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UNIVERSITY OF MYSORE

Estd. 1916

VISHWAVIDYANILAYA KARYA SOUDHA
CRAWFORD HALL, POST BOX NO. 406
MYSORE-570 005

No.AC.2(S)/384/14-15 Dated: 10-06-2015

NOTIFICATION

Sub: Minor Modification in the existing Syllabus and Question paper of the MS Animation course from the Academic Year 2015-16.

Ref: 1. Proceedings of Faculty of Science & Technology Meeting held on 02-02-2015.
2. Proceedings of the Meeting of Academic Council held on 27-03-2015.

The Board of Studies in **ANIMATION (PG)** at its meeting held on **28-11-2014** has resolved for minor modifications in the MS animation syllabus as per the regulations of CBCS scheme and the pattern of question paper under the PG regulation of the programs of University of Mysore. The revised syllabus will come to effect from the academic year 2015-16.

The Faculty of Science and Technology and the Academic Council at their meetings held on 02-02-2015 and 27-03-2015 respectively have approved the above proposals and the same is notified.

The copy of Changes in the MS animation syllabus and pattern of question paper is annexed.

DRAFT APPROVED BY THE REGISTRAR

16/6.

REGISTRAR.

12/06/15

12/6

To

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Chairperson, BOS/DOS in Animation, CIST, MGM.
3. The Dean, Faculty of Science & Technology, DOS in Earth Science, MGM.
4. The Principals of the Affiliated Colleges running MS Animation course.
5. The Director, College Development Council, UOM, Mysore.
6. The Coordinator, Online & Outreach programme, Parakalamatta, MGM.
7. The Deputy/Assistant Registrar (Evaluation), University of Mysore, Mysore.
8. The Supdt., Academic Section /PMEB, UOM., Mysore.
9. The P.A. to the Vice-Chancellor/Registrar/Registrar(Evaluation), UOM., Mysore.
10. The Case Worker, AC.7, Academic Section, University of Mysore, Mysore.
11. The Section Guard File(Supdt.AC.2), A.B., A.C., UOM.
12. The Schedule File.

UNIVERSITY OF MYSORE

REGULATIONS AND SYLLBUS

for

MS IN ANIMATION

Choice based Credit System

Effective from the academic year 2015

The program shall be called **MS in Animation.** It is a two-year program consisting of four semesters coming under the Faculty of Science and Technology. The course shall be governed by the following regulations:

1. ELIGIBILITY, MODE OF SELECTION

A candidate who has passed any Bachelor's degree of three years duration, from a recognized University with overall 50% marks (relaxable to 45% in case of SC, ST and Category-I candidates) is eligible for admission to the first semester of the program.

1.1. Eligibility is as per the norms of admission to PG courses in Manasagangotri, University of Mysore. The candidates have to appear for an entrance examination. The syllabus for entrance examination broadly covers General English, General Knowledge, Drawing Skills, and Basics of Computers.

1.2. Selection of the candidates shall be for the course is based on the merit obtained after taking into consideration 50% of the total marks obtained from Entrance Test as well as Degree examination of all the three years.

2. INTAKE

2.1. There shall be a total intake of 45 candidates.

2.2. The admission shall be as per the norms of the University.

2.3. The selection of eligible candidates for admission to course shall be based on merit–cum-reservation policy of the government of Karnataka from time to time.

3. COURSE OF STUDY

3.1. The course of study for the MS in Animation shall extend over a period of two years consisting of four semesters. Each semester shall be of sixteen weeks duration. The academic calendar shall be as notified by the university from time to time.

3.2. A candidate can take a maximum of four years for completion as per double the duration norms of University of Mysore.

3.3. The medium of instruction shall be English.

3.4. There shall be four papers of theory with two practical in the first, second semester.

3.5. There shall be two compulsory papers and two elective papers of theory with two practicals in the third semester. The fourth semester is of minimum six months duration and is exclusively for project/dissertation work. The hours of instruction shall be Three hours per week for each theory paper and four hours for each practical.

4. ATTENDANCE, PROGRESS AND CONDUCT

4.1. Each semester shall be taken as a unit for the purpose of calculating attendance.

4.2. The students shall attend practicals and theory classes as prescribed by the University during each semester.

4.3. A student shall be considered to have completed a semester if the student has attended not less than 75% of number of working periods of the course during the said semester. If the attendance in any paper is less than 75% the candidate is detained in that paper and the credits earned in that paper becomes zero.

4.4. The student who fails to complete the course in the manner stated in 4.3 above shall not be permitted to appear for the University examinations. Such a candidate shall en roll himself/herself in the coming two years. However the admission is subject to the availability of the seats.

4.5. If the conduct/behaviour of the student is not found to be satisfactory, action will be initiated as per the University regulations.

5. SCHEME OF EXAMINATION

5.1 There shall be a University examination at the end of each semester.

5.2 The duration and maximum marks and minimum marks for pass in each of the theory and practical shall be as given below:

Paper	Theory Papers and Practicals	Credits				Marks						Total	
		L 3hrs/week	T 1hr/week	P 4hrs/week	Credits	I.A		Theory Exam		Practical Exam			
						Max	Min	Max	Min	Max	Min	Max	Min
	I Semester												
MSA : T-1.1	Introduction to Animation Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-1.2	Principles of Drawing and Anatomy Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-1.3	Art of Film Making Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-1.4	Visual Communication Soft core	3	1	0	4	30	-	70	25			100	40
	Practicals												
MSA : P-1.1	*Digital Graphics Tools and Techniques Soft core*	0	0	2	2	30	-	-	-	70	25	100	40

MSA : P-1.2	*3D Animation Hard core*	0	0	2	2	30	-	-	-	70	25	100	40
	II Semester												
MSA : T- 2.1	3D Modelling and Animation Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-2.2	Script Writing and Story Board Designing Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T- 2.3	Character setup, 3D Lighting, Rendering**.**Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-2.4	Digital Editing Soft core	3	1	0	4	30	-	70	25			100	40
	Open elective												
	Practicals												
MSA : P-2.1	3D Modelling and texturing Hard core	0	0	2	2	30	-	-	-	70	25	100	40
MSA : P-2.2	3D Animation Hard core	0	0	2	2	30	-	-	-	70	25	100	40
	III Semester												
MSA : T- 3.1	Dynamics of Animation Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-3.2	VFX, Compositing and Editing. Hard core	3	1	0	4	30	-	70	25			100	40
MSA : T-3.3	Web Technology Soft core	3	1	0	4	30	-	70	25			100	40
Optional elective Papers: one paper are to be selected from the following :													
MSA : T- 3.3	Cartoon Animation Soft core	3	1	0	4	30	-	70	25			100	40
MSA : T-3.4	Game Design and Development Soft core	3	1	0	4	30	-	70	25			100	40
	Practicals												
MSA : P-3.1	VFX, Compositing and Editing. Hard core	0	0	2	2	30	-	-	-	70	25	100	40

MSA : P-3.2	Web designing and practicals based on elective paper selected	0	0	2	2	30	-	-	-	70	25	100	40
	IV Semester												
	Internship	0	4	4	8								
	Project, Project Report, Presentation and Viva	0	4	4	8			400	160				
Open Elective papers for the students of other Departments													
Open Elective II SEMESTER	DIGITAL IMAGE EDITING USING PHOTOSHOP **Open Elective**	3	1	0	4	30	-	70	25			100	40
Open Elective III SEMESTER	AUDIO-VIDEO EDITING TOOLS & TECHNOLOGY **Open Elective**	3	1	0	4	30	-	70	25			100	40
Open Elective IV SEMESTER	2D ANIMATION AND SPECIAL EFFECTS **Open Elective**	3	1	0	4	30	-	70	25			100	40

*In case of practical examination, the following scheme shall be followed:
Writing procedure – 10 marks, Execution - 40 marks, Viva-voce – 10, Record-10

**In case of Project, the following scheme shall be followed:
Animation film: 100 marks, Viva-voce: 80 marks, Dissertation: 100 marks

5.3 The internal assessment marks in each theory paper shall be awarded by the concerned course teacher based on (i) two class tests, each of one hour duration, conducted by him/ her during the semester, (ii) Assignment and (iii) one seminar.

Internal assessment: 30 marks

C1 Test: 15 marks
C2 Test: 15 marks

5.4 The internal assessment marks in each practical shall be awarded by the concerned course teacher based on (i) two practical tests, each of one hour duration, conducted by him/ her during the semester, (ii) Practical Record evaluation.

Internal assessment: 30 marks

C1 Test: 15 marks (10marks + 5 Practical Record)
C2 Test: 15 marks (10 marks + 5 Practical Record)

5.5 The Candidate shall submit two copies of the dissertation on project work during fourth semester for evaluation. The project viva shall be conducted by one internal examiner and one external examiner approved by the Registrar (Evaluation).

Internal assessment: 120 marks

Test1: 60 marks (30marks + 30 project story + story board)
Test2: 60 marks

6. DECLARATION OF RESULTS AND CLASSIFICATION OF SUCESSFUL CANDIDATES

6.1 The results and grades of the MS Animation shall be declared as per the regulations of the Choice Based Credit System - Postgraduate courses of University of Mysore.

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Preamble:

Media and Entertainment are the most emerging and fast growing industries in India and the whole world is taking notice of the efficiency, skill and talent available in the country in these fields. To aid further growth of these industries, it is extremely important that formal and professional level training programmes and courses are introduced at University and College levels to create highly skilled and trained professionals for this Industry. Animation is an important segment in this Industry and this course is being introduced to train people in the field of animation which is an inherent part of a variety of industries today and find applications in industries even beyond Media and Entertainment

The data from NASSCOM (Animation & Gaming Report 2007) states that there are approximately 16000 animators in India and majority of these animators are employed gainfully in Mumbai, Chennai, Bangalore, Hyderabad, Pune etc. The lack of skilled people is badly affecting the animation industry. Most studios have projects lined up for the coming years with tight deadlines to keep as most of these projects are from the international market. This situation has forced the industry to look for animation professionals from international markets and many studios are recruiting foreign hands.
The animation business is sidelining the animation education and even after 15 years of existence in India the field is not understood. The existing animation education lacks professional training methodologies which are only available at Higher Education levels and comprises of Private training institutes that are cashing the visible boom in the industry. Some of these establishments can only provide ill trained and insecure artists and technicians which will only compound the problem. A lot needs to be done, at a very fast pace if we have to maintain our competitive edge and deliver content be it films, serials or games. There is a huge market for it as India has yet to discover its appetite for animation, and the world is still hungry for more!

Opportunities for professionals in Animation Industry :

Global market :

The global animation market (demand perspective) was estimated at USD 59 billion in 2006. The market is expected to grow at a CAGR of nearly 8 percent over 2008 to reach USD 80 billion by 2011. The total revenue earned in the segment, approximately 40-45 percent is attributed to the cost of development. Consequently the global market for animated content and related service is estimated at USD 25-26 billion and the forecast to cross USD 34 billion by 2011 with animation. The entertainment segment will continue to remain the major contributor, accounting for nearly three-fourth of the total market through the forecast period.

Indian market:

The Indian animation industry revenues were estimated at USD 354 million in 2006, a growth rate of 25 percent over 2005. This industry is forecast to reach USD 869 million by 2011, representing a CAGR of 25 percent by 2011. The entertainment contributes nearly 68 percent of the total animation market in India. The key factors driving the growth are significant, cost

advantage, a large pool of English speaking manpower, growing maturity of animation studios and development of IP and an attractive domestic market opportunity.

Career Opportunities:

After completion of the Post Graduate Degree Program students can get job opportunities/placements in the following segments in industry:-

1. Media and Entertainment
2. Animation Studios
3. Post Production Houses (PP)
4. Broadcast Houses
5. Game Studios (Game Art)
6. Visual Effects (VFX) for Films and Television
7. Advertisement Industry
8. Design Visualization
9. Architectural /Interior/Landscape Designing
10. Product Designing/Mechanical Visualization/ Industrial designing
11. Medical Visualization
12. Set Designing/Exhibition Designing
13. Apparel/ Fashion Designing
14. E-learning/CBT Designing
15. Web Designing
16. Graphic Design
17. 3D Modeler
18. Animator
19. Material & Lighting Artist
20. Action Scripting Programmer
21. Virtual Reality Artist
22. Rigging Artist
23. Compositor
24. Editor
25. VFX Artist

Target Industries:

- Motion Picture Production
- Television Broadcast Production Advertising
- Medical Animation
- Cartoon Animation
- Architectural Designs
- Interior Designing

- Automobile Designing
- Fashion Product and accessory Designs
- Video Gaming

Considering the career opportunities and growth in the field of multimedia and animation as justified above, the Centre for Information Science and Technology (CIST), University of Mysore proposes to start a Post-graduation program of two years viz., Master of Science in Animation (MSA) under faculty of Science and Technology, University of Mysore.

LIST OF SUBJECTS TO BE STUDIED FOR MS IN ANIMATION

Paper	Theory Papers and Practicals
I Semester	
MSA : T-1.1	Introduction to Animation Hard core
MSA : T-1.2	Principles of Drawing and Anatomy Hard core
MSA : T-1.3	Art of Film Making Hard core
MSA : T-1.4	Visual Communication Soft core
Practicals	
MSA : P-1.1	*Digital Graphics Tools and Techniques* *Practicals - soft core*
MSA : P-1.2	*3D Animation* *Practicals-Hard core*
II Semester	
MSA : T- 2.1	3D Modelling and Animation Hard core
MSA : T-2.2	Script Writing and Story Board Designing Hard core
MSA : T- 2.3	Character setup, 3D Lighting, Rendering Hard core
MSA : T-2.4	Digital Editing Soft core
	Open elective
Practicals	
MSA : P-2.1	3D Modelling *Practicals-Hard core*
MSA : P-2.2	3D Animation *Practicals-Hard core*
III Semester	
MSA : T- 3.1	Dynamics of Animation Hard core
MSA : T-3.2	VFX, Compositing and Editing. Hard core
MSA : T-3.3	Web Technology Soft core
Optional Papers: one paper to be selected from the following :	

MSA : T- 3.4	Cartoon Animation Soft core
MSA : T-3.5	Game Design and Development Soft core
Practicals	
MSA : P-3.1	VFX, Compositing and Editing *Practicals* *Hard core*
MSA : P-3.2	Web designing and practicals based on elective paper selected Soft core
IV Semester	
	Internship
	Project, Project Report, Presentation and Viva
Open Elective Papers for the students of other Departments	
Open Elective II SEMESTER	DIGITAL IMAGE EDITING USING PHOTOSHOP Open Elective
Open Elective III SEMESTER	AUDIO-VIDEO EDITING TOOLS & TECHNOLOGY Open Elective
Open Elective IV SEMESTER	2D ANIMATION AND SPECIAL EFFECTS Open Elective

Semester-1

MSA.T-1.1: Introduction to Animation

UNIT-1

Introduction to animation, Heritage of Animation, Dawn of Digital Animation, Digital effects of 3D Animation, Rotoscope to Motion Capture, Becoming an Animator, Becoming an Actor, Becoming a Storyteller, Becoming a Creative Practitioner, Applications of Animation- Entertainment, Advertisement, Education, Medical Practise and Engineering.

UNIT-2

Basic Principles in animation, Squash and stretch, Anticipation, Staging, Straight ahead and pose to pose, Follow through and overlapping action, Slow in and slow out, Arcs, Secondary action, Timing, Exaggeration, Solid drawing, Appeal, Mass and weight, Character acting, Volume, Line of action, Path of action, Walk cycles-animal and human.

UNIT-3 Tools of Animation

The use of Live Action in Animation Humans and Animals-Quick Studies from real life, Sequential movement drawing, Caricaturing the Action, Thumbnails, Drama and psychological effect, Motion Studies, Drawing for motion, The Body language, Facial expressions and Lip sync, Introduction to traditional and digital equipment- The animator's drawing tools, The animation table (light box, Field charts, Exercises and warm ups on pegging sheet, Line tests, The exposure sheet ("X" sheet),.

UNIT-4 3D Animation Pipeline

Preproduction- Idea, Story, R&D, Script to screenplay, Storyboards. Production-Layout, 3D Model, Texturing(Surfacing), Rigging/setup, Animation, 3D Visual effects, Lighting and Rendering and Post production – Colour Correction, Audio Video Editing, Final Output.

References:

1. Illusion of Life, Frank Thomas by Ollie Johnston
2. Animators Survival Kit by Richard Williams
3. Timing for Animation by Harold Whitaker & John Halas
2. The Complete Animation Course by Chris Patmore.
3. The Animator's Workbook by Tony White.
4. The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators by Richard Williams.
5. Treasure of Disney Animation Art John Canemaker, Robert E. Abrams, Disney Studios
6. Character Animation Crash Course! by Eric Goldberg
7. The Animation Book: A Complete Guide to Animated Filmmaking-From Flip-Books to Sound Cartoons to 3-D Animation" by Kit Laybourne.

8. Handbook Of Multimedia & Animation, By Shukla A.S

MSA.T 1.2 Principles of Anatomy and Drawing

UNIT-1 - **Anatomy and Drawing for Animation**

Introduction To Sketching And Drawing- Introduction to basic drawing techniques including proportions and Line, Using Pencils for shading, Sketching of Moving Objects - People And Animals, Proportion in portrait drawing, Highlighting and shadows, Drawings with the help of basic shapes, Understanding of the relationship of bones and muscles at rest and in movement to able to translate and maintaining correct volumes.

UNIT-2 –Perspective

Introduction to Perspectives: Perspective in 1 point, Perspective in 2 point, Perspective in 3 point, Eye levels, Vanishing point, Significance of Perspective in animation and composition, Humans and animal forms in perspective, Perspective- blocks, boxes and shapes, Scale diagrams in perspective, Different viewpoints, Importance of eye level.

UNIT-3 – Color Theory & Color Composition

The first steps in colour drawing, Understanding the Colour theory by studying the colour wheel, Illusion drawings, communicating with colour, Colour and mood, Colour and painting styles, Colour and compositions, Colour in action, Realism, immersion and believability in colour scheme, Digital colour correction.

UNIT-4-

Studying Human and animal movement through sequential drawings, gesture drawing, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination.

References:

1. Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1: The Walt Stanchfield Lectures"
2. "Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 2: The Walt Stanchfield Lectures"
3. "Manwatching" Desmond Morris
4. "Teach Yourself Body Language" Gordon Wainwright
5. "Drawing on the Right Side of the Brain" Betty Edwards
6. "The Natural Way to Draw" Kimon Nicolaides

MSA.T 1.3 Art of Film Making

UNIT-1: Basics

Basic art of filmmaking, Types of Film Production, Development- Selection of concept, Film budget justification, Green-light. Pre-production- Area of research, Script development -types, Draft preparation. Shot, scene, Story board, Copy right (Law/Ethics), Hiring actors or models, Crew members Role of Director & procedures. Art Director, Cinematographer, Director of Lighting, Floor Manager, Production Manager. Preparing Production board/Management, Planning and Budgeting for Production, Location scouting. Set direction & colour correction, Equipments required and tests, Finalizing props, shooting schedule, Script breakdown,

UNIT – II Digital Video Equipments

Introduction to Digital Video Equipments: Digital Video Camera- Types – Format- Major Components - Operation and Functions. Lens – Types – Aperture- Shutter. Focussing Methods. Focal Length. Depth of Field. Video signal- Types and Functions. Tripod- Types. Clapboard- Usage. Light meter. Other Useful Accessories. Digital Camera- Movements-Composition-Shots-Angles. Single & multi-camera operations.

UNIT – III PRODUCTION

Production- Shooting on location, Shooting script, Visualization, Selection of Dialogue, Rehearsing, Basic and Special Lighting Usage. Setup-Atmospheric Lighting, Cinematography, Principal photography, Mic arrangements. Camera placement. Tool and techniques. Online, offline, recorded & live programmes. Schedule alterations. Changes in relation to artists date / location problems. Daily call sheet, Daily progress report, Cost report.

UNIT – IV POST-PRODUCTION

Post-production- Video Capturing and Footage review. Final scripting. Basic software & hardware's. Editing,Video Editing-types. EDL Preparations, Editing Techniques- Continuity-Sequence-Dynamic. Linear and Non-Linear Editing. A-B roll & its advantage, Method of Video Effects and Video Transition, Chromo-Keying. Re- recording Video. Voice-over, Sync sound, audio mixing, Role of audio & effects, Mix and composite, Finding Music. Special effect. (Sound, Visual, Graphics and Animation), Titles, Film Screening, FT (Fit for Telecast) certificate, Certificate Approving, Marketing-getting sponsors. Publicity, Film Releasing.

VIDEO & AUDIO CODECS

Defination and use of codecs. Codec formats & types. Storage Devices CD/DVD/BD (Blue-ray Disc). Montage, promos, special promos.

References:

1. Television Production – Gerald Millerson, Focal press,1999.London.
2. The Technique of Television Production 2001 by Gerald Millerson . Focal press. London.
3. Digital Cinematography 2001– Paul Wheeler, Focal Press,. London. First edition.
4. The Essential of TV Director's Handbook 1996 – Peter Jarvis, Focal Press. III-Edition, London.
5. An Introduction to digital Video (1994) – John Watkinson, Focal Press, London.
6. Video Production – Disciplines & Techniques by Thomas D. Burrows, Lynne S.Gross – MC G rawhill.
7. Lighting Techniques For Video Production – Tom Letourneau.1996.Mc will publications . Tanzania. First edition.
8. Digital Non-Linear Editing 1998.– Second edition, Thomas A. Ohanian, Focal Press. London. Sixth edition

MSA.T 1.4 Visual Communication

UNIT-1

Need for and the Importance of Human and Visual Communication. Communication a expression, skill and process, Understanding Communication: SMRC-Model. Types of Media – Traditional media, Print media, Electronic media and any other new media.

UNIT-2

Communication as a process. Message, Meaning, Connotation, Denotation Culture/Codes etc Levels of communication: Technical, Semantic, and Pragmatic. The semiotic landscape: language and visual communication, narrative representation. Principles of Visual and other Sensory Perceptions. Colour psychology and theory (some aspects) Definition,

UNIT-3

Fundamentals of Design: Definition. Approaches to Design, Centrality of Design, Elements/Elements of Design: Line, Shape, Space, Colour, Texture. Form Etc. Principles of Design: Symmetry. Rhythm, Contrast, Balance Mass/Scale etc. Design and Designers (Need, role, process, methodologies etc.)

UNIT-4

Basics of Graphic Design: Definition, Elements of GD, Design process-research, a source of concept, the process of developing ideas-verbal, visual, combination & thematic, visual thinking, associative techniques, materials, tools (precision instruments etc.) design execution, and presentation.

References:

1. Lester, E (2000) Visual Communications: Images with Messages. Thomson Learning
2. Schildgen, T (1998). Pocket Guide to color with digital applications. Thomsom Learning
3. Picture this: Media Representation of Visual Arts and artists. University of Luton Press
4. Palmer, Frederic: Visual Elements of Art and Design,1989, Longman.
5. Porter, Tom and Goodman, Sue: Manual of Graphic Technique 2: For Architects, Graphic Designers, and Artists,1982, Astragal Books. London.
6. Palmer. F: Visual Awareness (Batsford, 1972)

PRACTICALS

MSA.P 1.1 Digital Graphics Tools & Techniques

Software's and Tools:

1. Corel DRAW
2. Adobe Photoshop

Weeks I	**Photoshop**
Practicals 1	Simple text effects
Practicals 2	Image restoration
Practicals 3	Image manipulation in Photoshop
Practicals 4	Movie poster concept (
Practicals 5	Creating story board
Practicals 6	Digital scenery creation
Practicals 7	UI Design, smart objects,actions,batch
Practicals 8	Creating website layout
Practicals 9	Set extension in Photoshop
Practicals 10	Digital Matte painting
	Corel draw
Practicals 11	Symbols, Icons in Corel draw
Practicals 12	Business Card
Practicals 14	Logo/Identity design
Practicals 15	Creating Graphs
Practicals 16	Brochure design
Practicals 17	Product packaging design
Practicals 18	Infographics

MSA.P1.2 Digital Animation

Software's and Tools:

1. Blender 3D
2. Autodesk Maya

Practicals1	Pendulum
Practicals2	Bouncing Ball(Light & Heavy)
Practicals3	Vanilla walk
Practicals4	Personality walk(3D space)- Planning
Practicals5	Personality walk- Blocking
Practicals6	Personality walk- Max Blocking
Practicals7	Personality walk- Polish and Finish pass
Practicals8	Body Mechanics-Planning & Layout pass
Practicals9	Body Mechanics-Blocking pass
Practicals10	Body Mechanics-Max Blocking pass
Practicals11	Body Mechanics-Polish and finish pass
Practicals12	Polish and portfolio development

Semester-2

MSA.T 2.1 3D Modelling and Animation

Unit 1: 3D Modelling

Introduction to various 3D modelling, working with symmetry, Editing components in orthographic view, editing components in perspective view, Poly editing techniques- Extruding, Bridging, Adding polygon to mesh, Split polygon faces, edge loops, Mirror copying a mesh, Creasing and hardening edges on mesh, Sculpt a polygon mesh Poly Normal, Edge & bevel, Separating & combining geometry, NURBS, sub-D's.

Unit 3: 3D Modelling techniques

Using 2D reference sketches to model, , Image Planes, Sculpting, Retoplogy and poly modelling workflow, Polygon primitives, Modelling in shaded mode, Model symmetry, Drawing a polygon, Quads, Tris and nGons, Low Poly/High Poly modelling, Exporting the models from scene to scene for facilitating faster production flow

Unit 3: Texturing

Introduction to texturing, Unfolding/Unwrapping UV mesh, Smoothing and relaxing a mesh interactively, Fixing problem areas, Applying textures, Introduction to Maya Hypershade, Texturing, Materials, Normal mapping, Baking maps.

UNIT-4 Animation

Introduction to Walks with Personality, Locomotion, Body mechanic- Weight and balance, Techniques behind Planning and blocking methods, Understanding Hips, In-depth look of principles of animation, Splining and Polishing methods, Phrasing or bets in shot, Force and forms, Animating Physicality workflow.

References:

1. ISBN: 8131502546, INTRODUCTION TO 3D GRAPHICS & ANIMATION USING MAYAW/CD,ADAM WATKINS, INTERNATIONAL THOMSON COMPUTER PRES, 2007.
2. ISBN: 0764123998, COMPLETE ANIMATION COURSE, CHRIS PATMORE, BARRONS EDUCATIONAL SERIES INC, 2003.
3. Adam Watkins : Maya A Professional Guide, Published by dreamtech, first edition- 2003.
4. Danish Derakhshevi : Introducing Maya 8 3D for Beginners 2006 Wiley Publishing Inc.
5. Tom Meade and Shinsaka Anima : The Complete Reference Maya 6
6. Published by Tata MC.Graw –Hill Publishing Company Limited edition-2004.

7. Autodesk Getting Stat with Maya 2015 URL: docs.autodesk.com/mayaul/ 2015/enu/gettingstarted

MSA.T 2.2 Script Writing & Story Board Designing

UNIT-1

Basics of story: Exploring ideas, Concept, Plot, Structure, Character Theme, Conflicts, Storytelling outline, Building a character, delivering a precise message through the story, Story pacing. Animation story for Children, Adults, Basics of story and Basics of Script writing Action, Scene Headings, Character Name, Screenplay, Titles and End Credits,.

UNIT-2

Scriptwriting terminology: Action, Angle, BG close up, Exterior, Fade in fade out, Pan, Parenthetical, POV, Scene Heading, Slug line, SFX, Sotto voce, Track with, Voice over, Character name, Cast List, Dialogue, Script Length, Action Description, Extension, Dual-Column Dialogue, Act numbers, Scene Numbers, short lines, dialogue paragraphs, Character Arc.

UNIT-3

Story boarding: Introduction to storyboards, Steps of creating a storyboard, Beat board, Story boarding overview, Contents, Pose, Scenes, Camera, colour scheme, Sound, Lighting, Special fx, Applications, Focus the story and the timing in several key frames, Animatics-Lica reel.

Unit-4- Intellectual property and copyrights

Public domain material, Protecting the idea, Proof of ownership, Confidentiality agreement, Piracy, Animation Industry in India, Case Study.

References:

1. ISBN:9788177226645 ,CHARACTER ANIMATION & FILM PRODUCTION PROJECTS USIN 3DS MAX W/CD, CHRIS NEUHAHN, WILEY INDIA PVT.LTD, 2006
2. ISBN: 9788126512287, INTRODUCING CHARACTER ANIMATION WITH BLENDER W/CD, TONY MULLEN, WILEY INDIA PVT.LTD, 2007.
3. COMPUTER GRAPHICS & ANIMATION, PRAJAPATI AK, PRAGATI PRAKASHAN, 2005.
4. ISBN: 9788131208977, TIMING FOR ANIMATION, HAROLD WHITAKER / JOHN HALAS, FOCAL PRESS, 2009.
5. ISBN: 9781903047463, ANIMATION, MARK WHITEHEAD, POCKET ESSENTIALS, 2004.
6. ISBN: 9780240805828, WRITING FOR ANIMATION COMICS & GAMES, CHRISTY MARX, ELSEVIER INDIA P LTD, 2007.

7. Inspired 3D Short Film Production" Pepe Valencia & Jeremy Cantor
8. "Simplified Drawing for Planning Animation" Wayne Gilbert
9. "Illusion of Life" Frank Thomas, Ollie Johnston

MSA.T 2.3 – Character setup, 3D Lighting, Rendering. MSA.T2.4

Unit 1: Introduction to Character Setup

Introduction to Character setup, Riggers role, Criteria for a good rig, Joints and skeletons, Creating skeleton hierarchy, Constraints, Forward(FK) and Inverse kinematics(IK), FK, IK joint structures, Animation controllers, Blend shapes, Clusters, Biped Rig- Analyzing reference, Anatomy of human body, Bone placements, Setting up Torso, Biped Arms, Fingers, Legs/Foot controls, Skinning, Facial Rig- Anatomy of a face, The Facial Action Coding System(FACS), Mouth shapes, Phonemes, Animation controllers for Face, Character GUI.

Unit 2: Muscle systems

Introduction to 3D Muscle system, Components of Muscle, Capsules, , Spline based muscle system, Stretch based muscle systems, Muscle Objects and skins, Assigning weights to Muscle skin, Muscle Builder, Muscle Parameters, Custom muscle systems, Wrinkles, fold, jiggle, Slide, Collide, Muscle control.

UNIT 3: 3D Lighting

Introduction, Directional lights, Spot lights, Types of lights in 3D space, Light attributes, 3 Point lighting, 2 Point lighting, Shadows, Creating photo real environmental lighting.

UNIT-4 Rendering

Introduction to 3D rendering, Introduction to advance lighting effects, Shading material for objects: Anisotropic, Blinn, Lambert, Pong, Pong E, Layer Shader, Ocean Shader, Hair tube shader, Ramp shader, Shading Map, Surface shader, Refining shading materials, Mental ray rendering and Toon shade rendering. IPR rendering, Software, Hardware rendering, Batch rendering, Creating various output as per the end user requirements and maintaining the resolution.

References

1. Inspired 3D Advanced Rigging and Deformations by Brad Clark (Author), John Hood (Author), Joe Harkins (Author)
2. Inspired 3D Character Setup von Michael Ford (Autor), Alan Lehman (Autor)
3. Maya Character Creation: Modeling and Animation Controls by Chris Maraffi (Author)
4. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey (Author)

5. Painting With Light by John Alton
6. Digital Lighting and Rendering By Jeremy Birn
7. http://www.nationalgallery.org.uk
8. Real-Time Rendering by Tomas Akenine-Moller
9. 3D Math Primer for Graphics and Game Development by Fletcher Dunn (Author), Ian Parberry (Author)
10. Computer Graphics: Principles and Practice by John F. Hughes (Author), Andries van Dam (Author), Morgan McGuire (Author), David 11. Sklar (Author), James D. Foley (Author), Steven K. Feiner (Author), Kurt Akeley (Author)
12. Light for Visual Artists: Understanding & Using Light in Art & Design by Richard Yot (Author)
13. Physically Based Rendering, Second Edition: From Theory To Implementation

MSA.T2.4 Digital Editing

UNIT-1

The fundamentals of editing: Basics of editing technology, Types of editing, Editing equipment – recorder, player, Video Switcher, audio mixer, monitor, speaker, special effect generator, Setting Up a Project, DV-PAL, DV-NTSC, HDV, Digitizing from raw storage. Pal Video for windows, Using Project Window, Video Settings, Audio Settings, Compressor, Depth, Frame Size, Frame Rate, Importing still images, Importing video, Narration & adding music & effects. using the monitor window, Video track Adding Video Track Deleting Video Track, use of editing tools selection tool, uses of track select, uses of razor tool,

UNIT-2

The fundamentals of transition effects: Creating Video Effects, Applying Video Effects, Creating Transitions, Transition Settings, Image Mask Transition, Applying Transitions, viewing transitions, Control Panel Setting. Advantages of AB roll editing, Creating Titles, Types of Title, Default still default role, crawl, using template. **Finishing & the future:** Making movie, finalizing sound and effects, rendering, Video File Formats, Export to AVI, MPEG, Adobe Flash video, making video CD.

UNIT-3

Sound Editing: Introduction to sound: Sound, Digital sound files, different sound formats, Midi & digital audio, creating digital audio files, sound producing, sound extracting, Advantages and disadvantages of midi &digital, choosing between midi and digital audio. **Linking files:** Sound for the World Wide Web, adding the sound to your multimedia project, production tips, audio recording, keeping track of your sound, testing and evaluation. **Record clips & editing:** Sound recording, editing digital recording, trimming, splicing and assembly, volume adjustments, format conversion, re-sampling or downloading, fade-ins and fade–outs, Equalization, time stretching, digital signal processing, reverting sound, making midi audio, Audio file formats.

UNIT-4

Special effects: Adding effect automation enveloping, adding a volume envelop, adding a panning envelop, previewing effect automation, applying effect automation, adjusting envelope, adding envelop points, flipping a envelop points, setting fade properties, cutting, copying, pasting, envelope points, adding mirror and wave hammer, pan to left , pan to right, dry out , wet out , convert mono to stereo, looping. **Finalize files:** Burning the audio CD, MP3, making the remix sound track with using all the special FX from the software. Exporting the files in diff formats, save in wav, mp3 etc.

References

1. On Directing Film David Mamet
2. Visual Story Bruce Block
3. 5 C's of Cinematography Joseph Mascelli
4. Story Robert Mckee
5. Cinematic Storytelling Jennifer Van Sijll
6. Cinematography: Theory and Practice Blain Brown
   Shot by Shot Steven D. Katz
7. Cinematic Motion Steven D. Katz
8. Painting with Light John Alton
9. In the Blink of an Eye Walter Murch
10. Editing Digital video by Rober M Goodman, Patrick Mcgrath
11. Transition: Voices on the Craft of Digital editing by Erik Andersen and Stuart Bass
12. Color correction look book: Creative grading technique for film and video by Alexis Van Hukman
13. Digital audio workstation by Colby Leider.

List of Practical

MSA.P 2.1 3D MODELING

Practical 01	Apple
Practical 02	Strawberry
Practical 03	Coca-Cola Can
Practical 04	Treasure box
Practical 05	Human Nose sculpt
Practical 06	Human Eyes Sculpt
Practical 07	Human Mouth Sculpt
Practical 08	Human Ears Sculpt
Practical 09	Biological organ planning(Heart)
Practical 10	Any Biological organ Finishing
Practical 11	Human Character planning
Practical 12	Human Character blocking

Practical 13	Human Character body sculpting
Practical 14	Human Character Face sculpting
Practical 15	Human Character Polish & finish

MSA.P2.2 3D ANIMATION

Practical 1	Advance Body Mechanics-Planning & Layout pass
Practical 2	Advance Body Mechanics-Blocking pass
Practical 3	Advance Body Mechanics-Max Blocking pass
Practical 4	Advance Body Mechanics-Polish and finish pass
Practical 5	Pantomime Shot- Planning & Layout pass
Practical 6	Pantomime Shot- Blocking pass
Practical 7	Pantomime Shot- Max Blocking pass
Practical 8	Pantomime Shot- Polish and finish pass
Practical 9	Dialogue shot- Planning & Layout pass
Practical 10	Dialogue shot- Blocking pass
Practical 11	Dialogue shot- Facial animation & lipsync
Practical 12	Dialogue shot- Polish and finish pass

Semester-3

MSA.T 3.1. Dynamics of Animation

UNIT – 1

Introduction to Dynamics, and Dyna motive solver, Particles, Emitters, Fields:Air, Drag, Gravity, Newton, Turbulance, Vortex, Volume, Particle collusions, Particle cache, Goals, Soft bodies, Springs, Rigid bodies, Constraints, Effect: Fire, Smoke, Fireworks, Lightening, Shatter, Curve flow, Surface flow, Rendering particles and effects, Maya Paint Effects, Baking simulations, Render types.

UNIT – 2 Fluid Effects

Introduction to Fluids, Fluid field interaction, Fluid attributes, , Creating a non-dynamic 3d fluid effects, Creating dynamic 3D effect, Creating fire and smoke using Fluid dynamics, creating a ocean.

Unit -3 Fur and Hair **systems**

Introduction to Fur, Procedural textures, Inclination, roll and polar, Fur volume and Noise, Painting fur attributes, modifying fur direction, Modifying color of a fur descriptions, Creating nCloth collision, Constraints, Hair System: Artisan, Hair system components, Modify curve tools, Paintfx with hair, Hair collision, Hair system caching, Hairstyles.

UNIT – 4 nDynamics

Introduction to nParticles and Nucleus solver, Nucleus node, Nucleus forces, Nucleus plane, Nucleus attributes, nParticles interaction, nConstraints, nCloth: simulations, nCloth dynamics properties, Working with nConstraints, Tearing cloth, Dynamic Property maps, Simulating cloth on moving character, nParticle caching, nConstraints, Creating Smoke simulations in nParticles, Creating liquid simulations in nParticles, Introduction to nHair, Creating Basic hair style, Creating a dynamic curve simulations.

References:

1. ISBN:9788183340040, ELEMENTS OF STATICS & DYNAMICS PART 2 DYNAMICS,LONEY SL,2005
2. Zerouni, Craig. Houdini On the Spot. Focal Press, 2007
3. Maya Studio Projects: Dynamics by Todd Palamar (Author)
4. Maya Visual Effects The Innovator's Guide: Autodesk Official Press by Eric Keller (Author)
5. Autodesk Getting Started with Maya 2015 URL:docs.autodesk.com/mayaul/2015/enu/gettingstarted

MSA.T3.2 VFX, COMPOSITING AND EDITING

UNIT-1

VFX: Converting images from 2D to 3D. Differentiation 2D effects and 3D effects.Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects –Smoke Effects- Fire Effects – Cloud Effects – Snow Effects. designing Clouds Background – Designing Fog Effects –Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing, Thick Smoke Designing, Paint Effects.

UNIT-2

Designing Glass image –Designing Different glass reflection- Designing Glow Effects – Liquid Effects and reflection design Designing Special Effects Visual Effects Tool and advanced functions–Pictures. Matte painting, Designing Trees and green effects –Designing Weather and seasons –Effects on seasons.

UNIT-3

Compositing Techniques : Introduction to advanced 2D animation compositing and Ink paint techniques. Creating color models as per the model sheets. Creating color pallets as required paint and ink fields. Understand the dope sheets / X- sheets in production l evel. Arranging and adjusting the layers as per X- sheet. Advanced panning of camera and background, multiple cameras for showing depth in-between background, over lay and character layers. Introduction to compositing special effects into a scene using 3d graphics and 3d special effects in 2d layers. Concepts for Broadcast animation for logos, channel IDs and montages. Multi-Layer Compositing, Special Effects, Superimposition and Titling. Exporting various file format outputs as per the end user requirements.

UNIT-4 Post production.

Post-production, Video editing (re)recording, and editing the soundtrack. SFX Sound design, Sound effects, ADR, Foley and Music, Transfer of Color motion picture film to Video or DPX with a telecine and color grading (correction) in a color suite. Titles, Credits, and Combining Picture with Sound. Exporting to different platforms.

References:

1. The Art and Science of Digital Compositing, Second Edition: Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann (Author)
2. The Digital Matte Painting Handbook by David B. Mattingly (Author)
3. The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures by Susan Zwerman (Editor), Jeffrey A. Okun (Editor)
4. The Green Screen Handbook: Real-World Production Techniques by Jeff Foster (Author)

MSA.T3.3 Web Technology

UNIT-1

Introduction to computer networks, Basics of computer networks, LAN, WAN ,Concepts of Internet, services on Internet, WWW, Browser, URL , IP address? TCP/ IP basics, Principles of design and composition ,i. Web pages, Hyperlinks, Web server. Planning a website-How to plan a website-importance of good web content. Structuring & site navigation, browser compatibility issues, domains and hosting, Dynamic and static websites

UNIT-2

Introduction, WEB publishing. HTML tag concept , <head><body> , URL, hyperlinks <link> href,<A> tags, Image basics, <img> alt attribute, Hspace, Vspace , Height, Width , Image as buttons,Presentation and layout , Text alignment, Center, left, right , Multicol , Color settings , bgcolor , Foreground color

UNIT-3

Tables, TD , TR , Rowspan,Colspan , cell padding , Table within table , Lists , Ordered lists, Types of order list , Unordered lists , Types of unordered list, Nested Lists,Frames , Frameset , Row ,. Col . % split up of row, col , Frame targeting, Horizontal splitting ,Vertical splitting ,

UNIT-4

HTML form , Input fields , Text box , Password , Button, Drop down list box, Radio button, Check boxes, Submit /reset button , Methods post/get , Style sheet , Setting background, Setting background Repeating background, Setting background image, Setting text color , Align the text , Text decoration, Font , Setting the font , Size, boldness of font , Border , Style of four order , Different borders on each side , Width setting,Margin , Padding , List , List-item marker , Positioning , Vertical alignment of an image, Placing an element behind another

References

1. www.w3schools.com
2. www.htmlcoretutorial.com
3. www.echoecho.com
4. HTML & CSS: The complete reference by Thomas Powell
5. HTML and CSS: Design and Build websites by Jon Duckett
6. HTML: A beginner's guide by Wendy Willard

ELECTIVE PAPERS

MSA.T3.4 CARTOON ANIMATION

UNIT-1 Dialogue acting

Multi character: Generating ideas for acting, Cliche, Planning multi character shot, Story telling, Camera placement, staging, Hands: Appeal, Secondary action, Meaningful and Believable hand poses, Facial expression, Subtext, Emotions In depth look on Eyes and blink

UNIT-2 Creature animation

Introduction to animate non human characters, Animals and creature basics, Animating quadrupeds(Four legged creatures), Animal locomotion, Animal High speed and low speed GAIT, Solid posing and Body mechanics of quadrupeds.

UNIT 3 Advance Creature animations

Four legged walks in depth- Weight, Physicality, Exaggeration, Animal interaction, Hunting behaviour, Performance, Introduction to Bird flight, Applying to fantasy creatures, Creature Interaction.

UNIT- Match Move

Integrating to Live Background plate, Shooting BG plates, Basic composition and framing for creature intergration, Tracking techniques: Tracking, Calibration, Point cloud projection, Ground plane determination, Reconstruction, Automatic vs interactive tracking, Trcking mattes, 2d and 3d tracking

References:

1. Illusion of Life, Frank Thomas, Ollie Johnston
2. Animators Survival Kit, Richard Williams
3. Timing for Animation" Harold Whitaker & John Halas
2. The Complete Animation Course" by Chris Patmore.
3. The Animator's Workbook" by Tony White.
4. The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators" by Richard Williams.
5. Facial Expressions: A Visual Reference for Artists" Mark Simon
6. The Male and Female Figure in Motion Edward Muybridge
7. Animals in Motion Edward Muybridge
8. The Artist's Complete Guide to Facial Expression by Gary Faigin
9. Acting for Animators by Ed Hooks
10 A Practical Handbook for the Actor Bruder et a
11. Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 2: The Walt Stanchfield Lectures Walt Stanchfield

MSA.T 305 GAME DESIGN AND DEVELOPMENT

Unit 1- Game Art

Introduction to Game industry and Game production, Game theory, Game design document, Concept and design level-1, Pre-Production, Story telling, Level desgin, Game assets, Game content for mobile, Handheld devices, PC, Consoles and Social media games, Game cinematic, Programming for Mini-games.

Unit 2- Game Design

Concept and design level2, Game mission design, Environment, Lighting, 3DModelling for games, 3D game animation, Texturing, Introduction to Game engine, Mocap, Designing front end interfaces, Sound effects, Game engine Assembly.

Unit2- Introduction to Game Programming

Introduction to game programming, Variables and Manipulating Variables, Comparison and logical operators, Logic with If statements, Creating Switch statements, Creating custom functions, Working with loops, Understanding arrays, Introduction to Artificial intelligence, Prefab, Character, Joysticks mapping.

Unit 4- Advance Game programming

Way around Game engine, Artificial intelligence in-depth, Level design, Waypoints, While loops, Infinite loops, Switch statements, Character scripting, Saving Game states, Data and high scores, GUI Notification, Colliders, Game Testing

References:

1. Game Engine Architecture, Second Edition Jason Gregory (Author)
2. Game Engine Architecture by Jason Gregory (Author), Jeff Lander (Foreword), Matt Whiting (Foreword)
3. Programming Game AI By Example (Wordware Game Developers Library) by Mat Buckland (Author)
4. Artificial Intelligence for Games by Ian Millington (Author)
5. Building JavaScript Games: for Phones, Tablets, and Desktop by Arjan Egges (Author)
6. Learn OpenGL ES: for Mobile Game and Graphics Development (Learn Apress) by Prateek Mehta (Author)
7. The Art of Game Design: A book of lenses by Jesse Schell (Author)
8. The Ultimate History of Video Games: From Pong to Pokemon--The Story Behind the Craze That Touched Our Lives and Changed the World by Steven Kent (Author)
9. Fundamentals of Game Design by Ernest Adams (Author)

MSA.P3.1: VFX, Compositing and editing (compulsory practicals)

Software Package: Autodesk Maya, After effects, Adobe Premier

List of Practical

	DYNAMICS
Practical 01	Cloth Simulation
Practical 02	Particle emitter, Particle types & Simulation
Practical 03	Cloud smoke and Explosion
Practical 04	Surface materials and Rupture
Practical 05	Dynamic path animation
Practical 06	Sprites
Practical 07	Dynamic effects
Practical 08	Dynamic fields
Practical 09	Shatter and Collisions
	VFX
Practical 10	Video stabilization & tracking
Practical 11	Keying & Matte
Practical 12	Z-depth, camera & lights
Practical 13	Sure target
	Compositing
Practical 14	Slide show
Practical 15	Video transitions & cuts

MSA.P 3.2: WEB TECHNOLOGY and Practical based on elective paper selected either CARTOON ANIMATION or /GAME DEVELOPMENT

Software Packages: Unity 3D | Autodesk Maya
List of Practical

Weeks	**Game Programming**	**Game Design**
Practical 1	Damage point Game(3D game engine setup)	
Practical 2	Damage point Game(Colliders & scripting)	
Practical 3- Practical 6	**Hopscotch game**	
Practical 3	-Planning and Building layout	Hopscotch Animation Cycle
Practical 4	-Scripting & Player controller	Hopscotch Sprite
Practical 5	-GUI Menus	
Practical 6	-Player Score card	
Practical 8- Practical	**Single Player with Enemy Artificial**	

12	**intelligence(AI)**	
Practical 9	-Planning and Layout Setup	Enemy attack cycle Animation
Practical 10	-Way points and enemy AI	Set /Prop prep
Practical 11	-Creating a finite state machine(FSM)	
Practical 12	-Notification and functional entity	

CARTOON ANIMATION

Software/tool requirements : Autodesk Maya | Tracking Suite(Blender, PF Track)

Weeks	**Creature Animation**
Practical 1	Multi character Dialogue shot-Planning and Layout
Practical 2	Multi character Dialogue shot-Blocking
Practical 3	Multi character Dialogue shot-Max Block
Practical 4	Multi character Dialogue shot-Max Block, Facial animation
Practical 5	Multi character Dialogue shot- Polish and finish pass
Practical 6	Quadruped Walk cycle- Stationary walk-Planning and Blocking Pass
Practical 7	Quadruped Walk cycle- Stationary walk Polish and finish pass
Practical 8	Animate Ogre, integrating with live BG plate-Planning, Shooting for Match move
Practical 9	Animate Ogre, integrating with live BG plate- Camera tracking & Animation Layout pass
Practical 10	Animate Ogre, integrating with live BG plate-Blocking pass
Practical 11	Animate Ogre, integrating with live BG plate-Max Block pass
Practical 12	Animate Ogre, integrating with live BG plate-Polish and Finish Pass

Semester 4: Duration 6 months

MSA. P-4.1: Major project intern ship and submission of Animation Film

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Open Electives: II semester

DIGITAL IMAGE EDITING USING PHOTOSHOP

Unit-I 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

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

Foreground & background, Changing Foreground and Background colors, Using the Large color selection Boxes and small color swathes, Using the Eyedropper tool to sample Image color, Changing the Foreground Color While using a Painting Tool, Using Brushes, Selecting the Brush Shape.

Unit-IV

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

References

1. *Anil madan, multimedia systems design*
2. *Learning multimedia*
3. *Barstow Bruce & Martin tony, photoshop 7 - the ultimate reference*
4. *Burke daronthy & Clabria jane, multimedia systems*
5. *Chapra steven.c & Canale raymond.p., digital multimedia*
6. *David matthew, multimedia technology application*
7. *Muley.d.s., fundamentals of computers graphics and multimedia*
8. *Pender Thomas p, multimedia - a hands on introduction*

Open Electives: III semester

AUDIO-VIDEO EDITING TOOLS & TECHNOLOGY

Unit-I

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

Unit-II

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

Digitization, AV data from tape to computer hard disk. Understanding the playback deck, understanding signal processing of S-video, fire wire and composite video. Editing Work Station management – disk space & speed requirement. Broadband and streaming video technology.

Unit-IV

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

Open Electives: IV semester

2D ANIMATION AND SPECIAL EFFECTS

UNIT- I

Timeline construction and management, Keyframe animation, ,Motion and shape tweening ,Working with symbols, ,Importing from Illustrator and Photoshop, ,Basic scripting in Actionscript 3.0, ,Delivery and file formats, Flash Video examples.

UNIT- II

Types of graphics, animation types, overview of the animation (flash), 2D animation and its features, Drawing tools, types of panels, transformation, property panel, working with objects, group, bitmap, Controlling MovieClips with code, ,Working with Dynamic Text fields and Input

Text Fields ,Loading external content and other flash movies, Dynamic preloaders, ,Interactivity with code,

UNIT- III

Text box Font, style, hyperlink, property panel, Working with symbols, Planning the development process, ,Working with XML and dynamically generated content.

UNIT- IV

Grid and guidelines, Onion-skinning, Difference between 2D and 3D animation, Animation in flash, Tweening and motion along a path, Controlling movie playback, Text and hyperlink, adding sound and movie, File format in flash, test movie, Testing the movies,

References

1. *Anderson Richard, Homer Alex & Simon Robinson, Flash In A Flash Web Development*
2. *Learning Flash 5*
3. *Learning Flash Mx 2004*
4. *Crumlish Christian, Web Design With Html/Flash/Java Script & E-Commerce*
5. *Leigh Ronald.W., Flash 5 For Dummies Sahni Sartaj, Flash Mx Actionscript For Designers The Non Programmers Guide To Maximum To Flash - The Non-Programers*

Additional Reference Books:

1. Storyboards: Motion in Art, Mark Simon, 2000, Focal Press, ISBN: 0-240-80329-9
2. Mastering Maya 2009, Sybex , ISBN-13: 978-0470128459
3. The art of Rigging, Alias Conductors program | CG Toolkit, Vol. 1, 2, and 3, 2005
4. Rick Parent. Computer Animation: Algorithms and Techniques. Morgan Kaufmann, 2005, ISBN 1-55860-579-7
5. Kyle Clark. Inspired 3D character animation. Premier Press, 2003, ISBN 1-931841-48-9
6. Mark R. Wilkins, Chris Kazmier. MEL Scripting for Maya Animators, Second Edition (The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2005, ISBN 0-12-088793-2
7. David Gould. Complete Maya Programming: An Extensive Guide to MEL and C++ API (The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2003, ISBN 1-55860-835-4
8. Chris Webster. Animation. The Mechanics of Motion. Focal Press, 2005, ISBN 0 240 51666 4
9. Richard Williams. The Animator's Survival Kit. Faber and Faber, London-New York, 2001, ISBN 0 571 20228 4
10. Alberto Menache. Understanding Motion Capture for Computer Animation and Video Games (Paperback). Academic Press, 2000, ISBN 0-12-490630-3

11. Matt Liverman. The Animator's Motion Capture Guide: Organizing, Managing, Editing (Paperback). CHARLES RIVER MEDIA, INC., 2004, ISBN 1-58450-291-6
12. Eadweard Muybridge. Animals in motion. Dover Pictorial Archive Series, 1957, ISBN 0 486 20203 8
13. Eadweard Muybridge. The Human Figure in motion. Dover Pictorial Archive Series, 1951, ISBN
14. Catherine Winder, Zahra Dowlatabadi. Producing Animation. Focal Press Visual Effects and Animation (Paperback), 2001, ISBN 0-240-80412-0
15. Brad Clark, John Hood, Joe Harkins. 3D Advanced Rigging and Deformations. Thomson Course Technology, 2005, ISBN 1-59200-116-5

Journals

1. ACM Transactions on Graphics, ACM
2. Computer Animation and Virtual Worlds, John Wiley & Sons
3. Computer Graphics Forum, Blackwell Publishing
4. IEEE Computer Graphics and Applications, IEEE
5. The Visual Computer, Springer-Verlag
6. Journal of Visualization and Computer Animation, John Wiley & Sons
7. Animation: An Interdisciplinary Journal, SAGE Publications

Web resources

1. The ACM Digital Library (http://portal.acm.org/dl.cfm)
2. IEEE Xplore (http://ieeexplore.ieee.org/Xplore/guesthome.jsp)
3. Animation Arena (http://www.animationarena.com/)
4. The Animation Guild, Local 839 IATSE and The American Animation Institute (http://www.mpsc839.org/_Home/home_FRM1.html)
5. The Animation Magazine: the business, technology, and art of animation (http://www.animationmagazine.net/)
6. Animation Journal (refereed) (http://www.animationjournal.com/)
7. Highend3D (http://www.highend3D.com/)
8. Fry, Ben and Casey Reas. “Processing”, http://processing.org
9. Hodgin, Robert. “Flight404”, http://www.flight404.com
10. Prudence, Paul. “Data is Nature”, http://www.dataisnature.com
11. Side Effects Software. “Houdini”, http://www.sidefx.com
12. Universal Everything. “Advanced Beauty”, http://advancedbeauty.org
13. Watz, Marius. “Generator.x”, http://www.generatorx.no

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