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 on 14-02-2014.  

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.

To

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Chairperson, BOS/DOS in Animation, CIIST, 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

1a)

b) OR

2 c)

d)

FROM UNIT -2

1 a)

b) OR

2 c)

d)

FROM UNIT -3

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 enrol 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:

<table>
<thead>
<tr>
<th>Paper</th>
<th>Theory Papers and Practicals</th>
<th>Credits</th>
<th>Marks</th>
<th>Total</th>
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<td></td>
<td></td>
<td>L 3hrs/week</td>
<td>T 1hr/week</td>
<td>P 4hrs/week</td>
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<td></td>
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<td>Credits</td>
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<td>Introduction to Animation Hard core</td>
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<td>Principles of Drawing and Anatomy Hard core</td>
<td>3 1 0 4</td>
<td>30</td>
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<tr>
<td>MSA : T-1.3</td>
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<td>3 1 0 4</td>
<td>30</td>
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<td>Digital Graphics Tools and Techniques Soft core</td>
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<td>3D Modelling and Animation</td>
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<td>Script Writing and Story Board Designing</td>
<td>3</td>
<td>1</td>
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<td></td>
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<td>Designing</td>
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<td>Digital Editing</td>
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<td>MSA : T- 2.4</td>
<td>Character Layout and Property Designing</td>
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<td>Property Designing</td>
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<td>MSA : T- 3.1</td>
<td>Dynamics of Animation</td>
<td>3</td>
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<tr>
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<td>Scripting and Game design</td>
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<td>1</td>
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<td>100</td>
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<td>MSA : T- 3.4</td>
<td>VFX, Compositing and Editing.</td>
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<tr>
<td>MSA : P-3.1</td>
<td>Modelling, Texturing, Lighting and Set Design</td>
<td>0</td>
<td>0</td>
<td>4</td>
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<td><strong>Hard core</strong></td>
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<td>MSA : P-3.2</td>
<td>VFX, Compositing and Editing.</td>
<td>0</td>
<td>0</td>
<td>4</td>
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<tr>
<td><strong>Hard core</strong></td>
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</tbody>
</table>

**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 | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | 100 | 40 |

Open Elective

**III SEMESTER**

| AUDIO-VIDEO EDITING TOOLS & TECHNOLOGY | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | 100 | 40 |

Open Elective

**IV SEMESTER**

| 2D ANIMATION AND SPECIAL EFFECTS | 3 | 1 | 0 | 4 | 30 | - | 70 | 25 | 100 | 40 |

Open Elective

*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

5.4 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  
Test1: 15 marks (10 marks + 5 Practical Record)  
Test2: 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).

6. **DECLARATION OF RESULTS AND CLASSIFICATION OF SUCCESSFUL 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 sidelines 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

<table>
<thead>
<tr>
<th>Paper</th>
<th>Theory Papers and Practicals</th>
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<tbody>
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<tr>
<td><strong>I Semester</strong></td>
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<tr>
<td>MSA : T-1.1</td>
<td>Introduction to Animation</td>
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<td>Hard core</td>
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<td>Principles of Drawing and Anatomy</td>
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<td>Soft core</td>
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<td>MSA : P-1.1</td>
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<td>Script Writing and Story Board Designing</td>
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<td>Character Layout and Property Designing</td>
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<tr>
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<td>Hard Core</td>
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<tr>
<td>MSA : T-3.2</td>
<td>Scripting and Game design</td>
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<td>Hard Core</td>
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</table>

Optional Papers: Two papers are to be selected from the following:

<p>| MSA : T-3.3 | Cartoon Animation |
|            | Soft core         |
| MSA : T-3.4 | VFX, Compositing and Editing |
|            | Soft core         |</p>
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<td>MSA : T-3.6</td>
<td>Game Design and Development</td>
<td>Soft core</td>
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<td>Modelling, Texturing, Lighting and Set Designing</td>
<td>Practical-Hard core</td>
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<tr>
<td>MSA : P-3.2</td>
<td>VFX, Compositing and Editing</td>
<td>Practical-Hard core</td>
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<td><strong>IV Semester</strong></td>
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<tr>
<td>Open Elective II SEMESTER</td>
<td>DIGITAL IMAGE EDITING USING PHOTOSHOP</td>
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<td>AUDIO-VIDEO EDITING TOOLS &amp; TECHNOLOGY</td>
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<tr>
<td>Open Elective IV SEMESTER</td>
<td>2D ANIMATION AND SPECIAL EFFECTS</td>
<td>Open Elective</td>
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</tbody>
</table>
Semester-1

MSA.T-101: Introduction to Animation

UNIT-1


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.
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
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


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

UNIT-4


References:


MSA.T104 Visual Communication

UNIT-1


UNIT-2


UNIT-3

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:


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 CS4

MSA.P102 2D Animation

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

MSA.T 201  3D Modelling and Animation

UNIT -1


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


References:

5. Tom Meade and Shinsaka Anima : The Complete Reference Maya 6

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


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


References:

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. Understanding 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

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

UNIT – 2

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:
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, Author: KEN 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.T302 Scripting and Game Design

UNIT-1


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).
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


MSA.T304 VFX, COMPOSITING AND EDITING

UNIT-1


UNIT-2

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 level. Arranging and adjusting the layers as per X-sheet. Advanced panning of camera and background, multiple cameras for showing depth in-between background, overlay 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.
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:

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, Author KEN 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

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

UNIT-4
Understanding machinima, capturing machinima to make short movie. Game testing - internal testing, external testing.

References:

2. Asoke K.Ghosh : Game Design Process – NIIT, Published by Practice – Hall of India Private Ltd.

Practicals

MSA.P301: VFX, COMPOSING AND EDITING

1. Maya/Digital Fusion/Combustion/ Final Cut Pro/
MSA.P302: Modelling, Texturing, lighting and set design

2. MAYA
3. After effects

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 daroonthy & 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 preloaded, 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
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:

3. The art of Rigging, Alias Conductors program | CG Toolkit, Vol. 1, 2, and 3, 2005
(The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2005, ISBN 0-12-
088793-2
(The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2003, ISBN 1-
55860-835-4
51666 4
13. Eadweard Muybridge. The Human Figure in motion. Dover Pictorial Archive Series, 1951, ISBN

Journals
1. ACM Transactions on Graphics, ACM
2. Computer Animation and Virtual Worlds, John Wiley & Sons
5. The Visual Computer, Springer-Verlag

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/ )
5. The Animation Magazine: the business, technology, and art of animation (http://www.animationmagazine.net/ )
7. Highend3D (http://www.highend3D.com/ )