

# **Mahakaushal University, Jabalpur (M.P.)**



## **Scheme & Syllabus**

**For**

**Master of Science**

**Animation & Multimedia**

**2023-24**

**Duration of Course: 2 Years**

**Examination Mode: Semester**

**Examination System: Non -Grading**

**Mahakaushal University  
Village-Aithakheda, Mukunwara Road, Post- Tilwara Jabalpur (M.P.) 482003**



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# Mahakaushal University, Jabalpur (M.P.)

## Scheme of Examination



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Faculty of Fashion & Animation

Department: Animation & Multimedia

Scheme of Course: M.Sc in Animation & Multimedia

Course Code: MMSA

Semester/Year: - I Sem

S. No	Subject Code	Subject	Period s per Week				Distribution of Marks										
			L	T	P	C	Theory				Total	Practical			Total (f) = (d)+(e)	Grand Total (g) = (c)+(f)	
							End Sem		Sessional			End Sem	Internal				
							Max (a)	Min	Max (b)	Min	(c) = (a)+(b)			Max (d)			Min
1	MMSA0101-T	Traditional Animation	3	1	-	4	42	15	8	3	50					50	
2	MMSA0102-T	Writing and Storyboarding	3	1	-	4	42	15	8	3	50					50	
3	MMSA0103-T	Character Design	3	1	-	4	42	15	8	3	50					50	
4	MMSA0104-T	Communication	3	1	-	4	42	15	8	3	50					50	
5	MMSA0105-P	3D Studies Lab	-	-	2	2						50	18			50	50
6	MMSA0106-P	Life Study Lab	-	-	2	2						50	18			50	50
7	MMSA0107-P	Mix-Media Animation Lab	-	-	2	2						50	18			50	50
<b>Total -&gt;</b>			12	4	6	22	168		32		700	150			150	350	



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Faculty of Fashion & Animation

Department: Animation & Multimedia

Scheme of Course: M.Sc in Animation & Multimedia

Course Code: MMSA

Semester/Year: - II Sem

S. No	Subject Code	Subject	Period s per Week				Distribution of Marks									
			L	T	P	C	Theory				Total	Practical			Total (f) = (d)+(e)	Grand Total (g) = (c)+(f)
							End Sem		Sessional			End Sem	Internal			
							Max (a)	Min	Max (b)	Min	(c) = (a)+(b)			Max (d)		
1	MMSA0201-T	Advertising & New Media	3	1	-	4	42	15	8	3	50					50
2	MMSA0202-T	Animation Theory	3	1	-	4	42	15	8	3	50					50
3	MMSA0203-T	Western Art	3	1	-	4	42	15	8	3	50					50
4	MMSA0204-T	Digital Image Editing Using Photoshop	3	1	-	4	42	15	8	3	50					50
5	MMSA0205-P	Documentary Animation Lab	-	-	2	2						50	18			50
6	MMSA0206-P	3D Rigging & Animation Lab	-	-	2	2						50	18			50
7	MMSA0207-P	Game Design Lab	-	-	2	2						50	18			50
<b>Total -&gt;</b>			12	4	6	22	168		32		200	150			150	350



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Scheme of Course: M.Sc in Animation & Multimedia

Course Code: MMSA

Semester/Year: - III Sem

S. No	Subject Code	Subject	Periods per Week				Distribution of Marks									
			L	T	P	C	Theory				Total	Practical			Total (f) = (d)+(e)	Grand Total (g) = (c)+(f)
							End Sem		Sessional			End Sem	Internal			
							Max (a)	Min	Max (b)	Min	(c) = (a)+(b)			Max (d)		
1	MMSA0301-T	Indian Art & Animation	3	1	-	4	42	15	8	3	50					50
2	MMSA0302-T	Audio-Video Editing Tools & Technology	3	1	-	4	42	15	8	3	50					50
3	MMSA0303-P	Digital Painting Lab	-	-	2	2						50	18		50	50
4	MMSA0304-P	Compositing and Editing Techniques Lab	-	-	2	2						50	18		50	50
5	MMSA0305-P	Graphics Lab	-	-	2	2						50	18		50	50
6	MMSA0306-P	Narrative Animation Lab	-	-	2	2						50	18		50	50
7	MMSA0307-P	Programming for Games Lab	-	-	2	2						50	18		50	50
<b>Total -&gt;</b>			6	2	10	18	84		16		100	250			250	350



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Department: Animation & Multimedia

Scheme of Course: M.Sc in Animation & Multimedia

Course Code: MMSA

Semester/Year: - IV Sem

S. No	Subject Code	Subject	Periods per Week				Distribution of Marks									
			L	T	P	C	Theory				Total	Practical			Total (f) = (d)+(e)	Grand Total (g) = (c)+(f)
							End Sem		Sessional			End Sem	Internal			
							Max (a)	Min	Max (b)	Min	(c) = (a)+(b)			Max (d)		
1	MMSA0401-T	Modern Art & Animation	3	1	-	4	42	15	8	3	50				50	
2	MMSA0402-P	Experimental Motion Graphics Lab	-	-	2	2						50	18		50	50
3	MMSA0403-P	Experimental Visual Effects Lab	-	-	2	2						50	18		50	50
4	MMSA0404-P	3D Sculpting & Texturing Lab	-	-	2	2						50	18		50	50
5	MMSA0405-P	Major Project	-	-	4	4						100	36		100	100
<b>Total -&gt;</b>			3	1	10	14	42		8		50	250			250	300

**1<sup>st</sup> Semester**

# **Traditional Animation (MMSA0101-T)**

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## **Unit-I**

**10 Lectures**

Introduction to Traditional animation, Early attempts and Development of Animation in various countries: Mainstream Animation in the United States, Canadian Animation, European Animation, Japanese Animation, Animation in Other Asian Countries, Southeast Asian Animation, Animation in Australia and New Zealand, Animation in India, Animation in Iran, and African Animation.

## **Unit-II**

**10 Lectures**

Step By Step Procedure for Traditional Animation: Script, Storyboard, Soundtrack, Track Breakdown, Designs, Animatic (Leica Reel), Layouts, Dope Sheets and Production Folders, Pencil Tests, Pose Tests, Clean-Up, Ink and Paint, Backgrounds, Checking, Final Shoot/Composite, Final Edit and Dub, and The Tools of the Trade.

## **Unit-III**

**10 Lectures**

Principles of Animation: 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, and Appeal.

## **Unit-IV**

**10 Lectures**

Weight and Weighted Movement, Flexibility and Fluid Joint Movement, Generic Walks, Keys, Passing Position, Inbetweens, Walk Cycles, Personality Walks and Timing, Runs and Run Cycles, Personality Runs and Timing, Silhouetting, Storyboarding & Animatics.

## **Unit-V**

**10 Lectures**

Animating Expressions & Dialogue, Lip Sync, Acting & Emotion, Laughter, Takes, Eyes and Expressions, Sound Track Recording and Editing. Understanding traditional trends in animation

making in terms of content, Styling, Techniques and applications, studying animation films through film viewing, Appreciation, criticism, Theoretical writings, Essays, Research studies, and Mini Project.

**Reference Books:**

1. Animation: From Pencil to Pixels by Tony White
2. Animator's Survival Kit – Richard Williams
3. The Illusion of Life – Frank Thomas & OlieJohnstan
4. Animation Script to Screen (Author: Shamus Culhane)
5. Animation Writing and Development: From Script Development to Pitch by Jean Ann Wright
6. The History of Moviemaking: Animation and Live-Action, from Silent to Sound, Black-And-White to Color (Voyages of Discovery), Scholastic Trade



# Writing and Storyboarding (MMSA0102-T)

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## **Unit-I**

**10 Lectures**

Role and Responsibilities of Storyboarding Artist, career options and applications in the industry – Role of storyboard artist, skills required, career options, use and different approaches of storyboarding in the industry.

Intro to visual narration, Comics, Screenplay- Visual Narrative, sequential drawing, comics and graphic novels, screenplay basics

## **Unit-II**

**10 Lectures**

Writing for different medium – writing for radio, newspaper & journals, T.V. & films, writing for Animation, Program Proposal & Treatment. Story structure, script structure, handling the 3act play system – Structure of a story, elements of story, script and screenplay, understanding the 3 Act structure & different approaches.

## **Unit-III**

**10 Lectures**

Application of art principles – Understanding Balance, Proportion, Contrast, Rhythm, Movement, etc. Composition – scene planning & staging, tools and techniques, Field division, Perspective and camera angles, Picture composition.

## **Unit-IV**

**10 Lectures**

Theory of action and gesture – Understanding movement and action, capturing quick gestures in drawing, importance of gesture drawing. Description and visual development, tools for storyboarding – How to describe and develop a shot visually, storyboard elements and guidelines.

## **Unit-V**

**10 Lectures**

Elements of the Continuity Style – Transitions, Cuts, editing styles Pacing – Story beats, thinking for a camera, speeding up and slowing down a scene.

**Reference Books:**

1. The Art of Layout and Storyboarding (Author: Mark Byrne)
2. Shot by shot (Author: Steven D Katz)
3. Animation Script to Screen (Author: Shamus Culhane)

# Character Design (MMSA0103-T)

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**3 1 0**

## **Unit-I**

**10 Lectures**

Introduction to Character Designing, what is Character- A Character is -what he does, Motive, The Past, Reputation, Stereotypes, Network, Habits and Patterns, Talents and Abilities, Tastes and Preferences, Body.

## **Unit-II**

**10 Lectures**

Human Development- The first year, Toddlers (Age one to three), Pre School (Ages three to five, Age Six to Age Sixteen, Age Seventeen to Age Twenty-One, Young Adulthood, Mid-life, Late Adulthood, Old Age and other development issues. Assignment- Develop and design characters for a Game.

## **Unit-III**

**10 Lectures**

Developing Characters- Types of people, Classic comedy, Character types, Classic Comedy v/s Negative stereotypes, Everyman v/s one-of-a-kind, Complex and original characters, starting a Profile, Types of characters, more to think about character in a story. Assignment-Develop and design characters for an animated television cartoon series.

## **Unit-IV**

**10 Lectures**

Written description of characters, important design principles, Color theory etc. Character Studies from animated movies, Character studies from real life, Character studies from live action movies, Character studies from Computer Games. Assignment- Develop and design characters for an animated short film.

## **Unit-V**

**10 Lectures**

The process of character creation: How to get a good gesture, exaggerate from life, apply a shape language to your characters, how to get good line quality, how to proportion effects your character design, how to use perspective to draw believable characters, how to draw your character in action, how to give your character emotion and expressions. (Study of Human Skeleton, Musculature, Shape, Proportion, Character Construction, Heads, Hands, Feet, Gesture, Acting, Drapery, Body Types,

Reference, Prop Design, Analysis, Comparative chart, Model Sheet, Expression Sheet, Pose Sheet, Color chart Noodling and Polished Render.)

**Reference Books:**

1. Animation Writing & Development (Author: Jean Ann Wright)
2. Animation Script to Screen (Author: Shamus Culhane)
3. Characters and View Point by Orson Scott Card
4. Illusion of Life by Ollie Johnston & Frank Thomas
5. Figure drawing without a model- by Ron Tiner
6. Creating Characters with Personality: For Film, TV, Animation, Video Games and Graphics Novels by Tom Ban Croft and Glen Keane
7. Creating Animated Cartoons with Character: A Guide to Developing and Producing Your Own Series for TV, the Web, and Short Film by Joy Murray
8. Animation: From Pencil to Pixels by Tony White

# Communication (MMSA0104-T)

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## **Unit-I**

**10 Lectures**

Introduction to Business Communication: Importance and Objectives of Business communication, Process of communication, Barriers to effective communication, Techniques of effective communication. Forms of communication (Written, Oral, audio-visual communication).

## **Unit-II**

**10 Lectures**

Managing Business Communication: Formal and Informal communication, Non-verbal communication (Body language, Gestures, Postures, Facial expressions). Techniques to effective listening, methods and styles of reading.

## **Unit-III**

**10 Lectures**

Other aspects of communication: Story Writing, Aspects of Story writing, Storytelling. Group Discussions, Extempore, Principles of effective speech and presentations, Role playing.

## **Unit-IV**

**10 Lectures**

Introduction to managerial writing: Business letters: Inquiries, Circulars, Quotations, Orders, Acknowledgement, Claims & adjustments, Collection letters, Sales letters, drafting of different resumes, covering letters Applying for a job, Social correspondence, Invitation to speak. Official Correspondence: Memorandum, Notice, Agenda, Minutes, Circular letters.

## **Unit-V**

**10 Lectures**

Report writing and Technical Proposals: Business reports, Types, Characteristics, Importance, Elements of structure, Process of writing, Order of writing, the final draft, check lists for reports. Technical proposals, Definitions, types and format.

**Reference Books:**

1. Communication Skills, Sanjay Kumar & PushpLata, Oxford University Press
2. Business Correspondence and Report Writing, R.C. Sharma, Krishna Mohan. McGraw Hill
3. Communication for Business, Shirley Taylor, V. Chandra, Pearson
4. Business Communication- Hory Sankar Mukherjee, Oxford University Press
5. Basic Business Communication- .Lesikar I Flatley, McGraw Hill.
6. Business Communication Today ,Bovee, Thill and Chaterjee, Pearson

## **Discussion & Experiments**

1. Experimenting on 3D modeling Technique
2. 3D Production pipeline
3. Editing 3d meshes and creating 3d Texts
4. Concept of mesh smooth, mirroring, duplicating, merging, edge looping, and Exporting the models from scene to scene for facilitating faster production flow
5. Technical issues related to polygon modelling
6. Working with image reference while modelling
7. Managing huge sets and models using proxy meshes.
8. 3D for architectural walk through
9. Concepts of materials and textures, Introduction to UV unwrapping&UV mapping.
10. Editing textures for organic and Inorganic object, Use and creation of Bump, displacement and render passes.
11. 3D character modelling using Autodesk Maya
12. 3D Character Sculpting using Z- Brush Software or Mudbox
13. 3D Modeling for Game

### **Reference Books:**

1. Autodesk Maya Bible

## Life Study Lab (MMSA0106-P)

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### **Discussion & Experiments**

1. Working on human anatomy. Study of human muscle and anatomy with the help of reference images and Model. Human Body Proportions and differences of human body according to age and sex. Drapery on human body.
2. Study of human gesture and acting with quick sketching (1 Minute, 5 Minutes and 20 Minutes Drawing). Outdoor sketching to understand body movement, action and human behavior in different environments.
3. Working on Human Head. Portrait Study of different types of human races. Facial expressions and emotions.
4. Study of two legs and four legs animals' body balance and behavior. Understanding of anatomical differences between carnivorous and Herbivorous animals.
5. Animal anatomy study with the help of reference images. Outdoor study.

### **Reference Books:**

1. Figure study by Aditya Chari
2. Perspective drawing by Joseph D'Amelio
3. Bridgman lectures, Villpu lectures (CD)
4. Drawing & Anatomy by Victor Perard
5. Drawing Animals by Victor Perard
6. Animal Anatomy for Artists, The Elements of Form by Eliot Goldfinger



## Mix-Media Animation Lab (MMSA0107-P)

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### Discussion & Experiments

1. Introduction to Mix Media Animation, Types of Animation, Types of Mix Media Animation, Importance of Pre-production, Production, and Post Production Process.
2. Idea – script – treatment, designing characters and prop, planning your shots – basic film grammar/composition of shots, the storyboard, editing – Animatics and story reels.
3. Explore various software like Photoshop, Monkey Jam, Adobe Illustrator, After Effects Rotoscoping Animation, using live action videos, Cutout Animation.
4. Hardware requirements for stop motion animation, Clay Animation, Stop Motion Techniques, Flip book, Animation set designing- interior & exterior, Clay Character Modeling & Animation, Technique of working in groups, Budgeting, Time and Money.
5. Mix Media animation work with different tools like: Digital medium, Water colors, Poster colors, Oil Pastel colors, Acrylic colors, Pencil colors, Charcoal, Pen and Ink, Using waste material such as sand, stones, grass, hardboard, different types of color papers & clay etc. For creating experimental animation film.

### Reference Books:

1. The Advanced Art of Stop Motion By Ken A. Priebe
2. The Kultz Book of Animation: How To Make Your Own Stop Motion Movies By Nicholas Berger and John Cassiday
3. The Animator Inside Of You How To Make Stop Motion and Clay Animation Basic Tricks and Tips By Chris Capps
4. Richard Taylor, “Encyclopedia of Animation Techniques”, New Burlington Books, 2002.
5. Tom Gasek, “Frame by Frame Stop Motion: Non-Traditional Approaches to Stop Motion Animation”, Taylor & Francis, 2013.
6. Tony White, “Animation from Pencils to Pixels: Classical Techniques for Digital Animators”, Taylor & Francis, 2006.
7. Stop Motion: Craft skills for model animation By Susannah Shaw

# **2<sup>nd</sup> Semester**

# **Advertising & New Media (MMSA0201-T)**

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## **Unit-I**

**10 Lectures**

Advertising: Introduction, Definition, Functions and criticism, History of Advertising, Types of Advertising, Ethics and ethical issues. Concepts of Branding.

## **Unit-II**

**10 Lectures**

Creativity in advertising, Copywriting: A creative exercise- classification of copy and its characteristics, Designing and lay outing of a print ad, designing for digital medium, USP, Corporate identities, Role and Rules of Visual Communication in Advertising.

## **Unit-III**

**10 Lectures**

Media and medium; traditional and folk media, mass media, broadcasting and narrowcasting, emerging media, understanding new media, Online Marketing Basics, web revolution in Marketing & Advertising, Online advertising and its forms, impact.

## **Unit-IV**

**10 Lectures**

Psychological Aspects and Advertising, Understanding ICT and Challenges to and from ICT, E-Commerce, E-Governance, Role of Animation in Advertising.

## **Unit-V**

**10 Lectures**

Social Media: Defining and understanding, Social Networking sites and Marketing: Introduction, Nature Scope and application. Overview, origin popularity and evaluation of Facebook, Orkut, Twitter, Linked In and other SNWs. Reinventing: Advertising and Brand Building with Social Networks, virtual reality, RSS, SEO, SEM, The Formidable Fourth Screen (Mobile), advantages and dis-advantages.

**Reference Books:**

1. Animation: Integrated Advertising, Promotion and Marketing Communications, Kenneth E. Clow and Donald Baack, Second Edition, Prentice Hall of India.
2. Marketing Communications Management, Concepts & Theories, Cases and practices, Paul Copley, Elsevier
3. Advertising management, David A. Aaker, Rajeev bata, John G. Myes, Pearson education.
4. Advertising management, Jafar Mahmud, shubhi publications
5. Ogilvy on Advertising, Prion books
6. Social psychology, Arun Kr. Singh, PHI

# **Animation Theory (MMSA0202-T)**

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## **Unit-I**

**10 Lectures**

The History and Science of Animation-Persistence of Vision, Old Technologies, Animation before Disney, Introduction to major art movements- Art Movements and Aesthetics (Indian and Western)

## **Unit-II**

**10 Lectures**

Introduction to Narrative Structures – Different modes and mediums of storytelling Traditional animation – Traditional Animation Process, Terms and definitions, early examples, classic films.

## **Unit-III**

**10 Lectures**

Digital Animation – Digital technology, CGI Contemporary trends in Animation – Contemporary storytelling, stylization and techniques.

## **Unit-IV**

**10 Lectures**

Ideas for short animation films – Developing ideas, research on subject, creating the world for the story. Description and visual development, tools for storyboarding – How to describe and develop a shot visually, storyboard elements and guidelines.

## **Unit-V**

**10 Lectures**

Role of Sound in Animation – importance of sound, sound design, tools and techniques Elements of the Continuity Style – Transitions, Cuts, Editing styles.

### **Reference Books:**

1. Animation Script to Screen (Author: Shamus Culhane)
2. The Art of Layout and Storyboarding (Author: Mark Byrne)
3. Shot by shot (Author : Steven D Katz)
4. The Illusion of Life – Essays on Animation, Edited by Alan Cholodenko, Power Publication in association with Australian Film Commission, SYD, 1991

## Western Art (MMSA0203-T)

**L T P**  
**3 1 0**

### **Unit-I**

**10 Lectures**

About world Art and Western Art. Egyptian civilization its philosophy and Art Form.

### **Unit-II**

**10 Lectures**

About Greek Art. Greek Geometric period and Greek Vas Painting. Sculpture of Greek Archaic Period.

### **Unit-III**

**10 Lectures**

Artwork of Greek Classical period Artwork of Greek Hellenistic period.

### **Unit-IV**

**10 Lectures**

Evaluation of Greek Renaissance Art. Art of High Renaissance.

### **Unit-V**

**10 Lectures**

Modernization of Western Art. Romanticism, Impressionism, Cubism, Surrealism.

#### **Reference Books:**

1. Animation The History of Western Art by Sandhya Ketkar
2. ART OF THE WESTERN WORLD From Ancient Greece to Post Modernism Paperback – 1989  
by Michael Wood
3. ARCHAIC AND CLASSICAL GREEK ART (OXFORD HISTORY OF ART) ROBIN OSBORNE
4. HISTORY OF MODERN ART (7TH EDITION)H. H. ARNASON, ELIZABETH C. MANSFIELD
5. Greek Sculpture: The Classical Period, a Handbook (World of Art), 1985 by John Boardman  
(Author)
6. Greek Art (Fourth Edition) (World of Art) –1996 by John Boardman (Author)
7. The Story of Art by E.H. Gombrich

8. Art Through the Ages by Helen Gardner
9. An Introduction to Art and Culture in Ancient Egypt Art in Ancient Egypt Volume Christopher Witcombe
10. A Survey of Art in Ancient Egypt from Predynastic Times to the Graeco-Roman Period
11. Art in Ancient Egypt Volume 2 By Christopher Witcombe
12. Art in the Hellenistic World: An Introduction Paperback – October 6, 2014 by Andrew Stewart (Author)
13. Greek Art: A Study of the Formal Evolution of Style By Rhys Carpen

# Digital Image Editing Using Photoshop (MMSA0204-T)

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3 1 0

## Unit-I

**10 Lectures**

Introduction of Photoshop : Creating a New File, Main Selections, Picking color, Filling a selection with color, More ways to choose colors and fill selections.

## Unit-II

**10 Lectures**

Painting with paintbrush tool, Using the magic wand tool and applying a filter, Saving your document Color Mode, Gray Scale Color Mode, RGB Color Mode, CMYK Color Mode, Bitmap Mode, Open a file, Preference.

## Unit-III

**10 Lectures**

Foreground & background, Changing Foreground and Background colors, Using the Large color selection Boxes and small color swatches.

## Unit-IV

**10 Lectures**

Using the Eyedropper tool to sample Image color, Changing the Fore ground Color While using a Painting Tool, Using Brushes, Selecting the Brush Shape.

## Unit-V

**10 Lectures**

Drawing a vertical and Horizontal Straight lines with any brush, Drawing connecting Straight Lines (at any angle) with any brush, creating a New Brush, Saving Brushes, Loading Brushes, creating a Custom Brushes, Using the Painting Modes, Fade, Airbrush Options, Pencil Options.



**Reference Books:**

1. 5 Tips for Multimedia Enhanced Teaching and Learning—Technology Enhanced Learning. (n.d.).
2. Laskevitch, S. (2020). Adobe Photoshop: A complete course and compendium of features. San Rafael, CA: Rocky Nook.
3. Carlson, J. (2020). Adobe photoshop elements 2020 classroom in a book. ADOBE Press.
4. Concepcion, R. (2021). Adobe photoshoplighroom classic classroom in a book. S.l.: adobe press.
5. Anil Madan Graphics Design in Delhi—Justdial. (n.d.).
6. Nichols, R. (2020). Mastering Adobe Photoshop Elements 2020: Supercharge your image editing using the latest features and techniques in Photoshop Elements. Brimingham, UK: Packt Publishing.
7. Mayer, R. E. (2002). Multimedia learning. In Psychology of learning and motivation (Vol. 41, pp. 85-139). Academic Press.
8. Team, A. C. (2013). Adobe Photoshop CC Classroom in a Book. Adobe Press.
9. Gyncild, B. (2012). Adobe Photoshop CS6: classroom in a book. Peachpit.

## Documentary Animation Lab (MMSA0205-P)

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0 0 2

### Discussion & Experiments

1. Introduction to Documentary Animation Films
2. Study and discussions on few awarded and Oscar nominated animation documentary films Study and discussions on few awarded and Oscar nominated documentary films
3. Case Studies
4. Documentary Animation Film Makers
5. Discussion: Story structures, Story stages from prep to edit, Defining a story style, Scene-based storytelling, Theme-based storytelling, Visual storytelling, Characters and narrators, Research and access, Production and timescales.
6. Discussion: Production Designs-Camera Rules, Composition, Staging & Formats, Rhythm & Style Variety, Value & Color.
7. Discussion and Practice: Concept writing on various topics on social issues.
8. Discussion and Practice: Implementation of concept into visual storytelling.
9. Discussion and Practice: Audio-visual presentation by the end of semester.
10. Assignment & workshop based on Pre-Production: Concept, Story, Script, Screen-Play, Voice Recording, Inspirational Sketches, Character Design, Prop Design, Story Boarding, Animatic, Layout (Final Posing with Background Design)

### Reference Books:

1. Producing Independent 2D Character Animation: Making and Selling a Short Film by Mark Simon
2. Animation from Script to Screen By Shamus Culhane
3. Animated Documentary By Annabelle Honess Roe
4. Simplified Drawing for Planning Animation By Wayne Gilbert
5. Sketching for Animation: Developing Ideas, Characters and Layouts in Your Sketchbook by Peter Parr
6. Dream Worlds: Production Design for Animation (Library Binding) by Hans Bacher, Don Hahn

7. Layout and Composition for Animation By Ed Ghertner
8. Producing with passion: Making Films that Change the World (Author: Dorothy Fadiman, Tony Levelle)
9. The Five C's of Cinematography (Author: Joseph V. Mascelli)
10. Television Production Hand Book (Author: Herbert Zettl)

### Discussion & Experiments

1. Introduction to Animation: Review course outline, intro to projects. Intro to digital animation: Intro to Maya animation interface and keyframing animation.
2. Using of Key frame: History of animation: Preparing a scene for key framing using groups. Node Hierarchy. Overview of Bouncing ball animation (squash and stretch). Creating Playblast animations.
3. Rigging with IK/FK: Introduction to Rigging: Adding a joint to simple objects. FK and IK kinematics.
4. Skinning: Skinning and painting weights: Painting skin weights and adjusting joint orientation.
5. Driver and Driven Key, Motion path: Advanced rigging systems and controls: Using Human IK to rig a character. Integrating Maya into various workflows Lab: Maya animation techniques: Motion Path animation & Set Driven Key, expressions and dynamics

### Reference Books:

1. Maya Help File (in Maya menu, F1 key)
2. The Art of Maya: An Introduction to 3D Computer Graphics by Autodesk Maya Press
3. Getting Started in 3D with Maya by Adam Watkins, Focal Press, 2012
4. Introducing Autodesk Maya 2016: Autodesk Official Press by Dariush
5. Derakhshani, Sybex, 2015
6. Mastering Autodesk Maya 2016: Autodesk Official Press by Todd Palamar, Sybex, 2015
7. Autodesk Maya 2014 Essentials by Paul Naas, Sybex, 2013
8. Digital Art Masters series by 3DTotal publishing Character Animation Fundamentals by Steve Roberts, Focal Press, 2012
9. Rig it Right! Maya Animation Rigging Concepts by Tina O’Hailey, Focal Press, 2013
10. Sculpting the Figure in Clay: An Artistic and Technical Journey to Understanding the Creative and Dynamic Forces in Figurative Sculpture 1st Edition

# Game Design Lab (MMSA0207-P)

**L T P**  
**0 0 2**

## Discussion & Experiments

1. Making Games: i) Game Play and Game Data ii) Designers and Development Process iii) The Designer's role in Game Development Process
2. Game Play and Game Mechanics Game Play and Game Mechanics i) Game play and the fun factor ii) Play Elements iii) Mechanics of Game Play iv) Modeling Reality
3. On Movement i) Graphic Interface Requirements ii) Game Statistics for Movement iii) Terrain Features iv) Movement Algorithm
4. Game Characters and Items i) Creating Player Characters ii) Item Categories iii) Game functions of Items
5. Storytelling in Games i) Stories in Games ii) Structuring Stories in Games iii) Linking plot o game play iv) Creating a Game Story
6. Assignment on Game Design and Development i) Pre-Production ii) Production iii) Post-Production

## Reference Books:

1. Basics of Game Design by Michael Moore (2011), CRC Press
2. Level Up! - The Guide to Great Video Game Design, by Scott Roge
3. Fundamentals of Game Design, By Ernest W Adams

**3<sup>rd</sup> Semester**

# Indian Art & Animation (MMSA0301-T)

**L T P**  
**3 1 0**

## Unit-I

**10 Lectures**

Pre-Historic rock paintings and Art of Indus valley, Buddhist and Jain Art - Pre-Historic Art -Period and location, sites, objective and characteristics. Mohenjo-Daro and Harappa (study of seals, sculptures, terracotta). Art in caves of Ajanta, (Location, period, No. of caves, Chaitya and Vihara, Paintings and Sculptures subject matters and technique etc.) Ellora. Pal and Jain school.

## Unit-II

**10 Lectures**

The Mughal, Rajasthani and Pahari schools of Miniature painting- Origin and Development. Sub-Schools of Rajasthani painting-Mewar, Bundi, Jodhpur, Bikaner, Kishangarh, and Jaipur. Sub-Schools of Pahari painting-Basoli, Guler, Kangra Main features of the Rajasthani, Mughal and Pahari Schools ..

## Unit-III

**10 Lectures**

The Bengal School of Painting and the Modern Trends in Indian Art - Introduction to the Bengal school of painting, Origin and development, main features of Bengal school of painting. Artists and their famous paintings Nandlal Bose, Abanindranath Tagore, Kshitindranath Majumdar, Ram gopal vijayvargiya. Study and appreciation of contemporary (Modern) Indian artist and their paintings-Raja Ravi verma, Jamini Roy, Amrita sher gil, M.F.Hussain.

## Unit-IV

**10 Lectures**

Graphic Storytelling in India – An overview of graphic narratives and their evolution Understanding Comics and Sequential Art – Comic art and its derivatives Planning character design, layout design, illustration style, composition, staging, backgrounds pertaining to Indian culture & tradition – Concept art and production design for Indian stories Indian Archetypes v/s Stereotypes – Exploring heroes and villains in Indian mythology Popular Indian Graphic novels – Case studies of some graphic novels.

## Unit-V

### 10 Lectures

Animation as a storytelling (narrative) medium – Exploring the art of storytelling through animation  
Visual Concepts - Character Exploration, Backgrounds & Storyboards for animation Feature animation  
– Case studies of some Indian Animation feature films Personal films and expression - Case studies and  
scope of independent animation films Advertisements and Education - Use of animation in  
advertisements in India.

#### Reference Books:

1. History of Indian Art by Devender kumari , Paperback.
2. Bhartiya chitrakala ka Itihas- Dr. Avinash Bahadur verma, Prakash book dipo,Bareli( U.P.)
3. The Heritage of Indian art-Dr. Vasudev Sharan Agarwal
4. Indian Painting-Percy brown,YMCA Publishing house,Massey hall,Jai singh road, New Delhi
5. Story of Indian Art- S.k.Bhattacharya, Atma Ram & sons, Kashmiri gate, Delhi.
6. History of India and Indonesian Art- A.K.Coomaraswamy, Dover publication,Inc., New york.
7. A Passage to India: From Traditional Miniature Paintings to Contemporary Multi-Media Works,  
Art from India Is Strengthening Its Presence on the American Art Scene by Hart, JaneArt  
Business News, Vol. 29, No. 5, May 2002
8. Rajput PaintingBy Sherman E. Lee; George MontgomeryUnknown, 1960
9. The Art of Mughal IndiaBy Stuart C. WelchH.N. Abrams, 1963
10. Indian Painting in the Punjab Hills: EssaysBy W. G. Archer; Victoria and Albert MuseumH. M.  
Stationary Off., 1952
11. Animation Script to Screen (Author: Shamus Culhane)
12. The Art of Layout and Storyboarding (Author: Mark Byrne)
13. Shot by shot (Author: Steven D Katz)
14. The Illusion of Life – Essays on Animation, Edited by Alan Cholodenko, Power Publication in  
association with Australian Film Commission, SYD, 1991



# **Audio-Video Editing Tools & Technology (MMSA0302-T)**

**L T P**  
**3 1 0**

## **Unit-I**

**10 Lectures**

Basic art of filmmaking using currently available digital software/hardware tools. Overview of preproduction planning- program ideas, production models.

## **Unit-II**

**10 Lectures**

Preproduction & Post-Production activities–Writing the program proposal, preparing a budget, presenting the proposal, Writing the script, Director’s roles & procedures, Visualization & sequencing, Shooting, Aesthetics of Editing, Role of audio & effects, Mix and composite, source material into a finished fine edit product.

## **Unit-III**

**10 Lectures**

Digitization, AV data from tape to computer hard disk. Understanding the playback deck, understanding signal processing of S-video, fire wire and composite video.

## **Unit-IV**

**10 Lectures**

Editing Work Station management – disk space & speed requirement. Broadband and streaming video technology.

## **Unit-V**

**10 Lectures**

Using Editing Software–editing basics and implementation of various techniques used in non- linear editing. Mastering final edit line – audio levels, color correction, audio mixing, mixed and un-mixed versions, importing and applying compatible graphics files. Understanding compression and its affects along with various methods.

### **Reference Books:**

1. Foley, Bridget (2015). Hugo & Rose: A Novel. St. Martin's Press
2. Read PixologicZBrush 4R7: A Comprehensive Guide Online by Sham Tickoo | Books. (n.d.).

3. Savage, S. (2011). *The Art of Digital Audio Recording: A Practical Guide for Home and Studio* (Illustrated edition). Oxford University Press.
4. Self, D. (2010). *Small Signal Audio Design*. Taylor & Francis.
5. Reisz, K., & Millar, G. (1971). *The technique of film editing*.
6. Team, A. C. (2012). *Adobe Audition CS6 Classroom in a Book*. Adobe Press.

## Digital Painting Lab (MMSA0303-P)

L T P  
0 0 2

### Discussion & Experiments

1. Introduction to Art, digital Art, what is digital painting - it's various forms- techniques, utility, Talents and Abilities.
2. Digital tools, various softwares used for digital painting, hardwares
3. Developing paintings- Types of paintings, BG paintings, landscapes, portraits, illustrations, matte paintings etc.
4. Written description of digital paintings, important Art principles, Art elements, Color theory, Study of light on various surfaces, Study of reflection and refraction, creating textures, using layers, Understanding Hue, Saturation and Histogram, Color level and curves, Using brushes etc.
5. Advantages of digital painting for production, comparison between traditional and digital paintings, case studies on digital artists and their work
6. Assignments:
  - i) Develop and design BG paintings for an animated short film.
  - ii) Develop and design Matte paintings for a Game.
  - iii) Develop and design portraits on a theme.

### Reference Books:

1. Illusion of Life By Ollie Johnston & Frank Thomas
2. Figure drawing without a model- by Ron Tiner
3. The Digital Matte Painting Handbook by David B.

## Compositing and Editing Techniques Lab (MMSA0304-P)

L T P  
0 0 2

### Discussion & Experiments

1. Introduction to Compositing – Basics concepts about compositing, Matching Foreground & Background – Techniques of matching and extending sets and backgrounds.
2. Masking – Creating Masks, using alpha channels, Isolating A Moving Object from A Footage – Rotoscopy, Using Roto Brush and masking to isolate an area of a frame.
3. Camera – Camera types, properties and movements, Tracking – Motion Tracking, Camera Tracking
4. Creating A Cinematic Look – Using color correction, depth of field and other effects to create cinematic look, Creating Transparent Screens – Using layers and effects to create screens and HUDs
5. Transitions & Editing Techniques – Understanding transitions and continuity editing, Case Studies – Review films and analyze the effects used

### Reference Books:

1. Maya The Art and Science of Digital Compositing by Ron Brinkmann
2. Digital Compositing for Film and Video Compositing, Visual Effects by Steve Wright
3. Digital Visual Effects and Compositing by Jon Gress
4. In the Blink of an Eye by Walter Murch
5. Art of the Cut: Conversations with Film and TV Editors by Steve Hullfish

# Graphics Lab (MMSA0305-P)

L T P  
0 0 2

## Discussion & Experiments

1. Introduction to Graphics, Understanding graphic designing process, Interrelation between graphic designing and Advertising, Introduction to Advertising, Design basics - conventional forms - techniques, Tools, utility.
2. Understanding the vast area of Ad designing, various types of Advertisements, corporate Identities, Introduction to typography, Advanced typography. Campaign designing.
3. Principles and elements of design, Layout and references, Visualizing idea, Introduction to visualization and copy writing for an Ad, Illustration designing, designing for various media, Print media and digital media, printing techniques.
4. Introduction to emerging media, understanding the latest trends, soft wares and hard wares used in designing, developing raster and vector illustrations.
5. Creating images for print & web, managing image size, Managing file size, Web page designs, Packaging design, presentation skills., case studies on famous Ad campaign.
6. Graphic design assignments: i) Design an Ad campaign for a product ii) Develop an Ad campaign on a social topic iii) Presentation

## Reference Books:

1. Advertising management, Jaishree jethwaney ,Shruti jain , Oxford university
2. The design process by Karl Aspelund
3. Fundamentals of Graphic Design by Gavin Ambrose/Paul Harris
4. Adobe Photoshop CC Classroom
5. Adobe Illustrator CC Classroom
6. Mass Communication in India by Keval J. Kumar
  - a. Web Design in a Classroom by Jeremy Osborn , Jennifer Smith
  - b. Killer UX Design by Jodie Moule

## **Discussion & Experiments**

1. Idea Creation for Animation
2. Concept Development
3. Visual Storytelling
4. Animation Characters
5. Principles of Animation
6. Various Runs, Walks, Jumps, Skip and Leap
7. Flexibility
8. Overlap
9. Overlapping Action
10. Weight & Force
11. Anticipation
12. Takes & Accents
13. Timing, Staggers, Wave & Whip
14. Dialogue & Action

### **Reference Books:**

1. Maya Simplified Drawing for Planning Animation by Wayne Gilbert
2. The Animator's Survival Kit By Recharad Williams
3. Animation: The Mechanics of Motion By Chris Webster
4. Timing for Animation By Harold Whitaker
5. Acting for Animators By Ed Hooks
6. Sketching for Animation: Developing Ideas, Characters and Layouts in Your Sketchbook By Peter Parr
7. Character Animation Fundamentals: Developing Skills for 2D and 3D Character Animation by Steve Roberts

# Programming for Games Lab (MMSA0307-P)

**L T P**  
**0 0 2**

## Discussion & Experiments

1. Basic interface and commands of UDK, Intro to Static Mesh Browser, Actor Class Browser
2. Project 1: Creating Environments, Project 2: Building the Stage, Project 3: Creating the backdrop and placing the assets in the level
3. Project 1: Advanced Kismet: Creating a Third Person Platformer, Project 2: Mission Design
4. Project 1: Level and Camera Creation, Project 2: Adding player functionality
5. Project 1: Collectables, Project 2: Finalizing the Mission

## Reference Books:

1. Mastering UDK Game Development Hotshot, eight projects specifically designed to help you exploit the Unreal Development Kit to its full potential, John P. Doran, Packt
2. Learning Unreal Engine Android Game Development, Nitish Mishra, Packt
3. The Essential Beginner's Guide to Getting Started with UDK: How to techniques, tips and insight by Alex Galuzin, World of Level Design.com

# **4<sup>th</sup> Semester**



# Modern Art & Animation (MMSA0401-T)

**L T P**  
**3 1 0**

## **Unit-I**

**10 Lectures**

Origin of Modern Art, major stylistic movements, periods and artists. Neoclassicism-Ingre, Jacques Louis David, Jean August Dominique, Romanticism-Delacroix, Goya, Realism– Millet, Corot, Courbet, Manet –Artist and their paintings.

## **Unit-II**

**10 Lectures**

Impressionism – Claude Monet, Renoir, Dega. Post- Impressionism- Paul Cezanne, Paul Gauguin, Vincent Van Gogh, Seurat and their paintings.

## **Unit-III**

**10 Lectures**

Fauvism, Cubism –Picasso, Dadaism, Surrealism, Expressionism, Pop Art - Artist and their paintings.

## **Unit-IV**

**10 Lectures**

Case studies – Animation films inspired by modern art.

## **Unit-V**

**10 Lectures**

Case studies – Contemporary Animation.

### **Reference Books:**

1. Gardner's Art Through the Ages: A Global History, Vol. 1, 14th Edition (Paperback) - Fred S. Kleiner
2. Art History, Combined Volume (4th Edition) (Paperback) - Marilyn Stokstad, Michael W. Cothren
3. History of Modern Art (7th Edition) -H. H. Arnason, Elizabeth C. Mansfield
4. Life with Picasso -Francoise Gilo
5. Art & Today - Eleanor Heartney

## Experimental Motion Graphics Lab (MMSA0402-P)

L T P  
0 0 2

### Discussion & Experiments

1. Introduction to Motion Graphics Introduction to Motion Graphics – What is Motion Graphics, key concepts and applications
2. Multiplaning, Keyframing – Using layers to create depth, adding key frames, layer attributes and effects, graphic editor
3. Camera – Camera types, Orientation, Depth of Field, limitations
4. Camera Movements – realistic camera, purpose driven camera movements
5. Effects and Presets – Using the inbuilt effects and presets
6. Particle Systems – Using customized particle systems
7. Storytelling – Script, Story, Message, Pacing, Hierarchy
8. Time Remapping – Slowing, speeding up, remapping
9. Kinetic Typography – Storytelling with text Animation
10. Assignment Review – Review the assignment shots completed during the course

### Reference Books:

1. The Visual Effects Producers: Understanding the Art and Business of VFX By Charles Finance and Susan Zwerman.
2. The VES Handbook of Visual Effects Edited by Jeffrey A. O Kun and Susan Zwerman.
3. Compositing, Visual Effects, Essential for aspiring artists By Steve Wright
4. The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics by Ron Brinkmann
5. The Visual Effects Producer: Understanding the Art and Business of Vfx by Charles Finance
6. Digital Compositing for Film and Video by Steve Wright

## Experimental Visual Effects Lab (MMSA0403-P)

L T P  
0 0 2

### Discussion & Experiments

1. Visual Effects before Computers - Stop Motion Animation, Puppets and Animatronics Matte Painting, Miniatures, Projections, Forced Perspective with Live Action – Techniques of creating and extending sets and backgrounds.
2. Blue or Green Screen Composites – Using Chroma keying Digital Effects, 2D and 3D CGI – Two dimensional and three-dimensional computer-generated imagery.
3. Production Breakdown – Analyzing and breaking down the production process Pre-Production and Preparation – Arranging Team, Basic VFX Technologies and Equipment.
4. Production – Shooting, On Set Operations, On-Set References, Motion Control, In-Camera Practical Effects, Motion Capture Post Production – Digital Workflow, Changes, Rendering
5. Rendering – Completing and exporting the shot. Assignment Review – Review the assignment shots completed during the course.

### Reference Books:

1. The Visual Effects Producers: Understanding the Art and Business of VFX By Charles Finance and Susan Zwerman.
2. The VES Handbook of Visual Effects Edited by Jeffrey A. O Kun and Susan Zwerman.
3. Compositing, Visual Effects, Essential for aspiring artists By Steve Wright
4. The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics by Ron Brinkmann
5. The Visual Effects Producer: Understanding the Art and Business of Vfx by Charles Finance
6. Digital Compositing for Film and Video by Steve Wright

## 3D Sculpting & Texturing Lab (MMSA0404-P)

**L T P**  
**0 0 2**

### **Discussion & Experiments**

1. Introduction of 3D: What is 3D, Elements of 3D in detail, what is texture and various methods of texturing, Uses of sculpting and texturing in multimedia. Difference between low and high poly.
2. Low poly to high Poly detailing: how to prepare basic figure using default shapes, work with sub tools and layers, making mask for detail in specific part, setup posing.
3. Refine or polishing and applying texture: Introduction of Zbrush and substance painter, how to use alpha maps for more detailed sculpting, Use of different brushes and spotlight tool.
4. Optimizing Model: How use decimation process, convert model high to low poly, Uses of color profiles for further texturing process.
5. Various texturing techniques: Learn to apply texture on model, learn uv mapping process.

### **Reference Books:**

1. Vitamin 3-D: New Perspectives in Sculpture and Installation Adriano Pedrosa
2. Sculpting the Figure in Clay: An Artistic and Technical Journey to Understanding the Creative and Dynamic Forces in Figurative Sculpture 1st Edition

## **Major Project (MMSA0405-P)**

**L T P**  
**0 0 4**

An individual project will be compiled by the student under the supervision of an internal supervisor. Every student will choose one from the syllabus as per their area of interest. Both the subject and the name of internal supervisor will be duly approved by the academic in charge of the institute. The Portfolio will be submitted by the students at least one week prior to the final examination. This Portfolio will be reviewed by the internal examiners appointed by the HOD.