# UNIVERSITY OF MYSORE

Estd. 1916

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

No.AC.2(S)/401/13-14

Dated: 24-05-2014

## NOTIFICATION

**Sub:** Changes in the Pattern of Question Paper of B.Sc and BFA in graphics and MS Animation courses from the Academic Year 2014-15.

**Ref:** 1. Proceedings of Faculty of Science & Technology Meeting held on14-02-2014.
2. Proceedings of the Meeting of Academic Council held on 29-03-2014.

---

The Board of Studies in **ANIMATION (COMBINED)** at its meeting held on **29-11-2013** has resolved to pass the pattern of question paper of BSc and BFA in graphics and MS Animation courses coming under the University Regulations.

The Faculty of Science and Technology and the Academic Council at their meetings held on 14-02-2014.and 29-03-2014 respectively approved the above proposals and the same is hereby notified.

The copy of Changes in the Pattern of Question Paper of B.Sc and BFA in graphics and MS Animation courses. is annexed herewith.

REGISTRAR.
University of Mysore.
MYSORE.

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 Zoology, MGM.
4. The Principals of the Affiliated Colleges running BSc and BFA in graphics and MS Animation courses.
5. The Director, College Development Council, UOM, Mysore
6. The Deputy/Assistant Registrar (Evaluation), University of Mysore, Mysore.
7. Sri Narasimha Murthy, Statistician, E.B. UOM, Mysore.
8. The Supdt. AC.1 & AC.2, A.B., 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.

Proposed Pattern of Question paper under 70: 30 Scheme for the academic year Dec/ Jan 2013-2014 onwards

MS ANIMATION COURSE

Time: 3 hrs                                                                                                 Max Mrks: 70

Instructions:      a) Answer all the questions each question carries 14 marks.

b) Draw illustrations wherever necessary.

FROM UNIT -1                                                                                                  **7+7**

1a)

 b)

OR

2 c)

 d)

FROM UNIT -2                                                                                                  **7+7**

1 a)

 b)

OR

2 c)

 d)

FROM UNIT -3                                                                                                  **7+7**

1

a)

b)


OR


2

c)

d)


FROM UNIT -4                                                                                                    **7+7**

1

a)

b)

OR

2

c)

d)

5) Write Short notes on the following (mixed from all units)                              7x2 =  14

    1.

    2.

    3

    4

    5

    6

    7

*******

# UNIVERSITY OF MYSORE

**REGULATIONS**

**for**

**MS IN ANIMATION**

**Choice based Credit System**

Effective from the academic year 2013

**UNIVERSITY OF MYSORE**

**Regulations for the MS IN ANIMATION**

**(Choice based Credit System)**

(Effective from academic year 2013)

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, 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 practicals.

**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 |
| MSA : P-1.1 | *Digital Graphics Tools and Techniques Soft core* | 0 | 0 | 4 | 4 | 30 | - | - | - | 70 | 25 | 100 | 40 |

| Code | Title | L | T | P | Credits | | | | | | Total | Min |
|------|-------|---|---|---|---------|---|---|---|---|---|-------|-----|
| MSA : P-1.2 | *2D Animation* *Hard core* | 0 | 0 | 4 | 4 | 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 | Digital Editing Hard core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |
| Optional Papers:  one  paper  to be selected from the  following: | | | | | | | | | | | | | |
| MSA : T-2.4 | Character Layout and Property Designing Soft core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |
| | **Open elective** | | | | | | | | | | | | |
| MSA : P-2.1 | 3D Modelling Hard core | 0 | 0 | 4 | 4 | 30 | - | - | - | 70 | 25 | 100 | 40 |
| MSA : P-2.2 | 3D  Animation Hard core | 0 | 0 | 4 | 4 | 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 | Scripting and Game design Hard core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |
| Optional Papers: Two papers 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 | VFX, Compositing and Editing. Soft core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |
| MSA : T-3.5 | Modelling, Texturing. Lighting and Set Design Soft core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSA : T-3.6 | Game Design and Development Soft core | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | | | 100 | 40 |
| | *Open elective* | | | | | | | | | | | | |
| MSA : P-3.1 | Modelling, Texturing. Lighting and Set Design Hard core | 0 | 0 | 4 | 4 | 30 | - | - | - | 70 | 25 | 100 | 40 |
| MSA : P-3.2 | VFX, Compositing and Editing. Hard core | 0 | 0 | 4 | 4 | 30 | - | - | - | 70 | 25 | 100 | 40 |
| **IV Semester** | | | | | | | | | | | | | |
| | Internship | 0 | 1 | 3 | 4 | | | | | | | | |
| | Project, Project Report, Presentation and Viva | 0 | 4 | 4 | 8 | | | 400 | 160 | | | | |
| 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 - 50 marks, Viva-voce – 10

**In case of Project, the following scheme shall be followed:
Demonstration: 100 marks, Viva-voce: 100 marks, Dissertation: 200 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**
Test1:   15 marks
Test2:   15 marks

5.4The 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**

Test1:   15 marks (10marks + 5 Practical Record)
Test2:   15 marks (10 marks + 5 Practical Record)

5.5The 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).

## 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.

**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<br>Hard core |
| MSA : T-1.2 | Principles of Drawing and Anatomy<br>Hard core |
| MSA : T-1.3 | Art of Film Making<br>Hard core |
| MSA : T-1.4 | Visual Communication<br>Soft core |
| MSA : P-1.1 | *Digital Graphics Tools and Techniques*<br>*Practicals-soft core* |
| MSA : P-1.2 | *2D Animation*<br>*Practicals-Hard core* |
| **II Semester** ||
| MSA : T- 2.1 | 3D Modelling and Animation<br>Hard core |
| MSA : T-2.2 | Script Writing and Story Board Designing<br>Hard core |
| MSA : T- 2.3 | Digital Editing<br>Hard core |
| MSA : T-2.4 | Character Layout and Property Designing<br>Soft core |
|  | Open elective |
| MSA : P-2.1 | 3D Modelling<br>*Practicals-Hard core* |
| MSA : P-2.2 | 3D  Animation<br>*Practicals-Hard core* |
| **III Semester** ||
| MSA : T- 3.1 | Dynamics of Animation<br>Hard Core |
| MSA : T-3.2 | Scripting and Game design<br>Hard Core |
| Optional Papers:  Two papers are  to be selected from the  following : ||
| MSA : T- 3.3 | Cartoon Animation<br>Soft core |
| MSA : T-3.4 | VFX, Compositing and Editing<br>Soft core |

| | |
|---|---|
| MSA : T-3.5 | Modelling, Texturing, Lighting and Set Designing Soft core |
| MSA : T-3.6 | Game Design and Development Soft core |
| | *Open elective* |
| MSA : P-3.1 | Modelling, Texturing, Lighting and Set Designing *Practicals-Hard core* |
| MSA : P-3.2 | VFX, Compositing and Editing *Practicals-Hard core* |
| | **IV Semester** |
| | Internship |
| | Project, Project Report, Presentation and Viva |
| 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-101:  Introduction to Animation**

**UNIT-1**

Introduction to animation production process, 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. Drawing for Animation, Exercises and warm ups on pegging sheet, Quick Studies from real life,Sequential movement drawing, Caricaturing the Action. Thumbnails, Drama and psychological effect, Motion Studies, Drawing for motion, The Body language, Re-defining the drawings, Introduction to the equipment. The animator's drawing tools, The animation table (light box, Field charts, Line tests, The exposure sheet ("X" sheet),

**UNIT-2**

Perspective in animation. Perspective- blocks and boxes, Vanishing point in horizon, Outside horizon and indoors, Scale diagrams in perspective, Different viewpoints, Importance of eye level, Curves and cylinders in perspective, Perspective in 1 point, Perspective in 2 point, Perspective in 3 point, Perspective in multiple points, Multiple points in animation perspective, Objects in perspective, Animals in perspective, Human forms in perspective, Cast shadow exercise, Shapes in perspective with light and shade, Foreshortening, Foreshortening of cylinders, Construction drawing of animals with foreshortened cylindrical forms.

**UNIT-3**

Advanced Animation Principles: Timing for inanimate objects, Rotating objects, Spacing of drawings.(General Remarks) Spacing of drawings, Timing a slow action, Timing a fast action, Getting into and out of holds, Single frames or double frames, Timing an oscillating moment, Bird flight, Other types of animation cycles, Special effects, Flames, Smoke, Water, Rain, Snow, Explosions, Repeat movements of inanimate objects, Accentuating a movement, Strobing.

**UNIT-4**

Basic expressions, Lip movement, Key animation, Clean up, Character design, Shapes to define characteristics and attitudes, Different characters –e.g. hero, villain, secondary and incidental characters, Characterization( acting), Change of expression, Look for the contrast, An acting point, Symmetry "OR" Twinning, dialogues in animation-as a part of acting, SUBPOINTS, Phrasing, Picture and sound sync, Accents, Attitude, The secret, Animation with soundtrack, The sound track, Dialogue and voice over.

References:
1. The Complete Animation Course" by Chris Patmore.
2. The Animator's Workbook" by Tony White.
3. The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators" by Richard Williams.
4. The Animation Book: A Complete Guide to Animated Filmmaking-From Flip-Books to Sound Cartoons to 3-D Animation" by Kit Laybourne.
5. Handbook Of Multimedia & Animation, By Shukla A.S

## MSA.T 102 Principles of Anatomy and Drawing

### UNIT-1

Introduction To Sketching And Drawing, Perspective by setting up eye levels, Using Pencils for shading, Sketching Moving Objects - People And Animals, Perspective design, Proportion in portrait drawing, Highlighting and shadows, Drawings with the help of basic shapes, Animal study, Human anatomy, Shading techniques, Live model study,

### UNIT-2

Understanding the Colour theory by studying The colour wheel, Illusion drawings, The first steps in colour drawing, Theories of figure drawing, Anatomy and Poses, Design and Composition of Figure drawing, drawing with stick figures and/or using a mane kin, Drawing a flip book concept, Narrative drawing, Muscles and Anatomy, Composition and Expression.

### UNIT-3

An Introduction on how to make drawings for animation, Shapes and forms, About 2d and 3d drawings, Clay modelling, Digital Photography, Digital colour correction, Layout design according to a storyboard.

### UNIT -4

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. ANIMATION WORKBOOK WINDOW TO THE WORLD OF ANIMATION VOL 1, THE CREATIVE ANIMATION INSTITUTE, 2004

2. ISBN: 8126504315, 3-D HUMAN MODELING & ANIMATION W/CD, PETER RATNER, WILEY INDIA PVT.LTD,2006
3. ISBN: 978006073713, ANIMATION ART FROM PENCIL TO PIXEL THE HISTORY OF CARTOON ANIME & CGI, JERRY BECK / BILL PLYMPTON / JEFFREY KATZENBERG, HARPER COLLINS COLLEGE PUBLISHERS, 2005.
4. ISBN : 9812542493,  GRAPHICS & ANIMATION BASICS , SUZANNE WEIXEL / CHERYL MORSE, ESWAR PRESS, 2004
5. Robert Rein hardt and Snow Dowd : Macromedia Flash 8 Bible.Published by Wiley India Pvt Ltd.2006

**MSA.T 103 Art of Film Making**

**UNIT-1**

Basic art of filmmaking,  using currently available digital software/hardware tools. Overview of preproduction planning- program ideas, production models, 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-2**

**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, Video Format,  Video Lights - Types and Functions. Tripod- Types. Clapboard- Usage. Light meter. Other Useful Accessories.

**Pre-Production Techniques:** Ideas, Themes, Concepts, Story Development. Script- Format, Storyboard. Planning and Budgeting for Production – Talk show. Short Film. Documentary, Feature Film. Role of Director, Art Director, Cinematographer, Director of  Lighting, Floor Manager,  Production Manager. Casting  and  Location Identification.

**UNIT-3**

**Introduction to Digital Video Production:** Digital Camera- Movements-Composition-Shots-Angles. Mise-en-scene. Color Temperature. Multi Camera Setup. Lighting. Basic and Special Lighting Setup-Atmospheric Lighting. ENG. Anchoring, Compeering. Montage. News Documentary. **Introduction to Digital Video Editing:** Editing Techniques- Continuity-Sequence-Dynamic. Linear and Non-Linear Editing. Capturing and Rendering Techniques. Method of Transitions. EDL Preparations. Storage Devices. Titling- Graphics, Animations.

**UNIT-4**

**Digital Video Production Studio:** Basic Studio Structure and Equipments. Planning and Budgeting. Organizational Structure of Television Channels. OB Van and its accessories. Communication Satellites. Broadcasting – Terrestrial, Satellite, DTH. Planning and Scheduling Time Slot for Television Channel.

**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.T104   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 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. Color psychology and theory (some aspects) Definition, Optical / Visual Illusions Etc Various stages of design process- problem identification, search for solution refinement, analysis, decision making, implementation.

**UNIT-3**

Fundamentals of Design: Definition. Approaches to Design, Centrality of Design, EIements/Elements of Destgn: Line, Shape, Space, Color, 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.P101 Digital Graphics Tools & Techniques**

1. Alias Sketchbook Pro 2
2. Adobe Illustrator CS4
3. CorelDRAW X4
4. Adobe Photoshop CS4 Extended
5. Adobe Indesign CS 4

**MSA.P102   2D Animation**

1. Sound Forge. 9,
2. Adobe Premier Pro CS 4
3. Adobe Flash CS4 Professional
4. Toon Boom Studio 4

**Semester-2**

**MSA.T 201   3D Modelling and Animation**

**UNIT -1**

**3D MODELING:** Introduction to various 3D modeling Techniques :- Organic Modeling, Mechanical & Technical Modellng. Using Templates for Modeling. Polygon, Patch Modeling & NURBS modellng. Concept of edit mesh and edit poly. Low poly modeling. Modifiers and compound objects. How to manage vertex, faces and polygon selections. Introduction to Basic Rigging. Meshsmooth and its options. concepts of Mirroring, Cloning, Merging and exporting the models from scene to scene for facilitating faster production flow

**UNIT-2**

Introduction to 3D interface, understanding the concept of four view ports. Aligning objects in the each view port in X, Y, Z axis. File navigation, saving and opening the files, customizing the interface. Introduction to the Standard and Extended primitives. Understanding the spline tools, creating 3D objects from 2D spline shapes. Introduction to creating complex objects with standard and extended primitives. Modeling objects with Lathe, Loft, Extrude etc modifiers. Introduction to the 3D elevators and walk through.

**UNIT -3**

Applying classical 2D animation techniques i.e. Stretch and squash for 3D characters. Walk cycles and Run cycles, creating the illusion of weight. Introduction to scene animation and key framing. Animation modifiers, track views, constrains and controllers. Creating and working with biped characters, bone system, rigging the characters and rigging solutions to Anatomical Problems.


**UNIT -4**

**ADVANCED 3D ANIMATION.** Producing natural articulation of realistic & semi-realistic, imaginary characters. Body Language, Attitude, Acting, Character Interaction, Animal walks & runs, snakes & birds. Animation Technique for Cloth, Hair, Fur & Fluids, Dynamics of rigid body & Soft Body, springs, Sprite Direction, Sprite Sequences, Depth of Field, Combining Sequences, Crowd Effects. Understanding Dynamic Attributes, Fluid Emitters Fluid Container Attributes.

**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.

## MSA.T202  Script Writing & Story Board Designing

### UNIT-1

**Introduction to Scriptwriting, screenplay and teleplay Scripts are elements:** Basics of Script writing, Use of scriptwriting, Action, Scene Headings, Character Name, Screenplay Page Breaking, Short Lines/Poetry/Lyrics, Titles or Opening Credits, Screenplay Title Page, Continued and Revisions, Header Text + Do's & Don'ts, Screenplay Related Formats and full knowledge about teleplay script

### UNIT-2

**Scriptwriting for both short film:** Dialogue, Parenthetical, Extension, Shot Transition, Dual-Column Dialogue, Act numbers, Scene Numbers, Cast List, short lines, dialogue paragraphs, Script Styles & Types, Script Length Scene Heading Action Description , Character Name, Dialogue, Parenthetical, Extension, Transition, Shots.

### UNIT-3

 **Scriptwriting for feature film:** Dialogue split by Action, Emphasis in Action, Abbreviations, Short Lines, Dialogue Paragraphs, Montage & Series of Shots, Supers - Titles, Signs, etc, Phone Calls and Intercuts Two people talking at the same time.

### UNIT-4

**Introduction to storyboard:** Introduction, Multimedia Storyboarding Tools, The Advantages of Storyboarding, Interactive Storyboarding, Using Interactive Storyboarding to Speed-up the Content-writing Phase, Using Interactive Storyboarding to Speed-up Report Document Production. **Steps of storyboard writing:** Storyboard table, Topic, Timeline, Sketches, color scheme, text attributes, Audio, camera angle, Interaction of buttons and text.

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.

**MSA.T 203 – Digital Editing**

**UNIT-1**

**The fundamentals of editing:** Basics of editing, Pal Video for windows, Pal quick time multimedia QuickTime, Using Project Window, Video Settings, Audio Settings, Compressor, Depth, Frame Size, Frame Rate, Importing still images, Using the monitor window, Viewing safe zones, use of editing and full knowledge about video editing. **The fundamentals of transition effects:** Creating Transitions, Transition Settings, Image Mask Transition, Applying Transitions, viewing transitions. **Finishing & the future:** Making movie, finalizing sound and effects, rendering, making video CD.

**UNIT-2**

**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-3**

**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.

**UNIT-4**

Introduction to the basic 2D digital animation techniques, implementing the traditional 2D techniques in digital animation. Understanding the concepts of layers and drawings. Introduction to the Ink paint of drawings, Introduction to X- sheet (digital X- sheets) understanding the concepts of camera, panning background and camera for effective scene compositing, adding pegs to camera and elements layers for adding panning and truck in and truck out. Exporting animation in to various file formats as per the out put requirements. Introduction to multiple panning and multiple camera.   Undertanding the workflow for producing a 2d animation film, designing digital BGs for various environment. Editorial advice and review relating to the preparation of a course showreel.

**MSA.T204   Character,  Layout  and property Designing**

**UNIT-1**

**Character   Design:** Developing a character and personality in terms of the story, Distinction between heavy and light characters, body types, Alien musculature, Introduction to typical characters- heroes, villains, comedian, heroine.  – use of reptiles, mammals and amphibians. Fat Distribution, costume study, Character designing on paper using pencil with proper anatomy. Conceptual art to draw side and front views of the character in T pose. Importing the front and side views of the character in 3D. To create the character the character with proper mesh flow. Proportion, age, weight and costume. Thinking about the culture and society of the character.

**UNIT-2**

**Character   Rigging, Rendering:** Detailed modeling of the character body parts such as hands, legs, ears etc. Ideas to generate new innovative characters and discuss their body language as

per the rigging needs. Modelling a high poly model. Technical issues related to managing a high poly model. Managing the display of huge sets and models in the view port – camera clipping , proxy display. Concept of polygon loops. Introduction to automated rigging systems and methods. Embedding small scripts in the hierarchy control system to save time and facilitate handling. Advanced rigging. Vertex weighting techniques. Animating and rendering layered scenes. Using advanced rigs to achieve natural articulation of characters. Modeling the character. Using templates and view port references. Optimizing the final model. Rectifying the mesh. Basic posture. Testing the model. Appeal and suitability for animation. Inventing new characters- fantasy characters ,historical characters and futuristic characters. Difference between hi-poly and low-poly character.

## UNIT-3

Layout: Layout – Background Painting Basic and Advanced techniques layout – Basic and Advanced techniques in BG Painting.


## PRACTICALS

### MSA.P201 3D MODELING

1. Stop Motion Pro
2. 3D Studio Max 2010
3. V-Ray
4. Adobe After Effects CS4 Professional

### MSA.P202 3D ANIMATION

1. Modeling with Maya
   - Modeling with Zbrush
   - Texturing with Maya
   - Lighting and rendering with Maya
   - Rigging with MAYA
   - Character Animation with Maya
   - Paint Effects and Dynamics using Maya
   - Realistic Features with Maya
   - Match moving and Camera Tracking
   MAYA Unlimited 2010
2. Z brush

**Semester-3**

**MSA.T 304.  Dynamics of Animation**

**UNIT – 1**
Particles and Environment Aspects – Physics of Dynamics – Static and Dynamics, a Comparative Study – Complexity of Structures. Fluids and their Props for Environmental Effects – Particles and Fluids,Interactions – Simulations and Fluids Procedural interface (workflow, assets, "takes") . Parametric modeling: generative geometry, construction history Parametric modeling: hierarchical structure, form drives surface

**UNIT – 2**
Sizing and Fixing Properties – Hands On: Sands and Glass Particles, Environment and Physical Structures, Effects of Particles with Hair, Fur, Cloth – Dust Particle systems: effects – fire, water, earth, air,Particles and Simulaitons –Subdivisions Properties of Tiny Objects – Particles Containers Generative animation: functions, algorithmic manipulation, variation control, Particle systems: creation, control, modeling,

**UNIT – 3**
Behavioral animation: attraction/repulsion, conditions and state change, Rigid body dynamics: forces, collisions, fracture, Soft body dynamics: geometry, wires, cloth, Fluid simulation and custom dynamic systems

**UNIT – 4**
Integrating Independent Workflows – Hands On: Creating Subdivided Clouds –Overcoming Practical Difficulties of Particle and Creation and Simulation – Overcoming

**References:**
1. STOP STARING FACIAL MODELING AND ANIMATION DONE RIGHT W/CD , JASON OSIPA, Publisher:SHROFF PUBLISHERS & DISTRIBUTORS,2003.

2. ISBN:9788183340040, ELEMENTS OF STATICS & DYNAMICS PART 2 DYNAMICS,LONEY SL,2005
3. ANIMATION WORKBOOK WINDOW TO THE WORLD OF ANIMATION VOL 1,Publisher             THE CREATIVE ANIMATION INSTITUTE,Year of Publication    2004
4. ISBN,9781564967220,FLASH ANIMATION & DHTML - WEB SITE GRAPHICS,Author:RICHARD KARL DANIELSON ,Publisher     ROCKPORT PUBLISHERS INC,Year of Publication          2000
5. ISBN 8177220756 , FLASH 4 WEB SPECIAL EFFECTS ANIMATION & DESIGN,AuthorKEN MILBURN / JOHN CROTEAU,Publisher          DREAMTECH PRESS INDIA PVT LTD,Year of Publication    2000
6. ISBN 0764123998, COMPLETE ANIMATION COURSE, CHRIS PATMORE,Publisher-BARRONS EDUCATIONAL SERIES INC,Year of Publication     2003
7. Zerouni, Craig. Houdini On the Spot. Focal Press, 2007

**MSA.T302  Scripting  and Game Design**

**UNIT-1**

Introduction: **Scripting Languages: ActionScript and JavaScript,** Events and event handlers: Mouse, Keyboard, movie clip and time based events, Using movie Clips and multiple .swf files to keep project file sizes manageable. What is ActionScript, Where Can You Use Action Script, ActionScript Language Basics, Using Variables, Using Access Control, Scope, Data Types, Operators,Conditional Statements, Looping Statements, Comments,

**UNIT-2**

Programming with Classes, Understanding Classes, Understanding Terminology, Encapsulation, Inheritance, Methods in Classes, Properties in Classes, Overriding Behavior, Static Method and Properties Functions, Creating Custom Functions, Returning Results, Defining Functions Using Function Expression, Accessing the Methods of a Superclass, Recursive Function, Functions as Objects

**UNIT-3**

Validating  the Program, Errors,  Fixing Errors, Working with Strings and Number and Math, Using String, Numeric Types, Numbers in Action Script, Manipulating Numbers,  Performing Arithmetic, Trigonometric Calculations, Generating Randomness, Manipulating Date and Time. Using Arrays, Array Basics, Converting Arrays to String, Adding and Removing Items from an Array, Slicing, Splicing and Dicing, Iterating Through the Items in an Array, Searching for Elements.

**UNIT-4**

Working with XML and Regular Expression, XML in ActionScript, Accessing value with E4X, Constructing XML Object, Converting to and from string, Loading XML data from external sources, Regular Expression, Applying Regular Expression, Constructing Expressions, Regular Expression Flags, Understanding the Event Framework, Events, EventDispatcher, Events Objects, Adding and Removing Event Listener, Event Flow, MouseEvent Basics, MouseEvent Types, KeyboardEvent Basics, KeyboardEvent Types, KeyCodes, Timer basics, Handling the Timer Events, Creating a World Clock, Legacy Timer Functions

Reference Books:

1. ActionScript 3.0 By Roger Braunstein, Mims H. Wright, Joshua J. Noble (Bible).
2. Joey Lott and Robert Reinhardt. : Flash 8 Action Script Bible. Published by Wiley India (P) Ltd.2006.

**OPTIONAL PAPERS**

**MSA.T303   CARTOON ANIMATION**

**UNIT-1**

Character Developer.  Animated Cartoons – Character Dialogue, Conceptualization techniques brainstorming, thumbnails, storyboarding, Setting goals, defining objectives,

**UNIT-2**

Meeting deadlines, Animation Cycles – Movie Clip Instances Using scenes to organize a project or web site, targeting scenes, Lip synchronization – Recording Dialog

**UNIT-3**

Visualization of Different Views. Drawing  expressions. Lip synchronization.

**UNIT-4**

The Elements of Art and the Principles of ART, Design Aesthetics – Page Layout for the Internet, Creating the illusion of Depth in a 2D environment, The Illusion of Depth – Perspective - Rendering Form with Value

1. ISBN : 9788126512287, Introducing Character Animation With Blender W/Cd  Tony Mullen, Wiley India Pvt.Ltd . 2007

**MSA. T304   VFX,  COMPOSITING AND EDITING**

**UNIT-1**

**VFX:** Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects –
Smoke Effects- Fire Effects – Cloud Effects – Snow Effects. Fluid Effects-Coloring- designing Clouds Background – Designing Fog Effects –Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing, Thick SmokeDesigning Paint Effects – Coloring paints- Designing Trees and green effects –Designing Weather and seasons –Effects on seasons-

**UNIT-2**
Designing Glass image –Designing Different glass reflection- Designing Glow Effects – Liquid Effects and reflection design Designing Special Effects – Designing effects of Hair and shape – Designing Fur. Effects- Designing Clothes and effects. Visual Effects Tool and advanced functions– Converting images from 2D to 3D. Pictures. Creating 3D Effects- Differentiation 2D effects and 3D effects.

**UNIT-3**

**2D Ink Paint 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**

Introduction to the batch render and work groups. Adding cameras and lights to a simple scene to make a complex compositing. Adding 2D background and elements into a 3D character layers. Creating object, material ID's for further adding special effects. Effects for Digital Video 2D layers and 3D layers for more effective outputs adding particle effects into a scene. Introduction to the color character and keying. Editing the real time video with the CG based scene and merging both of them to create a final output. Exporting various file format outputs as per the end user requirements. Introduction to the batch render and work groups. Introduction to the concepts of editing in terms of composting, adding special effects in built in compositing software. To make a simple CG shot into a perfect output. Chroma Keying, Luma Key, Blue screen, Key frame Text & Layer animation & 2D particles, Effects etc. Color correction, Introduction to the 3D compositing concepts i.e. Layers and masking. Rotoscoping, Rig removal, morphing.

**References:**

1. Antony Bolante : Adobe After effects 5 for windows,After Indian edition 2002 Published by G.C. Jain for Techmedia
2. Danish Derakhshevi : Introducing Maya 8 3D for Beginners 2006 Wiley Publishing
3. Inc.
4. Vikas Gubta & Kogent Solutions Inc. : Multimedia and Web Design. A Revolutionary 3- Stage Sub learning System Published bydream tech.
5. Paul Marino : 3D Animation and Film making, Using Game engines. The art of Machinima Published by Dreamtech edition – 2005.
6. Asoke K.Ghosh : Game Design Process – NIIT, Published by Practice – Hall of India Private Ltd.

**MSA.T305   MODELING TEXTURING, LIGHTING, AND SET DESIGNING**

**UNIT-1**

Introduction to basic material types & procedurals. Study of concepts :- opacity, smoothness, specularity and color. Drawing 2D art templates. Creating complex effects like water fire and smoke. Unwrapping the map for various 3D characters.

**UNIT-2**

Introduction to the mapping and advanced texturing techniques. Shadow maps, Raytraced shadows & radiosity. Concept of lighting system and shadows.

**UNIT-3**

Introduction to 3 point, 2 point and dramatic lighting. Creating photo real environments and textures. Applying on to a 3D objects. Understanding how to produce final output, rendering the scene, rendering the effects, network rendering.

**UNIT-4**

 Introduction to advance lighting effects. Mental ray rendering and Toon shade rendering. Creating various output as per the end user requirements and maintaining the resolution.

**References:**

1.  STOP STARING FACIAL MODELING AND ANIMATION DONE RIGHT W/CD , JASON OSIPA, Publisher:SHROFF PUBLISHERS & DISTRIBUTORS,2003.
2.  ISBN:9788183340040, ELEMENTS OF STATICS & DYNAMICS PART 2 DYNAMICS,LONEY SL,2005
3.  ANIMATION WORKBOOK WINDOW TO THE WORLD OF ANIMATION VOL 1,Publisher            THE CREATIVE ANIMATION INSTITUTE,Year of Publication,2004
4.  ISBN,9781564967220,FLASH ANIMATION & DHTML - WEB SITE GRAPHICS,Author:RICHARD KARL DANIELSON ,PublisherROCKPORT PUBLISHERS INC,Year of Publication,2000
5.  ISBN 8177220756 , FLASH 4 WEB SPECIAL EFFECTS ANIMATION & DESIGN,AuthorKEN MILBURN / JOHN CROTEAU,Publisher,DREAMTECH PRESS INDIA PVT LTD,Year of Publication   2000
6.  ISBN 0764123998, COMPLETE ANIMATION COURSE, CHRIS PATMORE,Publisher-BARRONS EDUCATIONAL SERIES INC,Year of Publication,2003

**MSA.T306   GAME DESIGN AND DEVELOPMENT**

**UNIT-1**

Fundamentals Of Game Technology: Introduction to game engine and its components, game assets. Overview of component interaction inside game engine.  Game theory. The process of game development and its management. Concept of machinima, editing game engine footage. Introduction to scripting and customizing game engine.

**UNIT-2**

Game engine navigation, user interface, menu bar and tool box. Introduction to level design, prop design and static elements of game art. Creating textures for levels and making the level functional. Expanding the level by adding lights and objects.

**UNIT-3**

Working with interactive elements, movers and triggers. Advance techniquesemitters. sprites. Import of animatable models inside game engine. Design considerations. Debugging, error hunting and diagnosis. Advance scripting – creating scripted sequences, using an action list and logical conditions.

**UNIT-4**

Understanding machinima, capturing machinima to make short movie. Game testing- internal testing, external testing.

**References:**

1.  Paul Marino : 3D Animation and Film making Using Game engines. The art ofMachinima Published by Dreamtech edition – 2005.
2.  Asoke K.Ghosh : Game Design Process – NIIT, Published by Practice – Hall of  India Private Ltd.
3.  ISBN : 9788131208977, TIMING FOR ANIMATION, HAROLD WHITAKER / JOHN HALAS, FOCAL PRESS, 2009.
4.  ISBN: 9781903047463, ANIMATION, MARK WHITEHEAD, POCKET ESSENTIALS, 2004.
5.  ISBN: 9780240805828, WRITING FOR ANIMATION COMICS & GAMES, CHRISTY MARX, ELSEVIER INDIA P LTD, 2007.

**Practicals**

**MSA.P301:  VFX , COMPOSITING AND EDITING**

1.  Maya/Digital Fusion/Combustion/ Final Cut Pro/

**MSA.P302:  Modelling, Texturing, lighting and set design**

2.   MAYA

3.   After effects

4.    Nuke.

**Semester 4: Duration 6 months**

**MSA. P-401: Major project**

**Animation Film**

**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. *David. W. Mount, Macromedia Flash Mx 3d Graphics Bible*
6. *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