

**ADVANCED DIPLOMA IN ANIMATION  
ENGINEERING**

**REGULATIONS AND SYLLABUS**  
**FOR**  
**ADVANCED DIPLOMA IN ANIMATION ENGINEERING**

*OFFERED BY*  
**BHARATHIAR UNIVERSITY, COIMBATORE**  
**FROM 2008-2009**

**UNDER THE**  
**UNIVERSITY INDUSTRY INTERACTION AND**  
**CONSULTANCY SERVICE CENTRE (UIICSC)**  
**COLLABORATIVE PROGRAMME**

## ADVANCED DIPLOMA IN ANIMATION ENGINEERING

### REGULATIONS AND SYLLABUS

#### REGULATIONS

**1. Description of course/objective of the course**

This course is designed to prepare technicians with specialized skills, knowledge and attitude to work in Animation field.

The program will be conducted at any Amaze Multimedia Centre recognized by Bharathiar University under the UIICSC Collaborative Program.

**2. Eligibility**

- a. A pass in 10+2 Examination/PUC/Equivalent to H.S.C

**3. Duration of the Course**

The Course shall extend over a period of 24 months.

**4. Courses and Scheme of Examination - I year**

Course No.	Course Title	University examination		Credits
		Internal	External	
1.Theory	Cell Animation	40	60	4
2. Theory	Macromedia Flash	40	60	4
3. Theory	Adobe Photoshop	40	60	4
4. Theory	Discrete Combustion	40	60	4
5. Practical	Object Animation	40	60	4
6. Practical	Computer Animation	40	60	4
7. Practical	Graphics Designing	40	60	4
8. Practical	Composing and Editing	40	60	4

## Courses and Scheme of Examination - II year

Course No.	Course Title	University Examination		Credits
		Internal	External	
9.Theory	Autodesk Maya Modeling and Texturing	40	60	4
10.Theory	Lighting and Rendering	40	60	4
11. Theory	Animation and Rigging	40	60	4
12. Practical	Character Modeling	40	60	4
13. Practical	Environment Lighting	40	60	4
14. Practical	Character Animation	40	60	4
15.Project	Project Work, Viva-Voce	80	120	8

### 5. Practical Training

Being a practical oriented program, the focus will be more on practical training. The candidate shall undergo practical training of the computer laboratory of Amaze Multimedia or other computer laboratories of Bharathiar University affiliated institutions.

### 6. Requirement to appear for examination

Candidate should put in a minimum of 90% attendance to appear for the examinations.

### 7. Passing minimum

To pass

- A candidate shall secure a minimum of 40% in the University examination for practical and theory and overall 40% in each of the paper (Internal + External) to pass the examination. A candidate failing in any one of the components has to reappear for that particular component in the supplementary examinations.

## **8. Classification of successful candidate**

- A candidate who obtains 75% and above, aggregate in theory and practical examinations, in the first attempt shall be deemed to have passed the examination with distinction.
- A candidate who obtains from 60% to 74% of the aggregate in theory and practical examinations, in the first attempt shall be deemed to have passed the examination in the first class.
- Other Successful candidates shall be declared to have passed the examination in the Second class.

## **9. Conferment of degree**

A candidate who has passed all the examination as prescribed shall be eligible to receive the “ADVANCED DIPLOMA IN ANIMATION ENGINEERING” from Bharathiar University.

## **10. Course Material**

Course Material shall be supplied by Amaze Multimedia.

## **11. Revision of Regulation and syllabus**

The syllabus and regulations of the courses are subject to modification by the University whenever necessary.

## **12. Question Paper Pattern**

Theory examination will be for 100 marks with the following components which will be converted into 60 marks.

- Multiple Choice / one word answers:  $20 \times 1 = 20$  marks(no choice)
- Short notes(100 words / one paragraph) :  $5 \times 6 = 30$  marks(either/or type)
- Descriptive (300 words 1 ½ page) :  $5 \times 10 = 50$  marks(either/or type)

# **SYLLABUS**

## **I Year**

### **Course 1: Cell Animation(Theory)**

#### **UNIT – 1**

Digital 2D Animation orientation – Basic factors affecting the illusion of motion – Impact of digital techniques on the craft of film and video animation – Professional animation practice and job description – Prevailing file format standards and other compatibility issues – History and future trends of computer animation application in the visual arts.

#### **UNIT – 2**

2D animation application software interface – Default setting and user preferences – Document setup. Import and export formats – Document and timeline window feature – Tools and commands palettes – Media-selection tools and techniques Asset-management features.

#### **UNIT – 3**

2D graphics-creation features – Underlying data type: raster – vector – Raster painting and/or import features – Vector shapes – Vector free-form and control-point placement tools – Features specific to the program in use.

#### **UNIT – 4**

2D graphics editing features – Basic geometric transformation – Boolean operations on shapes – Object stroke attributes – Object fill attributes – Shading techniques (blends – gradients) – Packaged effects (extensions – Plug-ins) – Features specific to the program in use.

#### **UNIT – 5**

2D animation frame-sequencing features – Straight-ahead animation – Key frames animation – Motion paths – Applying geometric transformations over time – twining options – Looping and palindrome motion – Features specific to the program in use.

## SUGGESTED READINGS

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 2 : Macromedia Flash (Theory)**

### **UNIT – 1**

Interface – Drawing Tool bar – View Tool bar - Color Tool bar – Option Tool bar – Properties Panel

### **UNIT – 2**

Modeling Objects and shaping – Timeline status – Layers Play head – Time Line header – Creating Layer – Folders – Properties – Layer Mask – Symbols - Graphic – Move Clip – Button – Using Library.

### **UNIT – 3**

Animation - Twining Animations – Motion Twin – Shape Twin – Filters Drop Shadow - Blur – Glow – Bevel – Gradient Glow & bevel.

### **UNIT – 4**

Sound – Importing Sound – Placing Sound – Button – Editing – Start and End Points of Sound – Publish setting – swf-html-gif-jpeg-png- Quick time.

### **UNIT – 5**

Assignment – Mask – Letter Animation (mask) – Water flow mask – Leg walk – Man Walk – Eye and Lips movement – Snow rain.

## **SUGGESTED READINGS**

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.



4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 3 : Adobe Photoshop (Theory)**

### **UNIT – 1**

Introduction & Interface – What is Image? Pixel Resolution – Image Resolution – Printing Resolution – Monitor Resolution – Color Modes (RGB – CMYK – Lab Color – Gray Scale – Bitmap – Duotone Indexed Color and Multi channel)

### **UNIT – 2**

Viewing and Navigating Images – Cascading – Tiling – Close – Close all – Zoom In – Zoom Out – Planning – Fit to Screen – Actual Size – Print Size – Rulers – Guides – Grid – Selection Edge – Snap.

### **UNIT – 3**

Transforming the Images – Scale – Rotate - Skew – Distort – Perspective - Flip and Canvas – Rotate Canvas – Lassos – Polygonal – Magnetic Tools and Options – Magic Wand and Objects.

### **UNIT – 4**

Tool Box - Painting Tools – Healing – Brush tool and Patch Tool – Brush Tool and Pencil Tool – Eraser Tool – Background Eraser Tool and Magic Eraser Tool – Dodge – Burn and Sponge Tool.

### **UNIT - 5**

Automatic Image Correction – Levels – Curves – Color Balance – Hue/Saturation – Selective Color – Channel Mixer – Brightness/Contrast – Desiderate – Invert – Threshold command – Pasteurize command – Gradient Color – Shadow/High Light – Histogram – Variations - Photo Filter.

### **SUGGESTED READINGS**

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.

3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 4 : Discrete Combustion (Theory)**

### **UNIT-1**

Introduction to Rotoscoping- Description of Masking –Wire removal- Keying- Introduction to Compositing- Technical Resolution in Special effects – Image compositing- Masking effects.

### **UNIT-2**

Pre Compositing of 3D- Particles compositing- Coloring and Correction- Grading of coloring- Output render setting- Forms in render setting- Render setting Formats- Composite conversion 2D to 3D.

### **UNIT-3**

Basic Navigating tools- Designing palettes- Matte painting- advanced steps in Cascading – Tiling – Close – Close All – Zoom In – Zoom Out – Planning – Fit to Screen – Actual Size – Print Size – Rulers – Guides - Grid – Selection Edge – Snap.

### **UNIT-4**

Automatic Image Correction – Levels – Curves– Color Balance - Hue/Saturation - Selective Color – Channel Mixer – Brightness /Contrast – Desiderate - Invert - Threshold Command – Pasteurize Command – Gradient Color - Shadow/High Light – Histogram – Variations - Photo filter.

- Single Integrated application for vector paint – motion graphics design – animation – compositing.
- Full 3D compositing environment.
- Advanced Visual effects tools – Keying – color correction – tracking – grind management – and masking tools inherited from the Flame visual effects system
- Edit Operator – break free from your NLE and assemble clips complete with transitions right in Combustion.
- Rich set of effects tools – including a fully integrated - interactive particle system – warping and morphing – and 3D Post filters.
- Comprehensive paint and rotoscoping tools – including fully customizable brushes
- Comprehensive animation tools – animation curve editor – key framing – and expressions.

- Intuitive schematic view to simplify visualization and organization of complex effect
- Open GL ® application programming interface acceleration – multiprocessor support – and extensive caching for improved system performance.
- Multiple simultaneous view ports with real – time RAM looped playback
- Resolution –independence with 8-10 -216 and 32 – bit (float) per component image processing.

## UNIT-5

Tool Box – Painting tools – Healing – Brush Tool and Patch Tool – Brush Tool and Pencil Tool – Eraser Tool – Background Eraser Tool and Magic Eraser Tool – Dodge - Burn and Sponge Tool.

## SUGGESTED READINGS

- |    |  |   |   |
|----|--|---|---|
| 1. | Eric Hanson, Kenneth Ibrahim,<br>Alex Nijmeh | : | Maya 6 Killer Tips, First Indian<br>Edition 2005,BPB Publications.                              |
| 2. | Barrett Fox                                  | : | 3Ds Max 6 Animation, Tata Mc<br>Graw-Hill Edition 2004.   |
| 3. | Larry Lewis and Jim Lammers                  | : | Maya 5 Fundamentals, First<br>Indian Edition 2004 Published<br>By G.C.Jain for Techmedia.       |
| 4. | Phil Gross and Mike Gross                    | : | Macromedia Director 8.5 Shock<br>Ware, BPB Publications 2005,<br>Studio for 3D                  |
| 5. | Tay Vaughan                                  | : | Multimedia making it work,<br>Seventh Edition,Tata Mc Graw-<br>Hill Publishing Company Limited. |

## **Course 5 : Object Animation (Practical)**

### **UNIT – 1**

Object Animation in Intermediate level – Introductory concepts to basic techniques in Object Animation- Principles of Object Animation and Production.

### **UNIT -2**

Object – Shape and the Placement – Making an object Looks Natural – Drawing Guidelines – Drawing with the 45 Degree Placement Rule.

### **UNIT – 3**

2D graphics editing features – Basic geometric transformation – Boolean operations on shapes – Object stroke attributes – Object fill attributes – Shading techniques (blends – gradients) – Packaged effects (extensions – Plug-ins) – Features specific to the program in use.

### **UNIT – 4**

Integrating Independent Workflows – Hands On: Creating Object Animation – Overcoming Practical Difficulties- Creation and Simulations of Object Particle – Overcoming Hardware Requirement.

### **UNIT – 5**

Digital Animation – Advanced concepts of Animation, Animation Production, High-end Digital Production Software- US ANIMATION (V5.2). Throughout each of the 3 weeks, the students will learn advanced techniques in Digital Animation.

### **SUGGESTED READINGS**

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005,BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.

3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 6: Computer Animation (Practical)**

### **UNIT - 1**

Creating Your First Flash Animation – how to create a new blank movie file in Flash MX – tools and steps involved in first simple animation using motion twining – basic shapes – Shape Twining – shape twining in Flash MX.

### **UNIT - 2**

Flash Animation – Fireworks E-card – Flash’s drawing tools to set a scene for an animation – creating the scene for a Fourth of July exploding fireworks E-card – Animation E-card – set the stage for our E-card – use a new kind of symbol called a Movie Clip.

### **UNIT - 3**

Flash Tip – Tools of the Trade – Drawing in Flash With a Graphics Tablet – frame-by-frame vector animation with this high-tech – but inexpensive – plug and play tool – Animation Tip – Tools of the Trade – Light Tables – 2D animation for cell painting – computer animation – a light table.

### **UNIT - 4**

Flash Lesson – Adding Simple Audio – add a looping audio background to our Flash character animation to complete it – Lip-Synching For Animation: Basic Phonemes – add actual expression and realistic mouth-movements to your animation – it helps to study how the shape of the mouth changes with each sound – these ten basic phoneme shapes can match almost any sound of speech – in varying degrees of expression.

### **UNIT - 5**

Animating the limps – add speech bubbles – about adding actual audio tracks later – to learn about working with text in Flash – and to give our characters a “voice” to communicate with the viewer – so to animate our facial features and give them expression and lip movements.

### **SUGGESTED READINGS**

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.



3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 7: Graphics Designing (Practical)**

### **UNIT – 1**

Change the image size, adjust luminosity, contrast and color, edit and change specific parts of the image (the magic stuff), make B&W image, use a small selection of the most important tools, crop images store your images.

### **UNIT – 2**

How to change the image size with minimum loss of image clarity, how to adjust luminosity and color with minimal tonal damage, recovering from major under or over exposure errors, easy ways to edit and change specific parts of the image errors (the magic stuff), better B & W conversions.

### **UNIT – 3**

More on tools, skin tone corrections, controlling contrast enhancing shadow detail with channel masks sharpening images-alternative methods, how to store organize & backup your images.

### **UNIT – 4**

How to use the Adobe Camera R&W file converter:, How to change the image size with minimum losses;, Using layers and adjustment layers to, Adjust color and luminosity with greater finesse and sophistication, Recover from serious under or over exposure errors.

### **UNIT – 5**

Merge & montage different image sources, Stitch panoramas together, Better B&W image making;, More sophisticated ways to sharpen images;, How to store, organize & backup your image library.

## **SUGGESTED READINGS**

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005,BPB Publications.

2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **Course 8: Composing and Editing (Practical)**

### **UNIT – 1**

Single integrated application – vector paint – motion graphics design – animation – compositing – Full 3D compositing environment – Advanced visual effects tools – keying, color correction, tracking, grain management, and masking tools inherited from the Flame the visual effects system.

### **UNIT – 2**

Edit Operator – break free from your NLE – assemble clips complete with transitions right in Combustion – Rich set of effects-tools – fully integrated – interactive particle system – warping and morphing – 3D Post filters.

### **UNIT – 3**

Comprehensive paint and rotoscoping tools – Fully customizable brushes – Comprehensive animation tools –animation curve editor – key framing – Expressions – Intuitive schematic view to simplify visualization and organization of complex effects.

### **UNIT – 4**

OpenGL® application programming interface acceleration – multiprocessor support – extensive caching for improved system performance – Multiple simultaneous view ports.

### **UNIT – 5**

Resolution –independence with 8-, 10, 12, 16, and 32-bit (float) per component image processing – real-time RAM looped playback.

## SUGGESTED READINGS

1. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.
2. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
3. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
4. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
5. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

## **II Year**

### **Course 9 : Auto Desk Maya Modeling and Animation (Theory)**

#### **UNIT -1**

Maya Basic Modeling – Maya Interface – Creating objects using EP curve, CV curve – Making Table Lamp – Polygon Terminology, Polygon over view – Modeling a dice using Boolean – Making an iron box using loft – Modeling some inorganic objects some inorganic objects – Creating Terrain using sculpt geometry tool.

#### **UNIT -2**

B.G & Set Modeling – Creating Mountains – Interior & Exterior Modeling – Modeling a garden – Modeling a Landscape.

#### **UNIT – 3**

Maya Character Modeling – Modeling the eyes, nose – Modeling the Leg of the Character – Modeling the body – Modeling a Female Character – Modeling a Male Character – Modeling a High Polygonal.

#### **UNIT -4**

Material assigning – Hyper Shade over view – Shade over view – Shades and Textures – Material Linking - Light Linking to the materials – Mental Ray Shades – Mental Ray Textures – Image based Lighting Shades – Controlling Photon Emission from shades.

#### **UNIT-5**

Character UV Texturing- UV Texturing over View – Applying Texture for Dice – Applying UV's for Inorganic Models- Applying UV's for head – Applying UV's for body – Applying UV's for B.G.

## SUGGESTED READINGS

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.
3. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.

## **Course 10 : Lighting and Rendering (Theory)**

### **UNIT – 1**

Basic Lighting – Types of Light – Editing Light Attribute – Light Effects and Light Glow – Light Linking – Mental Ray Lighting – Light Shadow Passing.

### **UNIT – 2**

Mental Ray - Environment Lighting – Image based Lighting for Scene – Caustics Passing and traveling – Global illumination – Photon Emitting & Controlling – Motion Blur Lighting – Light fog.

### **UNIT - 3**

B.G Lighting – Environment Lighting – Creation sun light for B.G – Creating Moon light for B.G – Creating a desert Environment – Interior Lighting.

### **UNIT - 4**

Basic Rendering – Rendering Scene – Interactive Photo Realistic Rendering – Using mental ray for Maya render – Particle Rendering – Software Rendering – Hardware Rendering – Final Gather Rendering – Play Blast Rendering.

### **UNIT - 5**

Batch Rendering – Rendering Formats – Light Pass Rendering – Frames Rendering - F-Check rendering – Occlusion Rendering – Motion Blur rendering – Final Movie Rendering.

### **SUGGESTED READINGS**

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.



3. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005,BPB Publications.

## **Course 11 : Animation and Rigging (Theory)**

### **UNIT -1**

Basic Animation – Animation Principles – Camera animation – Key Frame Animation – Dope Sheet Editor – Track Editor.

### **UNIT - 2**

Non-Linear Animation – Motion Path Animation – Using Clusters – Using Deformers – Key Frame Animation Flow Path Objects – Snap Shot Animation.

### **UNIT – 3**

Character Animation – Creating Walk Cycle – Creating Run Cycle – Female Walk – Male Walk – Four Leg Character Walk cycle – Four Leg Character Run cycle – Lazy Walk – Brisk Walk – Facial Animation – Expressions.

### **UNIT- 4**

Basic Rigging – Creating Bones For Character – Creating Bones For Four Leg Character – Biped Rig – Quadruped Rig – Vehicle Rig – Facial Rig.

### **UNIT – 5**

Character Rigging – Creating Ik's for Character – Creating bone's for Character – Facial Rigging - Binding Shape – Binding & Weight for character – Full body IK.

### **SUGGESTED READINGS**

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

3. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005,BPB Publications.

## **Course 12: Character Modeling (Practical)**

### **UNIT -1**

Character Sketch – Creating 2D Sketches – Side View – Front View – 3/4<sup>th</sup> View.

### **UNIT - 2**

Character Modeling – Modeling a House – Creating Mountains – Interior & Exterior Modeling - Modeling a garden – Modeling a Landscape.

### **UNIT -3**

Maya Character Modeling – Modeling a Head Using Cube – Modeling the eyes, nose – Modeling the Leg of the Character – Modeling the Body – Modeling a Female Character – Modeling a Male Character – Modeling a High Polygonal.

### **UNIT – 4**

Material assigning – Hyper Shade over view – Shades and Textures – Material Linking – Light Linking to the materials – Mental Ray Shades – Mental Ray Textures – Image based Lighting Shades – Controlling Photon Emission from Shades.

### **UNIT – 5**

Character UV Texturing – UV Texturing over View – Applying Texturing for Dice – Applying UV's for Inorganic Models – Applying UV's for head – Applying UV's for body – Applying UV's for B.G.

### **SUGGESTED READINGS**

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.

3. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005,BPB Publications.

## **Course 13 : Environment Lighting (Practical)**

### **UNIT -1**

Understanding Lighting - Intensity, Distribution, Color and Movement – Selective Visibility, Composition, Revelation of Form Establishing the Mood and Reinforce of the Theme

### **UNIT – 2**

Basic Work Flow – Interacting Photorealistic Rendering (IPR) – Key and Fill Lights – Sources of Light and Realistic Look.

### **U N I T – 3**

Types of Lights – Ambient Light – Directional, Point, and Spot Lights – Area light – Volume Light – Color, Intensity and Gobos – Decay Rate – Light Linking – Spotlight properties-Spotlight Effects.

### **UNIT-4**

Light Manipulator and Shadows – Center of Interest/ Origin – Pivot Point –Cone Radius and Penumbra Radius – Decay Regions and Barn Doors – D map Resolution, Filter Size, and Bias – Ray traced Shadows.

### **UNIT – 5**

Light Effects –Light Fog, Environment Fog, Simple Fog, Physical Fog, and Volume Fog – Glow and Halo – Lens Flares – Hands On Creating Animated Gobos Using Paint Effects.

### **SUGGESTED READINGS**

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-

3. Barrett Fox : Hill Publishing Company Limited.  
: 3Ds Max 6 Animation, Tata Mc  
Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First  
Indian Edition 2004 Published  
By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim,  
Alex Nijmeh : Maya 6 Killer Tips, First Indian  
Edition 2005,BPB Publications.

## **Course 14: Character Animation (Practical)**

### **UNIT – 1**

Beginner level – Introductory concepts to basic techniques in Animation – Principles of Animation Production.

**(Description:** The Class is geared towards the beginner to intermediate student, and is centered on 2D character animation. Throughout each of the 3 weeks, the student will learn everything from introductory concepts to advanced techniques in 2D Animation.)

### **UNIT – 2**

Intermediate level – Introductory concepts to basic techniques in Animation Principles of Animation Production.

**(Description:** The class is geared towards the beginner to intermediate student, and is centered on 2D character animation. Throughout each of the 3 weeks, the student will learn everything from introductory concepts to advanced techniques in 2D animation.)

### **UNIT - 3**

Layout & Background painting Basic Advanced techniques Layout Basic and advanced techniques in BG Painting.

**(Description:** The class is geared towards the beginner to intermediate student, and is centered on layout and Background painting for animation. Throughout each of the 3 weeks, the student will learn everything from introductory concepts of perspective, color keys to advanced techniques in layout and Background painting. The class is geared up towards the beginner to intermediate student, and is centered on layout for animation.)

### **UNIT – 4**

Cleanup and In-between introductory concepts to basic techniques in Animation, Principles of animation Production of cleanup and in-betweens.

**(Description:** The class is geared towards the beginner to intermediate student, and is centered on clean-up and in-betweens for 2D character animation. Throughout each of the 3 weeks, the student learn everything from introductory concepts of perspective, color keys to advanced techniques in Cleanup and in-between.)

### **UNIT – 5**

Digital Animation Course Introductory Concepts of Animation, Animation Production, High-end Digital Production Software- US ANIAMTION (V5.2).

**(Description:** The class is geared towards the beginner to intermediate student, and is centered on Digital Production. Throughout each of the 3 weeks, the student will learn everything from introductory concepts to advanced techniques in Digital Animation.)



## **SUGGESTED READINGS**

1. Phil Gross and Mike Gross : Macromedia Director 8.5 Shock Ware, BPB Publications 2005, Studio for 3D
2. Tay Vaughan : Multimedia making it work, Seventh Edition, Tata Mc Graw-Hill Publishing Company Limited.
3. Barrett Fox : 3Ds Max 6 Animation, Tata Mc Graw-Hill Edition 2004.
4. Larry Lewis and Jim Lammers : Maya 5 Fundamentals, First Indian Edition 2004 Published By G.C.Jain for Techmedia.
5. Eric Hanson, Kenneth Ibrahim, Alex Nijmeh : Maya 6 Killer Tips, First Indian Edition 2005, BPB Publications.

## **Course 15 : Project Work , Viva- Voce**

The project should be submitted within 6 months from the publication of first year results.