li>1. Malkiewicz, K. (2012). <b>Film lighting: Talks with Hollywood's cinematographers and gaffers.</b> Simon and Schuster.</li> </ol>		
<b>Web Resources</b>		
<a href="https://www.youtube.com/c/AcademicPhoenixPlus">https://www.youtube.com/c/AcademicPhoenixPlus</a> <a href="https://www.youtube.com/c/MayaHowTos">https://www.youtube.com/c/MayaHowTos</a> <a href="https://www.youtube.com/c/BrentLeBlancCG">https://www.youtube.com/c/BrentLeBlancCG</a> <a href="https://books.google.co.in/books?id=S-">https://books.google.co.in/books?id=S-</a>		
<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Classify and examine the principles of CGI lighting.	K1,K2
CO 2	Demonstrate knowledge of different render engines for appropriate lighting.	K3
CO 3	Compare and build a relation between CGI lighting with real-time lighting.	K4
CO 4	Create and discuss lighting with render passes in terms of live compositing.	K5
CO 5	Combine the direct and indirect light source for appropriate render.	K6

Course Code	PAN4MC02
Course Title	Advanced Compositing
Credits	04
Hours/Week	04
Category	Major Core (MC) - Practical
Semester	IV
Regulation	2022

### Course Overview

1. The subject deals with the Advanced Compositing
2. Basic knowledge on Mattes and Roto.
3. This subject furnishes knowledge on Motion tracking
4. How to work on cameras and Geometry.
5. How to Colour correction basics and Grain Management.

### Course Objectives

1. To Distinguish between the total production knowledge and also to create knowledge about compositing.
2. To acquire knowledge on green matte and blue matte clip, with other Production Clips
3. To learn Combine Visual effects to the video clip.
4. To learn Compose the render to give the final out.

### SYLLABUS

Unit	CONTENT	HOURS
I	Introduction to Node Based Compositing: User Interface, Menu Tab, channels, Viewer, basic merge operations, Properties Bin, colour space, colour sampling, Tools, Merge, Add mix, Node graph	10
II	Mattes and Roto: 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	10

III	Motion tracking: 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	10
IV	Importing cameras and Geometry: Keyer – Primatte - Keylight - Projection Mapping - Basic Stereoscopic - IBK Color – Gizmo - Introducing the 3D System-Building 3D Geometry with Models	10
V	Colour correction basics - Grain Management: 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. Nuke: Color Management, Color correcting composites, Rotoscoping, Masking operations.	52

#### **Text Books**

1. **Adobe, 2013, Visual Effects and Compositing, 1st Edition, Pearson Education India**
2. **Eran Dinur, 2017, The Filmmaker's Guide to Visual Effects, 1st Edition, Routledge.**
3. **Finance, C., & Zwerman, S. (2015). The visual effects producer: understanding the art and business of VFX. Routledge.**
4. **Okun, J. A., & Susan Zwerman, V. E. S. (Eds.). (2020). The VES handbook of visual effects: industry standard VFX practices and procedures. Routledge.**
5. **Byrne, B. (2012). The visual effects arsenal: VFX solutions for the independent filmmaker. Routledge.**

#### **Suggested Readings**

1. **Lisa Fridsma, Brie Gyncild, 2018, Adobe After Effects CC Classroom in a Book, 1st Edition, Adobe.**
2. **Ganbar, R. (2014). Nuke 101: Professional Compositing and Visual effects. Peachpit Press**
3. **Hornung, E. (2013). The Art and Technique of Matchmoving: Solutions for the VFX Artist. Routledge..**

#### **Web 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



<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Distinguish between the total production knowledge and also to create knowledge about compositing.	K1, K2
CO 2	Combine the green matte and blue matte clip, with other Production Clips.	K3
CO 3	Create composites using multiple layers	K4
CO 4	Combine Visual effects to the video clip.	K5
CO 5	Compose clips and render to give the final out.	K6

Course Code	PAN4MC03
Course Title	Media Laws and Ethics
Credits	4
Hours/Week	4
Category	Major Core (MC) - Theory
Semester	IV
Regulation	2022

### Course Overview

1. The course will shed light on basic laws that govern the media industry and some extended laws
2. The ethical and moral reasoning that needs to be considered
3. Shed light on the various laws that govern the media industry especially Indian Laws and cyber laws.
4. Looking at these rules and laws from an ethical stand point.

### Course Objectives

1. To list and understand media laws
2. To demonstrate good ethical practices within the media industry
3. To Navigate cyberspace and understand social media laws
4. To make proper decisions that help avoid breaching copyright laws.
5. To properly register, copyright, and protect their works both digital and physical.

## SYLLABUS

Unit	CONTENT	HOURS
I	Introduction to media laws: World media laws and Indian media laws, the role of media in society; History of media laws, Interpretation of Laws, Indian Constitution: Contempt of court, Parliamentary privileges, Liability, free speech, and Ethical dilemmas and issues	10

II	Take on digital India and Piracy: 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.	10
III	Cyber Laws: 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. Case Study- Jake Paul, Gambling instigation via social media	10
IV	Laws and sections: Constitutional Law, Criminal Law, Civil Law; Media laws on Intellectual property, copywriting; Civil and criminal law of defamation, Prasad Bharti Act (Broadcasting); Censorship- The Official Secrets act, Central Board of Film Certification. Litigation.	10
V	Case Study on Ethics: Press Council of India in regards to digital mediums, the effects of meme trends and role of social media and its ethical standing of the content creators and influencers- YouTube case study – Usage of cash to generate cash Mr. Beast	12

**Text Books**

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. Mass Media and Related Laws in India - Bansi Manna - Booksway (31 October 2014) - ISBN-10 :9380145527
4. Introduction to Media Laws and Ethics - JUHI P. PATHAK - SHIPRA PUBLICATIONS (1 January 14) -ISBN-10 : 8175417528

**Suggested Readings**

1. Constitution of India Durga Das Basu Lexisnexis 2013 21st Edition
2. Law of the Press DD Basu Prentice Hall 2006 1st Edition
3. Makers of Modern India Ed. Ramachandra Guha Penguin, New Delhi 2010 1st Edition
4. Journalistic Ethics PK Menon Pointer Publishers, Jaipur 2005 First Edition

**Web Resources**

1. <https://www.edx.org/course/media-law>
2. <https://www.edx.org/course/copyright-law-in-the-music-business>

**Course Outcomes**

<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	List media laws relating to both Indian and World laws	K1, K2
CO 2	Identify and explain copyright infringements and breaches in free speech in a digital environment	K3
CO 3	Distinguish various acts that in regards to media laws	K4
CO 4	Interpret contracts, and ethical problems faced in an industryenvironment	K5
CO 5	Evaluate documented case studies and breakdown the ethics of the same	K6

Course Code	PAN4ME01
Course Title	A) Virtual and Augmented Reality
Credits	04
Hours/Week	04
Category	Major Elective (ES) - Practical
Semester	IV
Regulation	2022

### Course Overview

1. Learn the different forms of virtual and augmented reality as well as its applications in environments
2. Understand concepts and components and how to set up a virtual, augmented and/or hybrid reality ready project.
3. Understanding of how to take advantage of the potential of "mixed" or "hybrid" reality, which combines the interactivity of virtual reality with the visual power of augmented reality.
4. It enhances students understand and mix reality into animation and other cross platforms.

### Course Objectives

1. To creatively and effectively apply design knowledge to VR and AR environments
2. This course is designed to provide students with an overview of the basic principles of virtual reality (VR) and virtual environment technology
3. To develop skills in basics of scripting and rendering virtual environments and using VR technology to conduct scientific research.
4. Students in the course will be given an opportunity to interact directly with immersive virtual environment technology in the lab and will gain first-hand experience by developing a VR-based research demo.

## SYLLABUS

Unit	CONTENT	HOURS
I	Virtual reality (VR) and Augmented reality (AR): Elements of virtual reality and augmented reality – Differences virtual reality, augmented reality and mixed reality - Tools and techniques enabling optimal virtual and augmented and mixed reality performance	8
II	Virtual Reality - Design and Experience: Virtual Reality Applications - How users see in virtual reality- Creating virtual environments - Importing Rebuilder, levels and prototypes building- textures to environments- scene lighting- User interface- Visualization of information through text- buttons of the user interface- Construction of menus- rendering statistics and the profiler- Polymer mesh optimization- Occlusion management- Lighting management.	8

III	Augmented Reality – Workflow: Augmented Reality world uses- Importing the Vuforia package- Vuforia Core Samples- Webcam output- Capturing an image- Vuforia database and uploading image targets- Projection of 3D model- 3D text- Adding and moving objects- Augmented Reality without markers – Real world object placing- Realistic shadows- MidAir Functions.	8
IV	User Interface and Menus: User interface overlaid in front- Visualization of information through text- Programming of the buttons- Back and Exit button- Construction of the main menu.	12
V	<b>Simulation, Scanning and Tracking:</b> Customization of the first and second image objective- Monitoring of multiple images simultaneously- Playing an audio file after an interaction- Criteria for object recognition and scanning- Superposition of a 3D model on a real object	16

#### Text Books

1. Sherman, W. R., & Craig, A. B. (2003). **Understanding virtual reality**. San Francisco, CA: Morgan Kauffman.
2. Villena-Taranilla, R., Tirado-Olivares, S., Cózar-Gutiérrez, R., & González-Calero, J. A. (2022). **Effects of virtual reality on learning outcomes in K-6 education: A meta- analysis**. *Educational Research Review*, 100434.
3. Langacker, R. W. (1999). **Virtual reality**. Ma, M. K
4. I., Saha, C., Poon, S. H. L., Yiu, R. S. W., Shih, K. C., & Chan, Y. K. (2022). **Virtual Reality and Augmented Reality—Emerging Screening and Diagnostic Techniques in Ophthalmology: a Systematic Review**. *Survey of Ophthalmology*.

#### Suggested Readings

1. Youngblut, C. (1998). Educational uses of virtual reality technology.
2. Fussell, S. G., & Truong, D. (2022). Using virtual reality for dynamic learning: an extended technology acceptance model. *Virtual Reality*, 26(1), 249-267.

#### Web Resources

1. <https://www.youtube.com/c/ValemVR>
2. [https://www.youtube.com/channel/UCM\\_CQq0ImxLtfelTemWuAKQ](https://www.youtube.com/channel/UCM_CQq0ImxLtfelTemWuAKQ)
3. <https://www.youtube.com/channel/UCGdxet67QoJij3koOVygssA>
4. <https://www.youtube.com/c/MikeDeveloper>
5. [https://www.youtube.com/channel/UCCxGucNZMsIEQ\\_qc51gf72w](https://www.youtube.com/channel/UCCxGucNZMsIEQ_qc51gf72w)

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Classify and relate the principles of Virtual Reality and Augment reality	K1,K2
CO 2	Demonstrate knowledge of different Virtual Reality interaction.	K3
CO 3	Compare and build a relation between Virtual Reality and Augment reality with users expectations	K4
CO 4	Create and discuss reality design application in terms of context framework.	K5
CO 5	Illustrate the Augment reality design for appropriate platforms and enhance with Virtual Reality.	K6

Course Code	PAN4ME02
Course Title	B) 2D Character Animation
Credits	04
Hours/Week	04
Category	Major Elective (ME) - Practical
Semester	IV
Regulation	2022

**Course Overview**

1. Understanding the concept of 2D character animation and creating movement in a 2D environment.
2. Animating characters, backgrounds, objects and FX.
3. Creating a story and character development, writing scripts, recording dialogue, storyboarding, and background layout.
4. To bring life into their characters and objects by giving them movement.
5. Over all understanding of pipeline of the 2D character animation and bring an effective output

**Course Objectives**

1. To apply the principles of animation in 2D character animation exercises and sequences.
2. To understand the production process of 2D character animation and animate characters in accordance to script and animatic with appropriate voice and timing.
3. To demonstrate effective use of Movement, Timing and Weight in character animation.
4. To experiment the techniques of 2D character animation in both traditional and digital space.
5. To produce 2D Character Animation project based on current industry trends and practices

**SYLLABUS**

UNIT	CONTENT	HOURS
I	Drawing in Animate: draw characters using primitive shapes-primitive drawing tools: rectangle and oval tools to draw basic shapes-Object Drawing mode and object snapping-Sculpt artwork using selection tools	09
II	Tweening in Animate: convert your artwork to symbols, edit their center points- transformation point to move the hinging of the object to a more anatomically correct position - keyframes and set up different poses-classic tweens to create in-between poses	11



III	Layer effects Animate: use layer depth and layer effects - filters and color effects to a layer - Tween filters and effects to add depth of field - shadows, and more animations.	10
IV	Types of Symbols: common symbol types Graphic symbols and MovieClip symbols - difference between Graphic and MovieClip symbols - Graphic symbols using the Frame Picker and other tools - filters and color effects to a MovieClip symbol.	10
V	Rig character using Layer parenting: Set up the right hinge point by moving the transformation point - graphic symbols - Set up the parent - child hierarchy - set up a rig using Layer Parenting - animation using classic tweens.	12

### Text Books

1. Thomas, F., & Johnston, O. (1981). *Disney animation: the illusion of life*. Disney Editions. *Life, Hyperion, New York, NY, USA*.
2. Williams, R. (2001). *The Animator's Survival Kit: A Working Manual of Methods, Principles and Formulas for Computer, Stop-motion, Games and Classical Animators*. Faber.
3. Blair, P. (2020). *Cartoon Animation with Preston Blair, Revised Edition!: Learn techniques for drawing and animating cartoon characters*. Walter Foster Publishing.
4. Whitaker, H., & Halas, J. (2013). *Timing for animation*. Routledge.
5. Muybridge, E. (2012). *The human figure in motion*. Courier Corporation.

### Suggested Readings

1. **Telotte, J. P. (2019). Letting Go: Representation, Presentation, and Disney's Art of Animation. *Animation*, 14(2), 132-148.**
2. **White, T. (2013). How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation. Routledge.**
3. **Culhane, S. (1990). Animation: from script to screen. Macmillan.**

### Web Resources

1. <https://www.pixar.com/day-night>
2. <https://disneyanimation.com/films/mulan/>
3. <https://disneyanimation.com/films/pocahontas/>
4. <https://disneyanimation.com/films/the-lion-king/>
5. <https://disneyanimation.com/films/lilo--stitch/>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	State and discuss the principles of animation in 2D character animation exercises and sequences.	K1, K2
CO 2	Apply the production process of 2D character animation and animate characters in accordance to script and animatic with appropriate voice and timing.	K3
CO 3	Experiment effective use of Movement, Timing and Weight in character animation.	K4
CO 4	Distinguish the techniques of 2D character animation in both traditional and digital space.	K5
CO 5	Produce 2D Character Animation project based on current industry trends and practices.	K6

Course Code	PAN4SK01
Course Title	Professional Skills for Media
Credits	2
Hours/Week	2
Category	Soft Skills (SK) - Practical
Semester	IV
Regulation	2022

### Course Overview

1. Understand the portfolio requirement details and formats
2. Study the Industry requirements, job description and job categories
3. How to choose the best work to include in a portfolio, and how to put together a portfolio?
4. Learn how to write a resume and cover letter, submit your portfolio, and apply for jobs
5. How to prepare for an interview and how to present your portfolio

### Course Objectives

1. To understand the importance of a portfolio
2. To develop Industry requirements, skills required
3. To understand How to choose the best work for portfolio
4. To understand how to write a resume and cover letter
5. To develop and prepare for an interview and how to present your portfolio.

### SYLLABUS

UNIT	CONTENT	HOURS
I	Gathering all the work, formatting it, categorizing it, understanding the core skills	02
II	Know the standards and requirements for your industry, understand the job categories, job descriptions and how they relate to your industry.	02

III	Develop your portfolio by understanding the portfolio category and format, how to choose the best work for a portfolio, and how to create a portfolio?	06
IV	An introduction to writing a resume and cover letter, portfolio submission details, and how to apply for jobs	08
V	Body language and presentation skills for interviews How to prepare for the interview How to present your portfolio	08

### Text Books

1. Carnegie, D. (2022). *How to win Friends & Influence People* (100th Printing ed.). SIMON & SCHUSTER.
2. Taylor, F. (2010). *How to Create a Portfolio and Get Hired: A Guide for Graphic Designers and Illustrators* (Portfolio Skills). Laurence King Publishing.
3. Acker, M. (2021). *Speak With No Fear: Go from a nervous, nauseated, and sweaty speaker to an excited, energized, and passionate presenter* (2nd ed.). Advantage Publishing Group.

### Suggested Readings

1. Houde, S. (2021). *Good Work: How to Build a Career that Makes a Difference in the World* (1st ed.). Kogan Page.
2. Jay, R. (2014). *How to Succeed in any Interview, 3rd edition (Brilliant Business)* (3rd ed.). Trans-Atlantic Publications.
3. Falcone, P. (2018). *96 Great Interview Questions to Ask Before You Hire* (Third ed.). AMACOM

### Web Resources

1. <https://www.g2.com/articles/graphic-design-portfolio>
2. <https://www.creativebloq.com/features/6-free-resources-to-improve-your-portfolio>
3. <https://www.shillingtoneducation.com/blog/graphic-design-portfolio/>
4. <https://www.canva.com/learn/portfolio/>
5. <https://www.flux-academy.com/blog/10-inspiring-graphic-design-portfolios-how-to-create-your-own>
6. <https://www.simplilearn.com/interview-preparation-free-course-skillup>
7. <https://www.careercup.com/>

<b>Course Outcomes</b>		
<b>COs</b>	<b>CO Description</b>	<b>Cognitive Level</b>
CO 1	Select and Classify the works based on the portfolio.	K1, K2
CO 2	Construct a plan to build a solid digital portfolio.	K3
CO 3	Evaluate self on interpersonal skills developed.	K4
CO 4	Reframe interpersonal skills with regards to professional development.	K5
CO 5	Justify the portfolio via presentation skills in an audio-visual medium.	K6

Course Code	PAN4PJ01
Course Title	Animation Project
Credits	05
Hours/Week	05
Category	Project
Semester	IV
Regulation	2022

Animation Film Project. Each student is required to produce a short animation film project of about 2-3 minutes' duration.

Course Code	PAN4SI01
Course Title	Internship
Credits	05
Hours/Week	05
Category	Internship
Semester	IV
Regulation	2022

Internship Students shall undergo internship with the reputed Graphics and Animation studio. Students shall produce the diary of the activities undertaken during internship for valuation.

## LOCF BASED DIRECT ASSESSMENTS

### COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED CIA QUESTION PAPER FORMAT (PG)

SECTION		Q. NO	COGNITIVE LEVEL (CL)					
			K1	K2	K3	K4	K5	K6
A	(5 x 1 = 5) Answer ALL	1(a)	+					
		(b)	+					
		(c)	+					
		(d)	+					
		(e)	+					
	(5 x 1 = 5) Answer ALL	2(a)		+				
		(b)		+				
		(c)		+				
		(d)		+				
		(e)		+				
B	(1 x 8 = 8) Answer 1 out of 2	3			+			
		4			+			
C	(1 x 8 = 8) Answer 1 out of 2	5				+		
		6				+		
D	(1 x 12 = 12) Answer 1 out of 2	7					+	
		8					+	
E	(1 x 12 = 12) Answer 1 out of 2	9					+	
		10					+	
No. of CL based Questions with Max. marks			5 (5)	5 (5)	1 (8)	1 (8)	1 (12)	1 (12)
No. of CO based Questions with Max. marks			CO1		CO2	CO3	CO4	CO5
			10 (10)		1 (8)	1 (8)	1 (12)	1 (12)

Forms of questions of **Section A** shall be MCQ, Fill in the blanks, True or False, Match the following, Definition, Missing letters. Questions of **Sections B, C, D and E** could be Open Choice/ built in choice/with sub sections. Component III shall be exclusively for cognitive levels K5 and K5 with 20 marks each. CIA shall be conducted for 50 marks with 90 min duration.



**COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED END SEMESTER EXAMINATION QUESTION PAPER FORMAT (PG)**

SECTION		Q. NO	COGNITIVE LEVEL (CL)						
			K1	K2	K3	K4	K5	K6	
A	(5 x 1 = 5) Answer ALL	1(a)	+						
		(b)	+						
		(c)	+						
		(d)	+						
		(e)	+						
	(5 x 1 = 5) Answer ALL	2(a)		+					
		(b)		+					
		(c)		+					
		(d)		+					
		(e)		+					
B	(3 x 10 = 30) Answer 3 out of 5	3			+				
		4			+				
		5			+				
		6			+				
		7			+				
C	(2 x 12.5 = 25) Answer 2 out of 4	8				+			
		9				+			
		10				+			
		11				+			
D	(1 x 15 = 15) Answer 1 out of 2	12					+		
		13					+		
E	(1 x 20 = 20) Answer 1 out of 2	14						+	
		15						+	
No. of CL based Questions with Max. marks			5 (5)	5 (5)	3 (30)	2 (25)	1 (15)	1 (20)	
No. of CO based Questions with Max. marks			CO1		CO2	CO3	CO4	CO5	
			10 (10)		3 (30)	2 (25)	1 (15)	1 (20)	

## IMPORTANT

- Forms of questions of **Section A** shall be MCQ, Fill in the blanks, True or False, Match the following, Definition, Missing letters.
- Questions of **Sections B, C, D and E** could be Open Choice/ built in choice/questions with sub divisions.
- Maximum sub divisions in questions of Sections B, C shall be 2 and 4 in Sections D, E).

### TOTAL MARKS DISTRIBUTION OF DIRECT ASSESSMENTS BASED ON CL AND CO (PG)

Course Outcome	CO1		CO2	CO3	CO4	CO5	TOTAL
Cognitive Levels	K1	K2	K3	K4	K5	K6	
CIA 1	5	5	8	8	12	12	50
CIA 2	5	5	8	8	12	12	50
Comp III	-	-	-	-	20	20	40
Semester	5	5	30	25	15	20	100
Total Marks (CL)	15 (6%)	15 (6%)	46 (19%)	41 (17%)	59 (25%)	64 (27%)	240
Total Marks (CO)	30 (12%)		46 (19%)	41 (17%)	59 (25%)	64 (27%)	240