

Mahakaushal University, Jabalpur (M.P.)



Scheme & Syllabus

For

B.Sc. with Research/honors

Animation & Multimedia

2023-24

Duration of Course: 4 Years

Examination Mode: Semester

Examination System: CBCS

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

Credit Distribution

SEMESTER SYSTEM			Credits Required								
			Sem	MJ	MI	DSE	GEC/ OEC	AECC	SEC SB/VB	FW	Total Credit
Level 5	Certificate	1 st Year Pass (Sem I+Sem II)	I	6	6		4	4			20
			II	6	6		4	4			20
Level 6	Diploma	2 nd Year Pass (Sem III+Sem IV)	III	6	6		4		4		20
			IV	6	6		4		4		20
Level 7	Degree	3 rd Year Pass (Sem V+Sem VI)	V	6		4			4	6	20
			VI	6		8				6	20
Level 8	Honors/ Research	4 th Year Pass (Sem VII+Sem VIII)	VII	6	4	4				6	20
			VIII	6	4					10	20
Total Credit				48	32	16	16	8	12	28	160

SEMESTER SYSTEM			Credits Required								
			MJ	MI	DSE	GEC/ OEC	AECC	SEC SB/VB	FW	Total Credit	
Level 5	Certificate	1 st Year Pass	12	12		8	8			40	
Level 6	Diploma	2 nd Year Pass	12	12		8		8		40	
Level 7	Degree	3 rd Year Pass	12		12			4	12	40	
Level 8	Honors/ Research	4 th Year Pass	12	8	4				16	40	
Total Credit			48	32	16	16	8	12	28	160	

For Regular Students Course Duration:

Min. Years for Completing UG Degree	3 Years
Min Years for Completing UG (Hons.) Degree	4 Years
Maximum Years for Completing UG Degree	6 Years
Max Years for Completing UG (Hons.) Degree	8 Years

Faculty of Science									
Animation & Multimedia									
Sem	Major	Minor	DSE	Open Elective/ Generic Elective	AECC	SEC		FW	Total Credits
						Skill Based	Value Based		
1	MJ-I (4+2)	MN-I (4+2)		OEC-I (4)	AECC-I (4)				20
2	MJ-II (4+2)	MN-II (4+2)		OEC-II (4)	AECC-II (4)				20
3	MJ-III (4+2)	MN-III (4+2)		OEC-III (4)		SECSB-I (4)			20
4	MJ-IV (4+2)	MN-IV (4+2)		OEC-IV (4)		SECSB-II (4)			20
5	MJ-V (4+2)		DSE-I (4)				SECVB (4)	Field Work (6)	20
6	MJ-VI (4+2)		DSE-II (4) DSE-III (4)					Internship (6)	20
7	MJ-VII (4+2)	MN-V (4)	DSE-IV (4)					Minor Project (6)	20
8	MJ-VIII (4+2)	MN-VI (4)						Major Research Project (10)	20
Total Credits	48	32	16	16	8	8	4	28	160

Major/Minor

Course Code	Category	Paper	Credits
BBSA101T	Major	History of Animation	4
BBSA101P	Major	Basic Animation Lab	2
BBSA102T	Minor	Introduction to Visual Studies	6
BBSA201T	Major	Introduction to Multimedia	4
BBSA201P	Major	Basic 3D Lab	2
BBSA202T	Minor	Principles of Animation	4
BBSA202P	Minor	Film Making Lab	2
BBSA301T	Major	Visual Effects	4
BBSA301P	Major	Visual Effects Lab	2
BBSA302T	Minor	Animation Production Concepts	4
BBSA302P	Minor	Interactive Animation Techniques Lab	2
BBSA401T	Major	Audio Video Editing	4
BBSA401P	Major	Video Editing and Digital Intermediate Lab	2
BBSA402T	Minor	Basics of Programming	4
BBSA402P	Minor	Animation Techniques Lab	2
BBSA501T	Major	Research in Gaming	4
BBSA501P	Major	Advance 3D Modelling, Texturing, Lightning & Rendering Lab	2
BBSA601T	Major	Visual Narratives	4
BBSA601P	Major	2D Digital Animation Lab	2
BBSA701T	Major	Compositing & VFX	4
BBSA701P	Major	3D Animation, Rigging & Skinning Lab	2
BBSA702T	Minor	Direction for Animation	4
BBSA801T	Major	Motion Graphics	4
BBSA801P	Major	3D Motion Graphics & Dynamics Lab	2
BBSA702T	Minor	Special Effects in Feature Films	4

Department Specific Elective

BBSA101D-I	DSE	Film & Documentary Script Writing	4
BBSA101D-II	DSE	Fundamentals of Theatre and Acting	4
BBSA102D-I	DSE	Classical Animation	4
BBSA102D-II	DSE	Digital Painting	4
BBSA103D-I	DSE	3D Compositing for Camera	4
BBSA103D-II	DSE	Storytelling Using Multimedia	4
BBSA104D-I	DSE	UI & UX Designing	4
BBSA104D-II	DSE	Product Designing and Visualization	4

Skill Enhancement Course (Skill Based) (Any Two)

Course Code	Category	Paper	Credits
BBSA101SB	SEC-SB	Basic Photography	4
BBSA102SB	SEC-SB	Game Development	4
BBSA103SB	SEC-SB	Web Design	4
BBSA104SB	SEC-SB	Matte Painting	4
BBSA105SB	SEC-SB	Sound Design	4

Open Elective Compulsory Course/ Generic Elective Compulsory Course

Course Code	Category	Paper	Credits
OECC101-I	OEC	Fundamentals of Computer	4
OECC101-II	OEC	Environmental Studies	4
OECC102-I	OEC	Entrepreneurship	4
OECC102-II	OEC	Principle of Management	4
OECC103-I	OEC	Nutrition and Fitness	4
OECC103-II	OEC	Current Concerns in Public Health Nutrition	4
OECC104-I	OEC	Travel and Tourism	4
OECC104-II	OEC	Tourism Operation Software Skills	4

Ability Enhancement Compulsory Course

Course Code	Category	Paper	Credits
AECC101	AECC	English Language-I	4
AECC102	AECC	English Language-II	4

Skill Enhancement Course (Value Based) (Any One)

Course Code	Category	Paper	Credits
SECVB101	SEC-VB	Constitution of India	4
SECVB102	SEC-VB	Yoga in Life	4
SECVB103	SEC-VB	National Service Scheme (NSS)	4
SECVB104	SEC-VB	Health & Wellness	4
SECVB105	SEC-VB	Sports	4

Field Work

Course Code	Category	Paper/Description	Credits
BFWF-501	FW	Field work is the process of observing and collecting data about people, cultures, and natural environments.	6
BFWI-601	FW	The aim of the internship provides a direction to the activities, helps to focus on a result, and to assess the result achieved.	6
BFWP-701	FW	The objective of the minor project is to provide an opportunity for students to undertake short research training outside the classroom to solve real-world issues.	6
BFWR-801	FW	Project objectives describe the desired outcome of a project, which is often a tangible object. It's beneficial to create objectives for your project because creating a specific goal for you helps everyone know what they're supposed to be working toward.	10

BBSA101T: History of Animation

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Unit-I

(12 Lectures)

Sequential series of events/action depicted in Egyptian Murals and Leonardo da Vinci's Drawings, Devices that successfully displayed animated images, like the Magic Lantern, Thaumatrope, Phenakistoscope, Zoetrope, Flip book, Praxinoscope.

Unit-II

(8 Lectures)

Biography of Walt Disney. Brief discussion of Disney studio, Warner Studio and UPA studio. Influences on pop-culture. Brief history of Japanese animation - Biography of Osamu Tezuka.

Unit-III

(10 Lectures)

Case Studies of popular Indian Animation Film Makers and their Films, Traditional Animation Process, Terms and definitions, early examples, classic films. Animation Techniques – Stop Motion, CGI Animation.

Unit-IV

(10 Lectures)

Cinema, theatre, 2d animation, 3d animation, Fine art vs commercial art and Design. Drawing and the production process of animation (to appreciate the changes that happened with time).

Unit-V

(10 Lectures)

Influence of Video camera on animation, influence of Television on animation, influence of Internet on animation. Use of animation in corporate scene.

Reference Books:

- Hundred Years of Cinema Animation ByGiannalbertoBendazzi
- Of Mice and Magic By Leonard Maltin
- Art Over 2500 Works from Cave to Contemporary By Andrew Graham- Dixon
- Art: A World History ByElna Linda Buchholz, Susanne Kaeppele, Karoline Hille, Irina Stortland, Gerhard Buhler
- The Craft of International History: A Guide to Method By Marc Trachtenberg
- Animators survival kit- Richard Williams
- Animation writing and development- Jean Ann wright

BBSA101P: Basic Animation Lab

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Module 1: Introduction to Experimental Animation

History (Related to Stop-Motion Short Films), Mix Media Animation, stop – Motion Animation Techniques, Cut -out Animation and Flip Book. Step by Step Procedure for Stop-Motion Films, Case Studies of Stop-Motion films, Contemporary experiments by stop motion film makers.

Module 2: Software and Hardware Requirements

Introduction to Animation Equipment- Light box, Line Test Machine, Punch Machine, Choosing DSLR / Video Camera and lenses, Animation Software, Frame Grabber, Stop-Motion Apps. Few experiments related to stop-motion animation to be done by students.

Module 3: Pre- Production Design (Planning & Design)

Idea – Script- Treatment, Character Design, Prop Design/ Set Design, Storyboard Design, Animatics, Layouts of Character and sets.

Module 4: Production Design (Implementation)

Clay Modelling, Paper Cut, Puppet making, Wire frame or Armatures, building of Sets, Making Properties, Creating Animation, collecting AVIs, Basic Editing on Movie Maker or any other software.

Module 5: Assignments

Use of conventional and unconventional methods to create visual display and motion. Students working in groups/ individual try to find innovative methods of using tools. The following assignments to be submitted by the students: Flip Book, Animation Pre-production Film Designs, Animation Project with different media like; Paper, Clay, Sand, Colours etc. with proper editing.

Reference Books:

- Stop Motion: Craft Skills for Model Animation by Susannah Shaw
- Timing for Animation by Harold Whittaker and John Halas
- The Advanced Art of Stop Motion by Ken A. Priebe
- The Kultz Book of Animation: How to Make Your Own Stop Motion Movies by Nicholas Berger and John Cassiday
- The Animator Inside of You How to Make Stop Motion and Clay Animation Basic Tricks and Tips by Chris Capps
- The Art of Aardman: The Makers of Wallace & Gromit, Chicken Run, and More By Peter Lord, David Sproxton
- Flipping Out: The Art of Flip Book Animation: Learn to illustrate & create your own animated flip books step by step by David Hurtado
- The Animation Bible: A Practical Guide to the Art of Animating from Flipbooks to Flash Paperback by Maureen Furniss

BBSA102T: Introduction to Visual Studies

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Unit-I

(14 Lectures)

Introduction to Visual Art, 2 Dimension and 3 Dimension art form, Different medium of art, Different types of Paintings.

Unit-II

(16 Lectures)

Six Limbs of Indian Paintings, Elements of Art, Principles of Art Evolution of Art. Pre-modernism Sculpture, Painting (Mural Paintings and manuscript paintings).

Unit-III

(16 Lectures)

Pre-historic Art: Cave Paintings, Art of Indus valley civilization.

Unit-IV

(13 Lectures)

Introduction of Artists- Picasso, Salvador Dali, Paul Gauguin, Van Gogh etc.

Unit-V

(18 Lectures)

Drawing Basics (Basic Shapes), Drawing Classes (Out Door), Object Drawing Classes (Still Life) Live Model Drawing, and Perspective Drawings.

Reference Books:

- Figure study by Aditya Chari
- Perspective drawing by Joseph D'Amelio
- Art theory for beginners (History of art) by Richard Osbome

BBSA201T: Introduction to Multimedia

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Unit-I

(10 Lectures)

Multimedia, Elements of Multimedia in detail, Linear and Non-Linear Multimedia, Uses of Sound and Typography in Multimedia.

Unit-II

(10 Lectures)

Introduction to Authoring Tools, Different types of Authoring Tools, designing outputs using various authoring tools, Study of Media platforms related to authoring tools like print and electronics.

Unit-III

(12 Lectures)

Visual Communication, Use of Authoring tools in Visual Communication, Principles of Gestalt theory, Introduction to Color theory, Storytelling through multimedia.

Unit-IV

(10 Lectures)

internet works, Defining LAN, WAN and WWW, Uses of Internet, Understanding IP address, ISP and role of Browser, Internet protocol (http, https, ftp, smtp, pop)

Unit-V

(8 Lectures)

Introduction to AR/VR, Applications of AR/VR, Study of New Media platforms like Websites and Apps.

Reference Books:

- Fundamentals of Creative Design by Gavin Ambrose/Paul Introduction to Multimedia by Ramesh Bangia (Khanna Book Publishing Co. Pvt. Ltd)
- Mass Communication in India by Keval J. Kumar
- Fundamentals of Creative Design by Gavin Ambrose/Paul Harris
- Fundamentals of Graphic Design by Gavin Ambrose/Paul Harris
- Kidzztale by Partho Acharya
- The Design Process by Karl Aspelund
- Principles of Gestalt Psychology by Kurt Koffka
- The Design of Everyday Things by Don Norman

BBSA201P: Basic 3D Lab

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Module-I:

Introduction to lines, Circles, and other geometrical shapes, Understanding the concepts of geometry and its implementation into drawing. Understanding 3 dimensional forms. Creating Cubes and Cuboids etc.

Module-II:

Perspective and its use. Introduction of positive and negative extrusion Creating different Joints Shadow creations Projection drawing.

Module-III:

Understanding of Proportions Combining Geometrical shapes to create objects Isometric Drawings Creating Concepts and working Features of Product design Product Design

Module-IV:

Working on Real world design concepts, spotting design faults and create solutions to rectify the problems.

Module-V:

Hard surface models with cardboard, glue and paper etc. Handling of Clay Basic techniques of moulding and casting, Handling of POP Making miniatures and prototype models using different mediums.

Reference Books:

- Perspective Drawing Handbook by Joseph D'Amelio
- Design Sketching by ERIK OLOFSSON
- The Industrial Designer's Guide to Sketching by Nenad Pavel
- Architecture - Form, Space and Order by Francis D.K. Ching

BBSA202T: Principles of Animation

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Unit-I

(10 Lectures)

Introduction to the 12 Principles of Animation. Detailed understanding on Timing, Spacing, Slow In & Slow Out. Importance of sketching and analyzing movement. Software Introduction: Monkey Jam. Line Test. In class practice:

- 1) Horizontal ball rolling for applying timing, spacing, ease-in and ease-out.
- 2) Vertical ball bounce for applying timing, spacing, ease-in and ease-out.
- 3) Ball, Cannon Ball, and Balloon bounce for applying timing, spacing, ease-in and ease-out.
- 4) Paper Animation
- 5) Ladder Exercise.

Unit-II

(10 Lectures)

Principles of Animation: Anticipation, Squash & Stretch, Arcs and Study of Basic Characters for Animation: Introduction to Anticipation, Different weights, different bounces: Combination of timing, spacing, squash & stretch and arcs to create a convincing bounce. Frame by frame animation terminology: Key frames, breakdowns, in-betweens, Importance of constructive criticism and healthy habits for animators. Introduction to Dummy Characters for Animation. In class practice:

- 1) Action with Anticipation & without Anticipation Poses
- 2) Pendulum exercise for applying Arc, timing, spacing, ease-in and ease-out.
- 3) Study animation dummy characters- Skinny Character, Fatty Character, Bony Character etc.

Unit-III

(10 Lectures)

Principles of Animation: Staging, Follow Through, Pose to Pose and Straight Ahead, Secondary Action, Overlapping Action: Flour Sack with Different Poses, Staging with Silhouette, Difference between Pose to Pose and Straight-Ahead Animation, the importance of planning, how to apply Key Frames, Breakdowns, Extremes, In-betweens in animation planning. Applying thumbnails & pose-to-pose animation principle in planning, Applying

straight-ahead animation in iterative animation production. Importance of Anticipation in Animation. In class practice:

- 1) Practice strong staging with flour sack & Silhouetting
- 2) Follow through exercise -Flag Wave, Grass in the wind animation, and Rope Swing
- 3) Differentiate Pose to Pose and Straight-Ahead Animation through any assignment
- 4) Secondary action
- 5) Practice Overlapping Action.

Unit-IV

(10 Lectures)

Principles of Animation: Drag, Solid Drawing, Exaggeration, and Appeal: In class practice:

- 1) Water Balloon with thread
- 2) Pendulum Cycle with a CUBE instead of sphere
- 3) Exaggeration: Experiments with few poses
- 4) Appeal in posing the flour sack or any other character.

Unit-V

(10 Lectures)

Basic Actions, Study and practice based on principles of animation: Key Frames, Extremes and Breakdowns, In-betweens, Line Testing, The Best Numbering Systems, The Great Ones & Twos Exposures, The Top and Bottom Pegs, Spacing, Classic In between Mistakes, Watch your Arcs, The Elongated In-between, The Rough Approach In class practice:

- 1) Head Turn with and without hairs
- 2) Walk Cycle
- 3) Run Cycle
- 4) Character Jumping (Flour Sack or any other simple character)
- 5) Study Facial Expressions Real and Cartoony
- 6) Model Sheet.

Reference Books:

- The Animator's Survival Kit – Richard Williams
- Cartoon Animation – Preston Blair
- The Illusion of Life – Frank Thomas & OlieJohnstan
- Cartoon Animation – Preston Blair
- Animator's Survival Kit – Richard Williams

BBSA201P: Film Making Lab

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Program 1: Basics of Video Camera: Basics of Film Camera; Film Camera Handling; Setting ISO for various Shots; Setting Iris (Aperture) for various Shots; Setting Shutter Speed for various Shots; Setting White & Black Balance for various Shots; Steady-Cam Rig Operation; Slider Operation; Handling CP2 Lenses; Fixing the Video Camera in the Shoulder Rig; Fixing and handling the Follow Focus System; Fixing the Matte Box and LCD Display; Various Film Recording Formats; Using a Track and Trolley.

Program 2: Concept and Budget: Concept or Idea Generation; Writing a Documentary; Budgeting for a Short Film.

Program 3: Script: Professional Script Writing; Writing an Effective Screenplay; Production Logs and its Types; Choosing the Various Video Filters; Color Correction & Color Grading.

Program 4: Storyboard: Storyboarding for Film; Characterization; Crew & Casting; Production Planning.

Program 5: Dialogue: Dialogue Writing; Continuity and Hook Up; Shooting Script

Program 6: Acting: Location Management; Costume for Actors; Dubbing & Voice Over; Foley and Special Effects; Body language for Actors (rehearsals); Dialogue Delivery

Program 7: Composition: Properties & Asset Management; Background Music for the Film; Sound Effects for Film

Program 8: Lighting: Location Lighting and Light Continuity; Lighting for various Mood

Program 9: Editing: Capturing the rushes using cord and editing software Finish of shooting and take the rushes to editing to sequence it and finalizing the real cuts. Visual Effects Order the sequence according to the story and add effects, transitions, voice overs, subtitles and credit on his own creativity.

Program 10: Final Presentation: Film Distribution

Reference Books:

- Directing: Film Techniques & Aesthetics 5th Edition by Michael Rabiger and Mick Hurbis-Cherrier (Focal Press (2013).
- Cinematography: Theory & Practice: Image Making for Cinematographers and Directors 2nd Edition by Blain Brown (Focal Press – 2011)

BBSA301T: Visual Effects

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Unit-I

(8 Lectures)

Paint Effects: Introduction to visor, Designing Paint Effects, colouring paints, Designing Trees and green effects, Designing Weather and seasons, Effects on seasons, Designing Glass image, Designing Different glass reflection, Designing Glow Effects, Liquid Effects and reflection design.

Unit-II

(12 Lectures)

Particles and Fields: Introduction to dynamics and explaining how it uses the rule of physics to simulate natural forces, overview of particles such as dots, streaks, spheres, blobby surfaces and other item, animating particle by using different types of fields, using different types of emitters to create effects such as steam, rain, fire, snow, cloud, smoke and explosion. 2D and 3D grid particle. Animating the particle using goal, To make the particle move with the surface and parent them, setting the color for particle, Instancing the geometry to particles, Instancing strokes from paint effects, Understanding the difference between Hardware render and software render.

Unit-III

(10 Lectures)

Soft Bodies and Rigid Bodies: Understanding the behavior of soft body and rigid body, Rigid body Constraints of like nail, pin, hinge, barrier and spring. Painting the soft body weights tool, Change or turning off the constrain type, Convert rigid body animation to keys.

Unit-IV

(10 Lectures)

Fluid Effects: Introduction to Fluid Effects, Coloring the fluids, Designing Clouds Background, Designing Fog Effects , Explosion Effects and Fire Effects with flames, Space Effects and designs, Designing Thick Smoke, Water effects with fluids, Fluid stimulation for special effects.

Unit-V

(10 Lectures)

Special Effects: Designing Special Effects, designing effects of Fur and shape, Designing Fur Effects, Designing Cloth & Clothes and effects, Fire effects, Lighting, Shatter, Curve flow, Surface flow, Basics of n-dynamics and ncloth, Special effects rendering techniques.

Reference Books:

- Ron Brinkman, “The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics”, Morgan Kaufmann Publishers, Second Edition, 2008.
- Steve Wright, “Digital Compositing for Film and Video”, Focal Press, 2010.
- Lee Lanier, “Professional Digital Compositing: Essential Tools and Techniques”, Wiley Publishing Inc., 2010.
- Doug Kelly, “Digital Compositing in Depth”, Carioles Publication, 2003.
- Angie Taylor, “Creative After Effects 5.0”, Focal Press, 2002.

BBSA301P: Visual Effects Lab

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PROGRAM – 1: Animation and Titling:

- i. To understand interface of the layer-based software and the basic key framing.
- ii. Basic motion graphic elements
- iii. Animation (every student will create their own animation using transformation tools and apply key frames for 150 frames)
- iv. Title Animation (Student will create titling using given footage by faculty).
- v. Titling (own titling just using texts)

PROGRAM – 2: Color Correction, Color grading & Tint:

- i. To understand color correction options and methods.
- ii. Color Correction (using given footage by faculty).
- iii. Night Conversion (using given footage by faculty).
- iv. Night Conversion (using given footage by faculty).
- v. Night Conversion (student will shoot his/her own footage and use it for day to night conversion)

PROGRAM – 3: Basic Compositing:

- i. Compositing tools and properties.
- ii. Compositing (using given object by faculty) normal with animation.
- iii. Compositing (using given object by faculty) Green Screen.
- iv. Compositing (own footage) normal with animation.
- v. Compositing (own footage) green screen

PROGRAM – 4: Rotoscopy:

- i. Tools and techniques of doing a Rotoscopy.
- ii. Rotoscopy (using given footage by faculty)
- iii. Rotoscopy (using given footage by faculty)
- iv. Doing rotoscopy in own footage 150 frames

PROGRAM – 5: Retouch /Paint:

- i. To understand the paint tools
- ii. Retouch (using given object by faculty)
- iii. Wire removal (using given object by faculty)
- iv. Doing retouch in own footage 150 frames.

PROGRAM – 6: Tracking:

- i. To understand the tracking tools.
- ii. Tracking (using given object by faculty)
- iii. Match move (using given object by faculty)
- iv. Stabilization and camera shake (using given object by faculty)
- v. 5.Matchmove with own footage 250-300 frames

PROGRAM – 7: 3D Compositing:

- i. To understand 3d compositing techniques.
- ii. Compositing (using given object by faculty) Green Screen.
- iii. Compositing (using given object by faculty)
- iv. Compositing (own footage) normal with animation
- v. Compositing (own footage) green screen.

PROGRAM – 8: Particle Effects:

- i. To understand the Effects and particles
- ii. Effects (using given object by faculty) normal with Animation
- iii. Particle Compositing (using given object by faculty) Green Screen.
- iv. Compositing (own footage) green screen using effects.

PROGRAM – 9: Show reel:

- i. How to make show reels with break-downs.
- ii. The student will create a mini show reel (3-4min including breakdowns) using the skills he
learned in this subject.
- iii. learned in this subject.
- iv. The student will submit the final output in cd for screening.
- v. Experts will review each student output and lecture about advanced compositing.

Reference Books:

- Mark Christiansen, "Adobe® After Effects® CC Visual Effects and Compositing Studio Techniques" 1st Edition, Peachpit Pearson Education, 2014.
- Jon Gress, "Visual Effects and Compositing" 1st Edition, Published by New Riders, 2015

BBSA302T: Animation Production Concepts

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Unit-I

(10 Lectures)

Pipeline: This unit deals with the concept of pipeline and different stages of graphics pipeline. This will start them on the process of working in an environment with other team members.

Unit-II

(10 Lectures)

Interactions: This unit deals with the interactions between various teams in a project, the significance of communication and an introduction into the approval methodologies.

Unit-III

(10 Lectures)

Dependencies: This unit deals with the dependencies between the teams in projects varying from simple 2D animations to complex film production in 3D. During this unit, they will know how the risks affect project success and the pitfalls that need to be avoided.

Unit-IV

(10 Lectures)

Artifacts: This unit deals with the identification of various artifacts in the various production processes in the different types of animation. This will help them organize their work better in order to be an effective project team member.

Unit-V

(10 Lectures)

Process: This unit deals with the overall process and explains how things should move and what the importance of each of the events is in the process. This also deals with the case study in any one of the production processes.

Reference Books:

- Ranjit Singh, "The Art of Animation Production Management", MacMillan India, First Edition, 2013.
- Williams, R, "The Animator's Survival Kit", Faber and Faber Ltd, First Edition, 2001.
- Kupeeberg, M, "A Guide to Computer Animation", Focal Press, First Edition, 2002.
- Scott, J, "How to write for Animation", The Overlook Press, First Edition, 2002.

BBSA302P: Interactive Animation Techniques Lab

Program 1: Introduction to animation: History of animation: Types of animation: case study; Understanding and learning the principles of animation through the view of different animation films: case study

Program 2: Flip Book: Drawing simple flip book with minimum 30 pages; Drawing a detail flip book with minimum 30 pages following the principles of animation

Program 3: 2D Software Interface: Understanding the 2d software interface; Drawing tools, pen tools and other necessary tools to create any drawing in the frames

Program 4: Frame by frame animation: Creating frame by frame animation for a short animation (maximum 10 sec with simple drawing; Creating simple frame by frame animation for a short animation (maximum 20 sec with color drawings and background).

Program 5: Tween: Creating simple animation with shape, classic & motion twining; Creating simple animation with shape and classic tween together.

Program 6: Ball animation: Drawing the ball with gradient color; Creating key frames for the animation sequence; Creating stretch and squash for the ball animation; Creating timing and motion for the ball animation; Giving tween to the sequence of ball animation; Creating the shadow layer for the ball animation.

Program 7: Character drawing and creating symbols: Drawing simple character with pen tool or shape tool; Preparing the character for animation: dividing each body parts into symbol; Creating symbols, types of symbols

Program 8: Human walk cycle: Drawing the cycle sheet for a human walk cycle; Creating the key frames for the walk cycle; Giving the tween to the figure with normal walk cycle; Creating four different types of walk cycle (jump, run, tip toe, crawl).

Program 9: Animal walk cycle: Drawing cycle sheet for an animal walk cycle; Drawing an animal and dividing the body parts into symbols; Creating the key frames for the walk cycle; Creating four different types of walk cycle (jump, run, tip toe, crawl).

Program 10: Lip Synchronization: Knowing the alphabets and its movements; Creating the mouth shapes for each letter and movements of the lips; Creating expression and emotion in character; Synchronizing character mouth shape according to the dialogue.

Program 11: Creating a short animation film: Drawing the detail storyboard for the animation film; Drawing the background in layers and symbols; Creating the characters in turn around; Creating the props Creating the scenes with tween and animation; Completing the whole animation film with background music and dialogues.

Reference Books:

- Frank Thomas and Odie Johnson, *The Illusion of Life: Disney Animation*, Disney Editions; Rev Sub edition, 2014
- Williams, R. *The Animator's Survival Kit*. Revised Edition, Faber & Faber, 2011

BBSA401T: Audio Video Editing

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Unit-I

(10 Lectures)

Understanding of Film and Video Editing: Study of different kinds of NLE Editing systems AVID & FCP and file formats, SD & HD Video Formats and study of the using of Editing equipments, cue sheet & Video cutlist reports, Understanding Interfaces, saving project Setting scratch Disc and Loading Bin, working with different formats and Studying of Editing tools and accessories, Importing Video and Audio sample rates, frame rates, DV/HDV/HD formats. Understanding inserts – overwrite, marking In and Out, Non -Linear Techniques Adding & Deleting, Moving Edits in time line – Cut, Copy, and Paste.

Unit-II

(10 Lectures)

Principles of Film and Video Editing: Working with Bins Organizing your footages ,viewing clips of rush videos Separation of ok takes and deletion of NG takes Assembly of Rushes in story order & story Board , Basic systems in Video Editing , The shot, The Scene, Sequences , Study of Transitions , Study of optical effects , Study of video effects, Using of bridging shot - Cut away and cutting in action – smooth cut ,Cutting on movement - Inter cutting- Parallel cutting and constructive editing, Montage ,Creative editing ,Real time and Artificial time, rhythm-pace-space, Creative editing. Basic Transitions, visual Effects and Optical effects, Understanding Editing modes in off and on line.

Unit-III

(10 Lectures)

Editing Specialization Exercises: Editing Decision ,Editing Functions , Combination of timing , Pacing , Rhythm & Tempo, time code Editing Split Edits Drag & Drop Editing ,smooth cut, constructing a lucid continuity , constructing physical continuity , Slow and fast motion actions, change in image size and camera angle, sense of screen direction, , Editors cut, match cut, movement and look, The cut away ,The reverse shot, imaginary compositions, Exciting images, Cumulative effect, Direct contrast and matching Tone. Montage making, Extending & Reducing Clips Rendering Setting Effects Applying, Bridging the action.

Unit-IV

(10 Lectures)

Basic Audio Tools for Video Editing: Actual Sound, continuous sound track , Relational Editing , Dialogue counterparts , Editing Dialogue sequence , Natural Rhythm, Adding ambience sound, Effects, Bridging the dialogue , Controlling the volume between the channels ,True and natural presentations to audio mixing, sweetening, and sound design ,Study of Background music, Voice dubbing, Effects dubbing, synchronous and non-synchronous sounds, using special sounds effect, Re-recording and Mixing and power of sound, sound as a counter point, mechanism of sound in editing of films creating the mixed track, according to Camera movement and Visual Audio Techniques..

Unit-V

(10 Lectures)

Colour Correction and Final Delivery: Harsh cut jerky cut Cause and effect Smooth Continuity Sound edit Dramatic cure punctuation and Amplification, Song Editing, Specific goals, Transition & Sound. Action sequences, Physical conflict, Timing, rate of cutting, problems in editing action sequence, Russian montage, French montage and American montage Montage as a Transitional device Emotional significance Arranging the visuals slow and fast Pleasing Visual Continuity Dissolves, wipes, realistic dialogue.

Reference Books:

- Ken Dancyger, “The Technique of Film and Video Editing” Focal Press, 2010
- Roy Thompson, Christopher J. Bowen “Grammar of the Edit” Focal Press, 2013
- Bobbie O’Steen , “The Invisible Cut: How Editors Make Movie Magic” Michael Wiese Productions; 1st edition 2009
- Gael Chandler, “Film Editing: Great Cuts Every Filmmaker Should Know”, Michael Wiese Productions 2009
- Howard M. Traminen, “The Audio Encyclopedia”. Howard W. Sams & Co. 2nd edition 1969
- Don Davis and Carolyn Davis, “Sound System Engineering” Focal Press; 3 editions 2006

BBSA401P: Video Editing and Digital Intermediate Lab

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PROGRAM 1: Editing Software:

- i. Understanding the interface video editing software.
- ii. Creating a new project and importing video footage into the bin and labelling them.
- iii. Setting up a mark in & mark out in source monitor and inserting the video into timeline.

PROGRAM 2: Cut to Cut:

- i. Applying the techniques of cut to cut and cutaway.
- ii. Applying the techniques of jump cut.
- iii. Creating a match cut for the video footage.

PROGRAM 3: Audio Editing:

- i. Recording audio formats.
- ii. Editing recorded audio using audio editing software.
- iii. Adding audio effects to the clips to sync with the video files.
- iv. Creating an audio sync using audio transitions method.

PROGRAM 4: Special Effects:

- i. Applying special effects to the video clips placed on the timeline.
- ii. Creating special transitions to the video clips placed on the timeline.
- iii. Adding title to the desired video clip.

PROGRAM 5: Titling:

- i. Creating titling animation for a Trailer.
- ii. Creating titling animation for a Video Song.
- iii. Creating a complete video song with lyrics.
- iv. Creating a start & end titles /credits title for a short-film.

PROGRAM 6: Advanced Titling:

- i. Titling - Rolling
- ii. Titling - Crawling
- iii. Slip Edit Trimming
- iv. Slide Edit Trimming.

PROGRAM 7: Animation:

- i. Animation - Speed Duration
- ii. Animation - Setting keys for animation

- iii. Animation - Multiple Techniques.

PROGRAM 8: Video Transitions:

- i. Transitions - Working on Zoom & Dissolve Transition
- ii. Transitions - Working on Page Peel & Slide Transition
- iii. Transitions - Working on Stretch & Wipe Transition.

PROGRAM 9: Video Effects:

- i. Chroma Key - Editing a green/blue matte video footage with key effects.
- ii. Creating different effects to video clips using distort effects
- iii. Altering color correction and grading to video clips based on the scene.

Reference Books:

- Andrew Faulkner, “Adobe Premiere Pro CC Classroom”, 1st edition, Adobe Press, 2017
- Aaron Goold, “The Video Editing Handbook”, 1st edition, Independently published, 2017

BBSA402T: Basic of Programming

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Unit-I

(10 Lectures)

Introduction and Overview of Programming & Programming Language.

Unit-II

(10 Lectures)

Programming Environment, Basic Syntax, Data Types

Unit-III

(10 Lectures)

Variables, Keywords, Operator.

Unit-IV

(10 Lectures)

Decisions, Loops, Functions, File I / O.

Unit-V

(10 Lectures)

Numbers, Characters, Arrays, Strings.

Reference Books:

- Ron Programming for absolute beginners (No experience required) – Jerry Lee Ford
- How computers work? By Ron White
- Computer Basic Absolute Beginners Guide, Windows 8 edition – Michael Miller
- Hello World! Computer Programming for kids and other beginners, Warren and Carter Sande
- Computer programming for Teens by Mary Farrel
- Beginning programming All in one Basic Reference for Dummies by Wallace Warg, Willey Publishing

BBSA402P: Animation Techniques Lab

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Practical:

- 1) Bouncing Ball Animation
- 2) Pendulum Animation
- 3) Bird Flight Animation
- 4) Jump Animation
- 5) Walk Cycle in Side View
- 6) Run Cycle in Side View
- 7) Perspective Walk
- 8) Front Walk
- 9) $\frac{3}{4}$ Walk
- 10) Double Bounce Walk
- 11) Skipping
- 12) Head Turn Animation
- 13) Animal Walk
- 14) Weight Animation
- 15) Effects Animation: Flames and Smoke
- 16) Layout Design & Background Painting

Reference Books:

- Muybridge's Animals in Motion by Eadweard Muybridge
- Muybridge's Human Figure in Motion by Eadweard Muybridge
- Animator's Survival Kit – Richard Williams
- Cartoon Animation – Preston Blair
- The Illusion of Life – Frank Thomas & Olie Johnstan
- Cartoon Animation – Preston Blair

BBSA501T: Research in Gaming

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Unit-I

(10 Lectures)

Basics Concepts about Research, Research Process, Major Types of Research, How to Review the Literature Review and Conduct Ethical Studies.

Unit-II

(12 Lectures)

Strategies of Research Design, Qualitative and Quantitative Sampling, Qualitative and Quantitative Measurement, Analysis of Quantitative Data, Analysis of Qualitative Data.

Unit-III

(12 Lectures)

Qualitative Approaches for Studying Games

- Game Play Analysis
- Games and information

Qualitative Approaches for Studying Play and Player.

- Ethnography
- In-depth interviews
- Studying thoughts

Focus Group Discussion

Field Research and Focus Group Research

Unit-IV

(8 Lectures)

Experimental Research

Survey Research

Writing the Research Report and the Politics of Social Research.

Unit-V

(8 Lectures)

Study of Various Research Papers

Project: Research Paper Writing.

Reference Books:

- Game Research Methods, Petri Lankoski and Staffan Bjork (2018)
- Social Research Methods: Qualitative and Quantitative Approaches, W. Lawrence Neuman (2014)
- Real Time Research - Seann Dijkers, Eric Zimmerman, Kurt Squire, ETC Press
- New Media - A Critical Introduction, Martin Lister, Jon Dovey, Seth Giddings, Iain Grant, Kieran Kelly (2009), Routledge
- The SAGE Encyclopedia of Qualitative Research Methods, Lisa M. Given (2008), Sage
- Qualitative Research: Studying How Things Work by Robert E. Stake (2010)
- Games user research: a case study approach by Garcia-Ruiz, Miguel A, Author: Garcia-Ruiz, Miguel A, (2016), CRC Press
- Geoffrey Marczyk et al (2005), Essentials of Research Methodology, John Wiley & Sons Inc.
- Qualitative Research Methods, Sarah J. Tracy (2013)
- Research Journals and Online Libraries of Research Papers

BBSA501P: Interactive Animation Techniques Lab

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Module I:

Advance 3D modelling techniques for texturing and lighting

Module II:

Concepts of materials and textures, UV unwrapping & UV mapping, Bump, displacement/normal map, Occlusion map etc.

Module III:

Introduction to light: Understand the Importance of light to create a scene, Use of HDRI and Image based lighting

Module IV:

Concept of lighting system, Concept of Shadows and Depth map

Module V:

Understanding various rendering techniques for the quality output as per the end user requirements and maintaining the resolution. Understanding Camera and its attributes.

Reference Books:

- Autodesk 3ds Max 2018 Complete Reference Guide by Kelly L. Murdock
- Autodesk 3ds Max 2018 A Comprehensive Guide by Sham Tickoo (Author)
- Autodesk Maya 2018 Basics Guide Paperback by Kelly Murdoch
- Autodesk Maya 2018A Comprehensive Guide by Tickoo Sham

BBSA601T: Visual Narratives

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Unit-I

(10 Lectures)

Understanding sequential art, Storyboarding examples, Thumbnail examples, animatic examples.

Unit-II

(10 Lectures)

Comics and graphic novels, Brief history, Major contributors, Frequently used terms.

Unit-III

(10 Lectures)

Narrative exercises, Single page comics, 24-hour comics.

Unit-IV

(10 Lectures)

Panel design and camerawork, Understanding distance and cropping, POV examples.

Unit-V

(10 Lectures)

Story structure and narrative arc, Essential components of a story, Assignment- Creating a one-page comic, Assignment- Creating a multi-page comic (More than 2 pages).

Reference Books:

- Ken Drawing words and writing pictures – by Jessica abel and Matt madden
- Graphic storytelling and visual narrative – Will eisner

BBSA601P: 2D Digital Animation Lab

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Practical:

1. Introduction to Digital Animation
2. Digital Animation Softwares
3. Compare differences between Paperless Animation and Traditional Animation
4. Basic Tools for Digital Animation
5. Use of Camera and Pegs
6. Digital Rough Animation Techniques
7. Working on Characters
8. Working on Digital Backgrounds
9. 2D Digital Rigging
10. Ink & Paint
11. Symbol Based Animation using Library
12. Construct multi-layered scene
13. Working on Sound & Voice Over
14. Compositing for 2D Digital Animation
15. Final Cut

Assignment-Student will prepare approx. 15to 20 Seconds of Animation using proper timing, spacing and acting. The situation, action & dialogue would be provided to every student.

Reference Books:

- The Animation Book: A Complete Guide to Animated Film Making- From Flip Books to Sound Cartoons to 3D By Kit Laybourne and John Cane Maker
- Animation Unleashed: 100 Principles Every Animator, Comic Book Writers, Film Makers, Video Artist and Game Developer by Ellen Besen& Bryce Hallett
- Creating Characters with Personality: For Film, TV, Animation, Video Games and Graphics Novels by Tom Ban Croft and Glen Keane
- Producing Animation by Catherine Winder and Zahra Dowlatabadi

- *Creating Animated Cartoons with Character: A Guide to Developing and Producing Your Own Series for TV, the Web, and Short Film* by Joy Murray
- *Animation from Pencils to Pixels: Classical Techniques for the Digital Animator* by Tony White
- *The Animation Book: A Complete Guide to Animated Filmmaking*
- *Adobe Animate CC Classroom in a Book 2018*, release by Pearson (English, Paperback, Russell Chun)

BBSA701T: Compositing & VFX

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Unit-I

(10 Lectures)

History of VFX, Difference between VFX & SFX, Different kinds of VFX Software's: Node based & Layer based.

Unit-II

(10 Lectures)

Introduction to VFX used in modern films, Blue screen, Motion Tracking, Atmosphere, Rotoscoping, Wire Removal, Masking.

Unit-III

(10 Lectures)

Animating layers, Transformation techniques, Filters, Pivot Point, Motion Tracking, Stabilizing a Shot.

Unit-IV

(10 Lectures)

Use of Lights, Camera & Color Correction, Applying Lights & Camera in Compositing, Color Correction, Using Effects, Rendering.

Unit-V

(10 Lectures)

Different types of digital images & file formats, Pixel definition (24 bit & 32 bit), RGBA Color Mode, 4 Channel format, Different file formats & their utilities, Different output formats & their utilities.

Reference Books:

- Digital Compositing for Film and Video – by Steve Wright
- After Effects Apprentice – Trish & Chris Myers
- Adobe After Effects CC Classroom by Lisa Fridsma (Author), Brie Gyncild

BBSA701P: 3D Animation, Rigging and Skinning Lab

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Module I:

Understanding the principles of IK and FK and apply to characters

Module II:

Rigging and Skinning.

Module III:

Animate simple objects and its attributes like color, transparency Animation through deformers and modifiers

Module IV:

3D Character Animation, walk cycles and Run cycles

Module V:

Camera animation.

Reference Books:

- Autodesk 3ds Max 2018 Complete Reference Guide by Kelly L. Murdock
- Autodesk 3ds Max 2018 A Comprehensive Guide by Sham Tickoo
- Autodesk Maya 2018 Basics Guide Paperback by Kelly Murdoch
- Autodesk Maya 2018A Comprehensive Guide by Tickoo Sham

BBSA702T: Direction for Animation

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Unit-I

(10 Lectures)

Introduction- Direction for Animation, Responsibilities of the Director, Animation Film Techniques, Story, Casting, Music, Sound, preparing to make bar sheets, Track Analysis, and the role of Asst. Director. Selected Case studies, and Study on Animation Directors.

Unit-II

(10 Lectures)

Production Process of 2D, 3D, and Experimental Animation Films- Pre-Production Process, Production Process and Post-Production Process. Selected Case studies, and Study on Animation Directors. Independent Animation Film Makers.

Unit-III

(10 Lectures)

Animation Storyboarding, Purpose, Building the Story, Create the Script, Necessary Drawing Skills, storyboard your movie, Quick Method for Producing fast and rough Storyboarding, Camera Moves, Camera Angles, Important Elements of Storyboarding, Transition, Thumbnailing in Storyboarding, Method Analysis of Storyboarding, Working on Animatics. Selected Case studies, and Study on Animation Directors.

Unit-IV

(10 Lectures)

The Basic Applied, Staging Dialogue Sequences, Staging Dialogue Sequences with 2 Subjects and Staging Dialogue Sequences with 3 Subjects. Selected Case studies, and Study on Animation Directors.

Unit-V

(10 Lectures)

Point of View, Editing Temporal Connections, Composing Shots: Spatial Connections. Selected Case studies, and Study on Animation Directors. Independent or Group Project assign by the subject teacher.

Reference Books:

- Animation from Script to Screen by Shamus Culhane
- Film Directing: Shot by Shot: Visualizing from Concept to Screen By Steven D. Katz

BBSA801T: Motion Graphics

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Unit-I

(8 Lectures)

Defining Composition, Adding Layers, Layer blending, Size of Composition, Resolution & Quality, Safe areas, Ruler& Guide.

Unit-II

(12 Lectures)

Definition of Timeline, Broadcasting Standards & Frame Rate, Different Types of Keyframes, Various File formats for Output, Testacy (Using Texts in Motion Graphics): Creating & Animating Text.

Unit-III

(10 Lectures)

Different Blending Techniques, Different Techniques of Creating Masks: Painting & Using Shape Tools.

Unit-IV

(8 Lectures)

Applying Camera & Lights, Adjusting Camera & Light Settings, Color Correction.

Unit-V

(12 Lectures)

Nested Composition, Uses of Nested Composition Creating a Nesting Composition, what is a Pre-Comp, Uses of Pre-Comp, Creating a Pre-Comp.

Reference Books:

- Creating Motion Graphics with After-Effects - Trish & Chris Myers
- After Effects Apprentice – Trish & Chris Myers
- Motion Graphics Design by Jon Krasner

BBSA801P: 3D Motion Graphics & Dynamics Lab

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Module I:

Study of 3D Motion graphics & Dynamics examples

Module II:

Concepts of 3D Motion graphics & Dynamics.

Module III:

Creating 3D motion Graphics

Module IV:

Working on Various Platforms for Motion Graphics, Use of 3D Dynamics for Motion Graphics

Module V:

Rendering Motion Graphics and Compositions.

Reference Books:

- Autodesk 3ds Max 2018 Complete Reference Guide by Kelly L. Murdock
- Autodesk 3ds Max 2018 A Comprehensive Guide by Sham Tickoo
- Autodesk Maya 2018 Basics Guide Paperback by Kelly Murdoch
- Autodesk Maya 2018A Comprehensive Guide by Tickoo Sham

BBSA802T: Special Effects in Feature Films

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Unit-I

(12 Lectures)

Introduction to Digital Compositing, Historical Perspective, Terminology. The Digital Representation of Visual Information. Image Generation, Image Input Devices, Digital Image File Formats, Basic Image Manipulation, Colour Manipulations, Geometric Transformation.

Unit-II

(10 Lectures)

Basics of Compositing, the Matte Image, Multisource Operators, Masks, Compositing with Pre-multiplied Images.

Unit-III

(12 Lectures)

Matte Creation and Manipulation, Procedural Matte Extraction, Matting Techniques, Image Tracking and Stabilization, Tracking and Element into a Plate, Manual Manipulation of Tracking curves, stabilizing a Plate, Tracking Multiple Points, Interface Interaction, The Nuke Window.

Unit-IV

(10 Lectures)

Understanding Nodes and the Node Graphs, the Properties Panel, Other Controls on All Properties Panels. Indicators on Nodes, Viewer Nodes and Viewer Pane, Timeline Controls, Key frame Indication, The Curve Editor Pane, Displaying a Channel Set.

Unit-V

(8 Lectures)

Display Gain and Gamma, Viewer Composite Display Modes 26, Region of Interest (ROI), Customizing Your Layout Image Viewing and Analysis.

Reference Books:

- Magic: Stage Illusions, Special Effects and Trick Photography (Dover Magic Books)
by Albert A. Hopkins

Department Specific Elective

BBSA101D-I: Film and Documentary Script Writing

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Unit-I

(10 Lectures)

Documentary film, Difference between Documentary films and other film genre. Different types of documentary films.

Unit-II

(10 Lectures)

Role of script in films (Documentaries) How to write a script. Writing script for different types of documentary films. Understanding the concept of beginning, middle and end.

Unit-III

(10 Lectures)

Importance of research in script writing. Research on different types of script. Understanding expansion of Ideas. Enhancing your script from first draft to third draft.

Unit-IV

(10 Lectures)

Formulating your synopsis. Choosing a topic. Writing the first draft. Final output (script) for a documentary film.

Unit-V

(10 Lectures)

What is your story? How to persuade the audience? Striking an emotional chord. Understanding the Feasibility of your script to be executed into a film.

Reference Books:

- A New History of Documentary Film by - Betsy A. McLane.
- This Much is True: 15 Directors on Documentary Filmmaking by - James Quinn.
- Making Documentary Films and Videos – by Barry Hampe
- Writing, Directing and Producing Documentary Films and Videos – by Alan Rosenthal.

BBSA101D-II: Fundamentals of Theatre and Acting

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Unit-I

(10 Lectures)

Origin of English Drama Miracle Plays & Morality Plays Role of Guilds & Church in the Evolution of Drama Secular Period of Drama, University Wits, Renaissance Drama Stage during Shakespearean Period.

Unit-II

(8 Lectures)

Narrative: Definition, Narrator, Types of Narratives Story: Definition, Types of Stories, Plot (Aristotle & Gustav Freytag) Drama: Evolution of structure and stage.

Unit-III

(12 Lectures)

The Role of the storyteller 2. Importance of understanding of rituals, ceremonies, and folk customs 3. Drama and Language 4. Script Writing Exercises 4. Theatre Games, Role Plays & Related Skill Building Activities 5. Exposure to Contemporary Drama.

Unit-IV

(12 Lectures)

Understanding Empathy, Sympathy & Intuition, Emotions & Feelings 2. Characterization: Round Character, Flat Character, Complex Character, Personality 3. The demands of performance: Acting for Stage, Acting for Films 4. Monologue, Soliloquy, Dialogue.

Unit-V

(8 Lectures)

Theatre Workshop.

Reference Books:

- The Art of Film Acting by Jeremiah Comey
- A Short History of English Literature, William J Long
- The Science and Art of Acting for the Camera: A practical approach to film, television and commercial acting by John Howard Swain (2017), Taylor and Francis
- Play the Moment Not the Story: Notebook Acting Actor Script Journal Theater Drama Stage Light by Acting Publishing

- The Longman Anthology of Drama and Theater: A Global Perspective, by Michael L. Greenwald (Author), Roger Schultz (Author), Roberto Dario Pomo (Author)
- Introduction to Theatre Arts 2 Teacher's Guide: An Action Handbook for Middle Grade and High School Students and Teachers by Suzi Zimmerman

BBSA102D-I: Classical Animation

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Unit-I

(8 Lectures)

2D Animation Overview –Script, Storyboard, Soundtrack, Track Breakdown, Designs, Animatic, Layouts, Dope Sheets and Production Folders, Pencil Tests, Pose Tests, Clean-Up, Ink and Paint, Backgrounds, Checking, Final Shoot/Composite, Final Edit and Dub, The Tools of the Trade, Lightbox, Peg Holes and Peg Bars, Field Sizes.

Unit-II

(12 Lectures)

Principles of Animation- Key Poses, Breakdowns, and Inbetweens, Timing, Charts, Slowing-In and Slowing-Out, Extreme Positions, Arcs and Paths of Action, Holds, Emphasis, Anticipation, Weight and Weighted Movement, Flexibility and Fluid Joint Movement, Overlapping Action, Generic Walks, Keys, Passing Position, Inbetweens, Walk Cycles, Personality Walks and Timing, Runs and Run Cycles, Personality Runs and Timing, Silhouetting, Dialogue and Lip Sync, Laughter, Takes, Eyes and Expressions.

Unit-III

(8 Lectures)

Animating Step by Step - Key Poses, Attitude and Dynamics, In-betweenes, Adding Mouths, Staging, Camera Angles, Working with Characters, Extreme Action, Clean-Up, Drawing for Animators, Drawing Terminology.

Unit-IV

(12 Lectures)

2D Animation Basics - Keys, Inbetweens, and Timing, Charts and In-between Counting, Straight Ahead Animation, Slowing-In and Slowing-Out, Working in Thirds, How to In-between, Paths of Action, Superimpositions, Multiple Superimpositions, Dope (Exposure) Sheets and Production Folders, The Dope Sheet, Frame Lines, Animator's Notes, Audio Breakdown, Animation Layers, Shooting or Camera Instructions, Rules for Dope Sheets, The Production Folder, Special Instructions, Material Used From Other Scenes, Material Used in Other Scenes, Attached Dope Sheet, Flipping and Peg Bars, Using Peg Bars, Top Pegs vs. Bottom Pegs, Bottom Pegs Flipping, Top Pegs Flipping, Whole Scene Flipping.

Unit-V

(10 Lectures)

Case studies of classical animation based short films, animation appreciation, International Animation Artists, and Discussion on Animation Film Festivals. Assignment: Students have to create an 11 seconds of classical animation scene using the light box.

Reference Books:

- Animator's Survival Kit – Richard Williams
- Cartoon Animation – Preston Blair
- The Illusion of Life – Frank Thomas & Olie Johnstan
- Chuck Amuck! and Chuck Reduces by Charles M. (Chuck) Jones
- Animation: Pencil to Pixel by Tony White
- Timing for Animation by Harold Whitaker
- The Animation Book: A Complete Guide to Animated Filmmaking--From Flip Books to Sound Cartoons to 3- D Animation by Kit Laybourne

BBSA102D-II: Digital Painting

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Unit-I

(10 Lectures)

Digital painting tools, Strength and weakness, Software and platforms.

Unit-II

(10 Lectures)

Brushes, types of brushes, Making new brushes.

Unit-III

(10 Lectures)

Layers, Layer styles, Masks, Hue saturation and other options

Unit-IV

(10 Lectures)

Simple brush coloring and Dynamic brushes.

Unit-V

(10 Lectures)

Paint overs and kit bashing, Examples of popular digital painting- study of examples.

Reference Books:

- Beginners guide to digital painting in photoshop -By 3DTOTAL publishing, various
- Digital painting for the complete beginner - CarlynBeccia

BBSA103D-I: 3D Compositing for Camera

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Unit-I

(10 Lectures)

Analyse and study various 3D composition for cameras, camera tracking concept study.

Unit-II

(10 Lectures)

2D and 3D camera Tracking.

Unit-III

(10 Lectures)

Fundamentals of 3D Tracking.

Unit-IV

(10 Lectures)

VFX Compositions and its implementation.

Unit-V

(10 Lectures)

Render various 3D Compositions.

Reference Books:

- Autodesk 3ds Max 2018 Complete Reference Guide by Kelly L. Murdock
- Autodesk 3ds Max 2018 A Comprehensive Guide by Sham Tickoo (Author)
- Autodesk Maya 2018 Basics Guide Paperback by Kelly Murdoch
- Autodesk Maya 2018A Comprehensive Guide by Tickoo Sham

BBSA131D-II: Storytelling using Multimedia

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Unit-I

(10 Lectures)

Story, Different Components of a Story, researching for the Story, Internet as a Medium for Storytelling, Creating a Script from Story.

Unit-II

(10 Lectures)

Introduction to Multimedia, Understanding Different Elements of Multimedia, Use of Multimedia Elements in Storytelling, Using Different Categories of Authoring Tools.

Unit-III

(10 Lectures)

Image Editing Software, Word Processing Software, Video Editing Software, Audio Editing Software.

Unit-IV

(10 Lectures)

Introduction to Storyboarding, Perspective Drawing, Drawing from a Script, Animatic Basic.

Unit-V

(10 Lectures)

What is Interface, Principles of Designing, Essential Requirement for Multimedia Story, Linear Vs Non-Linear Interaction.

Reference Books:

- New Introduction to Multimedia by Ramesh Bangia (Khanna Book Publishing Co. Pvt. Ltd)
- Web Design in a Classroom by Jeremy Osborn, Jennifer Smith
- Mass Communication in India by Keval J. Kumar
- Adobe Photoshop CC Classroom
- Web Design in a Classroom by Jeremy Osborn, Jennifer Smith
- The Design Process by Karl Aspelund
- Design Thinking by Gavin Ambrose/Paul Harris
- Screenplay: The Foundations of Screenwriting by Syd Field

BBSA104D-I: UI & UX Designing

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Unit-I

(10 Lectures)

Introduction to UI and UX Designing, Task Centered Designing, Brainstorming, Choosing the Users, Design Principles, Critique of the Design.

Unit-II

(10 Lectures)

User Experience Design, Goals of User Interface, Customer Profile Design, Structure of UI, Elements of User Interface.

Unit-III

(10 Lectures)

Brand Goals, Auditing Designs of Competitors, Review User Needs, Functionality and Usability of Design, Typography, Studying Contemporary Designs.

Unit-IV

(10 Lectures)

Prioritizing the User Goals, User Experience Overview, Brand Attributes, Site Taxonomy (Desktop and Mobile), Feature Prioritization.

Unit-V

(10 Lectures)

Introduction to Designing Tools, Shape Creation Tools, Color Correction Tools, Interface Designing Principles.

Reference Books:

- New Introduction to Multimedia by Ramesh Bangia (Khanna Book Publishing Co. Pvt. Ltd)
- Web Design in a Classroom by Jeremy Osborn, Jennifer Smith
- Adobe Photoshop CC Classroom
- Ux-design-for-startups-marcin-treder
- Killer UX Design by Jodie Moule
- The Design Process by Karl Aspelund
- Design Thinking by Gavin Ambrose/Paul Harris
- The Design of Everyday Things - Don Norman
- 100 Things Every Designer Needs to Know – Susan M Weinschenk.

BBSA104D-II: Product Designing & Visualization

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Unit-I

(10 Lectures)

Product Model design reference study.

Unit-II

(12 Lectures)

Product Sketch and design concepts using basic sketching techniques, Introduction to product design tools and its workflow.

Unit-III

(8 Lectures)

Product design concepts in 2D.

Unit-IV

(10 Lectures)

Basic process and implementation of various tools and commands to create a 3D Product.

Unit-V

(10 Lectures)

Rendering Product for final composition.

Reference Books:

- New Autodesk 3ds Max 2018 Complete Reference Guide by Kelly L. Murdock
- Autodesk 3ds Max 2018 A Comprehensive Guide by Sham Tickoo
- Autodesk Maya 2018 Basics Guide Paperback by Kelly Murdoch
- Autodesk Maya 2018A Comprehensive Guide by Tickoo Sham.

Skill Based: Skill Enhancement Courses

BBSA101SB: Basic Photography

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Module 1: Basics of Camera:

- i. How to handle Camera properly and take a shot
- ii. Setting Aperture, Shutter Speed and ISO for different Shots
- iii. White Balance and Shooting Modes in D-SLR Camera.

Module 2: Flash & Lights:

- i. How to use 3 Point Lighting using Cool Lights
- ii. Flash settings and Operations
- iii. Use of Reflector, Cutter and Diffuser Handling
- iv. Use of Light Meter.

Module 3: Outdoor (Landscape & People):

Outdoor – Landscape

- i. Photo-shoot of Outdoor (Landscape)around the MKU Campus.
- ii. Color correction to the taken photos according to his creativity.

Outdoor – People

- iii. Photo-shoot of Outdoor (People)around the MKU Campus.
- iv. Color correction to the taken photos according to his creativity.

Module 4: Outdoor (Birds & Animals):

Outdoor – Birds/Animals

- i. Photo-shoot of Outdoor (Birds/Animals) around the MKU Campus
- ii. Color correction to the taken photos according to his creativity.

Module 5: Outdoor – Monuments:

Outdoor – Monuments

- i. Photo-shoot of Outdoor (monuments).
- ii. Color correction to the taken photos according to his creativity.

Module 6: Photo Language and Portrait:

Photo Language and Portrait:

- i. Photo-shoot of photo language concept and portrait photography around the MKU campus.
- ii. Color correction to the taken photos according to his creativity.

Module 7: Freezing Moment and Panorama Special:

Freezing Moment and Panorama Special

- i. Photo-shoot of freezing moment and panorama. Student will take pictures of their own using
- ii. panorama concepts round the MKU campus.
- iii. Color correction to the taken photos according to his creativity.

Module 8: Special Effects & Indoor Photography:

Special Effects & Indoor Photography

- i. Product photography
- ii. Macro photography
- iii. Event photography
- iv. Night photography
- v. Festival photography.

Reference Books:

- Kathy Burns-Millyard," Digital Photography Basics: A Beginner's Guide to Getting Great Digital Photos", 2014, second edition, published by electronic perceptions.
- DK,"The Beginner's Photography Guide", 2015, 2ndEdition, published by Penguin UK.

BBSA102SB: Game Development

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Module 1: Essential concepts of Scripting:

- i. Behaviors of game objects
- ii. Basic C# scripting
- iii. Introducing scripting in unity.

Module 2: Building Block of Scripts:

- i. Method instead of function
- ii. Introducing Classes
- iii. Passing values between the classes
- iv. Using objects and classes in game script.

Module 3: Details of Variables:

- i. Understanding component property in scripts
- ii. Displaying public variables in inspector panel
- iii. Multi-word variable names
- iv. Common – built – in variable types
- v. Variable scopes

Module 4: Methods' Properties:

- i. Using method in a script
- ii. Specifying methods parameters
- iii. Passing & Returning value from the method
- iv. Start () and Update () methods.

Module 5: Decision making in games:

- i. Condition testing using if statement
- ii. Usage of Foreach loop
- iii. Usage of while loop.
- iv. Storing game objects in array
- v. Storing game objects in list.
- vi. Using dot syntax in unity script
- vii. Accessing components own variables and methods
- viii. Accessing another game objects and its components.

Module 6: State Machine for the game:

- i. Setting up the state manager controller

- ii. Modify the state manager
- iii. Adding OnGUI() to state manager
- iv. Creating a button to pause the game
- v. Destroying and keeping the game objects of the scene.

Module 7: Movement and Collision scripts:

- i. Moving the players using rigid bodies
- ii. Creating and loading prefabs using scripts
- iii. Creating scores for winning the games
- iv. Creating player script.

Module 8: Player Scripts:

- i. Firing a bullet in the game
- ii. Rapid firing the enemy
- iii. Player's animation trigger scripts
- iv. Controlling player movements through script.

Reference Books:

- Terry Norton, "Learning C# by Developing Games with Unity 3D Beginner's Guide", second edition, Packt Publishing Limited, 2015.
- Michelle menard, "Game development with unity" 2 nd edition, Cengage Learning PTR, 2015.

BBSA103SB: Web Design

L T P
4 0 0

Interface, Scripting, Usage of Images: HTML - HTML Basics: Introduction to HTML elements-Basic tags, Attributes, Creating HTML page- Formatting, HTML links, List types and its tags, Creating HTML tables, adding pictures, HTML and page accessibility, Colors and background, Advance HTML, Use of Frames and Forms in web pages, Formatting web pages by using GIF- JPEG getting web and clip arts, use of interlinks.

Planning And Designing Static Web Pages: Web designing, Designing and Planning Web Pages , Creating Pages with HTML ,Working with Text, Formatting Web Pages with ,Style Sheets (CSS),Working with Graphics, Overall Site Design and Management, Web Authoring Tools, Uploading/FTP, Flash Enhancements, Incorporating/Embedding Video, Accessibility, Introduction to Dreamweaver, Properties Inspector and Panels- The Document Window, The Status Bar, The Document Toolbar, Coding Toolbar, Creating a Root Folder, Creating a Website with Frames, Rollovers and Other Image Trick- Drawing Image Maps, Designing with Cascading Style Sheets.

Dynamic Web Content, Scripting: Basics of dynamics web designing, Action script 2.0- Movie clip animation with scriptWeb animation in action script, Basics of flash gaming script, Advanced flash action script 3.0.

E-Learning Techniques: E – Learning - Basic E-learning Theory -Basic Graphics Theory - Basic graphics tools training using different software's -Basic sketching skills training -Tips N Tricks of fast creations- - Clients Specification Study -SB creation -Graphics Content creation-Media Rich Creation Techniques -Review Techniques -Final QA /Testing -Packaging techniques -Industry overview - Industry Exposure Visits.

Web Hosting & Publishing: Illustrations, Publishing website, Hosting portals, ERP in portals, Maintenance of Management Information System through websites, Creating Flash for E-learning, Interface designs.

Reference Books:

- Modern Web Essentials Using JavaScript and HTML5, David Pitt, published May 2014.
- Tablet Web Design Best Practices, Mobify,2013
- “Losing Our Religion: The Liberal Media's Attack”, S. E. Cupp, Rupa Release, Edition I, 2001
- “Media Planning and Buying – Principles and Practice in the Indian Context”, by ArpitaMenon, MacMillan India Public Limited, First Edition, 2007
- Spring Into HTML and CSSAuthor: Molly E. Holzschlag [Emeritus]Publisher: Addison-Wesley Professional
- man-Computer Interaction”,4th ed.Addison Wesley, 2014.

BBSA104SB: Matte Painting

L T P
4 0 0

Module-I: Introduction to Matte Painting, Uses of Matte Painting, Introduction Matte Painting Designing Software's, Image Editing Tools, Digital Painting Tools, `Vector Art Tools.

Module-II: Introduction to Color Theory, using Primary Colors, Using Secondary Colors, Using Tertiary Colors, Using Warm Colors, Using Cool Colors , Using Neutral Colors

Module-III: Creating Custom Brushes, Creating Textures, Adding and Changing Brush Dynamics, Painting and Layer Blending Techniques

Module-IV: Introduction to Set Extension, Creating Foggy/Overcast Lighting, Daytime Lighting, Sunset / Sunrise Lighting

Module-V: Introduction to Perspective Drawing, Introduction to 1-Point Perspective, Introduction to 2-Point Perspective, Introduction to 3-Point Perspective

Reference Books:

- The Digital Matte Painting Handbook by David B. Mattingly
- Digital Compositing for Film and Video – by Steve Wright
- D'artiste Matte Painting: Digital Artists Master Class by Dylan Cole

BBSA105SB: Sound Design

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Module-I: Sound Basics, Software and other production tools, Analog & digital audio signal, Frequency, amplitude, decibels etc, Audio equipment for studio & field production.

Module-II: Types of microphones, Audio controls, mixers, Operational characteristics of microphone, Live and postproduction mixing

Module-III: Voice over, narration and dubbing, Indoor, outdoor and studio recording, Single & multi track recording, Music recording, Foley recording

Module-IV: Understanding standard audio post production workflows, Mono & stereo sound, File Formats, Sound effects and transitions 19. Audio cleaning & editing

Module-V: Sound design, Digital audio parameters, Production sound mixing

Reference Books:

- Designing Sound (Author: Andy Farnell)
- Television Production Hand Book (Author: Herbert Zettl)