

**CHOICE BASED CREDIT SYSTEM**

**B.Sc. Animation & Graphics Syllabus**

SEMESTER	CORE COURSE (14)	AECC (2)	SKILL EC (2)	ELECTIVE D SP (4)	ELECTIVE GENERIC (4)	HOURS	CREDIT
I	FOUNDATION ART (C1)  DIGITAL ART & STORY BOARDING (C2)	AECC 1 ENGLISH/MIL COMMUNICATION  ENVIRONMENTAL SCIENCE			GRAPHIC DESIGNING (GE-1)	C1=6X15 C2=6X15 AECC=2X15 GE1=6X15	6 6 2 6
II	TRADITIONAL ANIMATION (C3)  DIGITAL ANIMATION 2D (C4)	AECC 2 ENGLISH/MIL COMMUNICATION  ENVIRONMENTAL SCIENCE			WEB DESIGNING (GE-2)	C3=6X15 C4=6X15 AECC=2X15 GE2=6X15	6 6 2 6
III	ANIMATION SET DESIGNING 3DS (C5)  CHARACTER DESIGNING 3DS (C6)  CG TEXTURING (C7)		DIGITAL SCULPTING (SEC-1)		MEDIA MANAGEMENT (GE-3)	C5=6X15 C6=6X15 C7=6X15 SEC1=2X15 GE3=6X15	6 6 6 2 6
IV	ADVANCED BG DESIGN (C8) ADVANCED CHARACTER DESIGN (C9) ADVANCED TEXTURING IN MAYA (C10)		DIGITAL PAINTING (SEC-2)		ARCHITECTURAL VISUALIZATION (GE-4)	C8=6X15 C9=6X15 C10=6X15 SEC2=2X15 GE4=6X15	6 6 6 2 6
V	CG LIGHTING & RENDERING (C11)  RIGGING FOR ANIMATION (C12)			EDP (DSE-1) AV EDITING (DSE-2)		C11=6X15 C12=6X15 DSE1=6X15 DSE2=6X15	6 6 6 6

VI	3D ANIMATION (C13)			FILM COMPOSITING (DSE3)		C13=6X15	6
	CHARACTER ANIMATION (C14)			VISUAL EFFECTS (DSE4)		C14=6X15 DSE3=6X15 5 DSE4=6X15	6 6 6 6
						Total Credits	140

### Syllabi in Detail

## SEM-1 CORE-1 FOUNDATION ART

### Theory

#### 1.Aesthetics of art

Six limbs of art

Form

Measurement

Expression

Beauty

Similarity

Colour composition

#### 2.Relation between Painting & Animation

In the sense of Colour ,Tone practice Drawing, Background design. Sketch,

#### 3.Great Artist

Painter

Leonardo da Vinci

Rembrandt

Sculptor

Michel Angelo

#### Animation drawing study

Movement study

Posing

Rapid sketch

**Cartoon body construction**

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Construction of body

Construction of head

Live pose convert to cartoon character

**Pencil Study**

Holding, Grip, Freeing the hand

**Pencil Strokes**

Straight, parallel, horizontal, Curve circle, scribble drawing

**Tutorial**

**Light & Shade**

Still life study [Pencil sketch & Charcoal]

Flower Vase

Fruit

**Water colour**

Natural beauty

Hillside

See

**Outdoor study**

Perspective study

Railway station

Building construction from different view

Birds eye perspective

**4. Anatomy study**

Human anatomy

Animal anatomy

**5. Zoo study**

elephant

Horse

Tiger

lion

Rhinoceros

**6. Domestic animal study**

Dog

Cow

Goat

**SEM-1**

**CORE-2**

**DIGITAL ART & STORY BOARDING**

## **Theory**

### **1. Working layers**

What is a layer  
Blending modes  
layer styles  
Working with layers

### **2. Selection and Layer Mask**

Selecting image in a layer  
layer masking  
Clipping mask  
Selecting different portion of image in a layer  
Masking two image by layer mask

### **3. Tone and colour correction**

Colour corrections  
Hue saturation  
Colour balance  
Photo filter  
Channel Mixer  
Variation

### **4. Additional options for tone and colour correction**

Exposure  
Curves.  
Levels  
Brightness/contrast  
Vibrance  
Black and white  
Invert  
Posterize  
Threshold  
Gradient map  
Shadow map  
Desaturate  
Match Colour  
Equalize

### **Essential Filters**

Filters  
Filter gallery

Artistic  
Blur  
Brush strokes  
Distort  
Noise  
Pixilate  
Render  
Sharpen  
Sketch  
Stylize  
Texture

## **6. Types of Essentials**

Detail about all the filters and its impact on an image.

## **7. Essential Blending modes**

Giving brief descriptions on diff blending modes: \_

Normal  
Dissolve  
Multiply  
Screen  
Overlay  
Soft Light  
Hard Light  
Vivid Light  
Liner Light  
Pin Light  
Color Dodge  
Liner Dodge  
Color Burn  
Linear Burn  
Darkens  
Lighten  
Difference  
Exclusion  
Hue  
Saturation  
Color  
Luminosity

## **8. Essential Layer Effects And Styles:**

Giving brief descriptions of diff layer styles and its controls:

Drop Shadow  
Inner Shadow

Outer Glow  
Inner Glow  
Bevel And Emboss  
Stalin  
Colour  
Gradient  
Pattern Overlay  
Stroke

## **9.Sharing Images :**

How to create a new image  
Opening and importing any image in Photoshop  
Adobe Bridge and adobe mini bridge  
Changing the pixel dimension of an image  
Pixel  
Pixel aspect ratio

## **10.Retouching Essentials :**

HRD toning  
Match colour  
Replace colour  
Auto tone  
Auto level  
Auto colour

## **11. StoryBoard**

### **Pre Production**

### **Objective of Story board**

### **Types of Storyboard**

### **Implication of StoryBoard**

### **Tutorial :**

Banner Design  
Poster Design  
Greeting Card  
Photo Retouching  
Application Of Photoshop Tools For Game texturing  
Character Designing From Concept Art  
Vehicle Designing  
Additional Game Props Designing  
Game Environment Designing  
Storyboarding for Advertising Film

**SEM-1  
GE-1  
GRAPHIC DESIGNING**

**1. Introduction**

- 1.About Corel Draw
- 2. The User Interface
- 3. Creating a New Document
- 4. Opening a Existing Document
- 5.Working With Templates
- 6.Layout
- 7.Import
- 8.Export

**2. Tools**

- pick tool
- Smudge Brush
- Roughen Brush
- Free Transform Tool
- crop tool
- Hand Tool
- text tool
- freehand tool
- rectangular tool
- Interactive tool
- Eyedropper tool
- outline tool
- Fill tool
- interactive Fill tool
- Selecting fill and outline color

**3. Corel Draw Layout**

- Insert Page
- Delete Page
- Rename Page
- Page Setup
- Page Background

#### **4. Working with Curves**

- Free Hand Tool
- Bezier Tool
- Pen Tool
- Polyline Tool
- Artistic Media Tool
- 3-Point Curve Tool
- Shape Tool

#### **5. Working with Shape & Object**

- Drawing Rectangle
- Drawing Circle
- Drawing Polygon
- Creating Star

#### **6. Working with Basic shape, Arrows, Flowchart Shape, Banner Shape**

#### **7. Working with Text & Line**

- Formatting Text
- Formatting Paragraph
- Changing Shape of the Text
- Working With Lines

#### **8. Interactive Tool**

- Blending tool
- Contouring the Object
- Distorting Objects
- Envelope tool
- Extruding of the Object
- Drop Shadow
- Applying Transparency Effect

#### **9. Working with Bitmaps**

- Converting Objects to Bitmap
- 3D Effect
- Art Effect
- Blur Effect
- Color Transformation Effect
- Contour Effect

- Creative Effect
- Distort Effect
- Noise Effect

## 10. Arranging Object

- Transforming Object
- Align & Distribute Object
- Ordering Object
- Locking & Unlocking Object
- Shaping Object

## 11. Designing Visiting Cards, Boucher, Poster, Logo & Many More.....

### Adobe Illustrator

Session 1

6.6.11

### Why Adobe Illustrator?

any project (even this syllabus was created in Illustrator).

Show Illustrator samples.

### What are Vector Graphics?

#### Selection Tools:

There are three main selection tools:

**Selection Tool** (quick key: V) selects *entire groups*

**Direct Selection Tool** (quick key: A) selects *individual object* or *individual anchor point*

**Group Selection Tool** (located behind the direct selection tool) selects *groups within groups*

Working with the selection tools:

*Selection tool:* click on OR click and drag to select object OR double click on an object in a group to isolate

*Direct selection tool:* click on point or click in center of object

*Group selection tool:* click object once to select, click again to select the group it is in, click again etc.

\*groups within groups are called *nesting groups*

⌘A: selects all

Holding down shift while clicking on an object will select multiple objects.

Holding down shift while clicking on objects already selected, will deselect the object.

### Magic Wand

The magic wand selects objects based on their common attributes. You can tell the magic wand how

similar you want things to be by setting the tolerance. The lower the tolerance, the more similar the objects

will be. The higher the tolerance the similarities will be much broader.

### Drawing with Path Primitives:

Rectangle Tool (quick key: M)

Ellipse Tool (quick key: L)

Review all other primitive paths, apply stroke and fill.

Work with align dialogue box (Window: Align)

Work with pathfinder dialog box (Window: Pathfinder)

Work with grid and snap to grid (View: Snap to Grid)

### **Drawing with the Pen Tool:**

Anchor points are connected by paths. We do not draw paths, they are created between the anchor points to connect them.

Drawing straight paths with the Pen tool: (quick key: P)

Drawing curved paths with the Pen tool

Drawing free form paths with the Pencil tool: (quick key: N)

Smoothing and erasing paths

Editing anchor points

Joining and averaging paths - Object: Path: Join (quick key: ⌘J) - Object: Path: Average (quick key: ⌘⇧J)

Simplifying paths

Using Offset Path

Cleaning up errant paths

Session 2

6.13.11

### **Drawing in Illustrator**

Working with outside images

Applying fill and stroke

Using the eyedropper

Working with pantone chips

Working with the appearance dialogue box

Compound paths and building shapes, drawing modes

Session 3

6.20.11

### **Type & Type Tools**

There are two types of type in Illustrator; *Point Text Objects* and *Area Type Objects*, there is also something

called Type on a Path but it is very similar to a Point Text Object.

Point Text Object (quick key: T): creates *continuous text*, in other words it has no line breaks

Area Type Objects (quick key: T + drag): *creates a text box* which makes line breaks

Character Settings

Paragraph Settings

Text Threads

Setting text on open paths

Setting text on closed paths

Text to paths

**In Class:** build a logo

Session 4

6.27.11

### **Appearance & Fill**

Through the *Appearance Panel* you are able to target *individual attributes*.

Fill and Stroke

Making more than one stroke

Changing stroke color and weight through the appearance panel

Changing stacking order through the appearance panel

Color dialogue box (three locations)

Gradients

Pattern \_lls

Applying pattern \_ll to a stroke

**In Class:** build a pattern \_ll

Session 5

7.11.11

### **Grouping Objects**

Grouping objects lets you quickly move and edit individual object as one object.

To select multiple objects use (⇧ click)

To group use (⌘G)

To isolate a group within a group (called a nested group) double click. To get back to regular mode, double

click on a an empty section of the art board, hit the escape key or use the “crumb” trail at the top of your

document.

### **Applying Attributes to a Group**

When you group objects, Illustrator treats those graphics as if you have put them “into a container”. You are

able to then add e\_ects and attributes to the “container” or group of objects.

Adding a drop shadow e\_ect to a group

Using path \_nder e\_ects in the appearance panel to e\_ect a group

### **Layers**

You may be familiar with layers and how Photoshop uses them. In illustrator, layers are used in a much

di\_erent ways, they let you view every single object in your document as a separate piece of art. Creating

layers can be very important when creating a \_le you are planning to export it to a di\_erent program. For

for example you are now able to export Illustrator layers into Flash as frames.

Layers can show you the objects within each layer.

You are able to create layers as you go.

Read only layers

### **Art Boards**

An art board is what Illustrator refers to as a page. Illustrator will print whatever is visible on a page.

Artboards can be any size or orientation and can all live in one document together.

Creating artboards through a new document.

Modifying artboards through the tool bar.

Modifying artboards through the artboards dialogue box.  
Using smart guides to easily align artboards.

### **Transforming and Positioning Art**

Moving and copying artwork

Scaling or resizing artwork

Rotating artwork

Re\_ecting and skewing artwork

Using the Free Transform tool

Repeating transformations

Performing individual transforms across multiple objects

Aligning objects and groups precisely

Distributing objects and spaces between objects

### **Working with images**

Placing pixel-based content into Illustrator

placing a link (\_le: place, choose link option)

Imbedding an image (\_le: place, choose embed option)

\*you can only apply transformations to an image in Illustrator but can NOT change pixels

Managing images with the Links panel

relink

go to link

update link

original

Converting pixels to paths with Live Trace

blur to get a cleaner trace

low rez \_les work best

Making Live Trace adjustments

live trace default, threshold

tracing options dialogue box

Controlling colors in Live Trace

modifying color by outputting color to swatches

working with pre established swatches

Using Photoshop and Live Trace together

live trace a \_le, then modify in Photoshop

Session 6

7.18.11

### **Working E\_ciently with Symbols**

Symbols can de\_ene anything but linked images. A symbol lives in the symbol dialogue box and therefore

does not increase the size of your \_le-because you are not copying and pasting the vectors over

and over again, the vector image lives in the symbol box and you only use a “reference” or “instance” on

your artboard

Managing repeating artwork with symbols

Modifying and replacing symbol instances

Using the Symbol Sprayer tool

area of influence

[ ] increase or decrease the size of sprayer

click and drag

### **Working with Masks**

Cropping photographs

Clipping artwork with masks

Defining masks with soft edges

### **Printing, Saving, and Exporting**

Printing your Illustrator document

Saving your Illustrator document

Creating PDF files for clients and printers

PDF/x-1a:2001 best option for printers, flattens transparencies at a high rez & imbeds fonts

Smallest size file: great for sending to client, especially ones who are not computer savvy

Exporting Illustrator files for use in Microsoft Office

file: save for Microsoft Office

Exporting Illustrator files for use in Photoshop

file: export: format: Photoshop (psd)

Exporting artwork for use on the web

make one artboard active

file: save for web and devices

Exporting high-resolution raster files

file: export: tif

**In Class:** create a brochure with masks and images and export for the printer and for the client

Session 7

7.25.11

### **Choosing Illustrator for Web and Interactive Design**

Artwork can be repurposed for any screen

Integrates easily with other programs

Using the Web document profile

file: new: web document profile

review advanced settings (preview mode: turn on pixel)

Setting up an Entire Web Site

use artboards and symbols to easily make updates

Setting up mobile content with Adobe Device Center

file: new: device central

in create work space, content type and program type

browse, adobe certified (left hand side)

drag profile into test devices

BITMAP to see what type of files are compatible

create button: now the artboard is set up for your specific device and you know what file type

it supports so you know what to export your graphics as

Understanding Web-Safe Colors

always RGB

dithering tries to mix colors to get the color that isn't web safe (usually looks bad)

window: swatch library: web

because handsets etc are quickly updating viewing technology, web safe colors are quickly

becoming obsolete

Using Recolor Art to convert art to web-safe colors

window: color panel to check if web-safe

select art, color wheel at top: recolor artwork

button: limits the color group to colors in a swatch library

pop up menu: web:

Using the Save for Web and Devices

\_le: save for web and devices (review)v

Session 8

**Personal Project**

**Adobe In-Design**

**Adobe Page Maker**

**SEM-II**

**CORE-3**

**TRADITIONAL ANIMATION**

**THEORY**

**Classical Animation**

Technical concept

Using instrument

Difference between classical & Digital animation film

**Steps of animation**

**Theme**

**Premise**

**Script**

**Pre-Production**

Storyboard

Layout

Sequence planning

Scene planning

Shot planning

Animatics

Character

Design  
Model sheet  
Posing  
Back ground  
Layout  
Design

### **Production**

Animation  
Key pose drawing  
In between drawing  
Cleanup

### **Post Production**

Compositing  
Editing

## **TUTORIAL**

### **Story board**

#### **Back ground designing**

#### **Introduce with light box**

Time & Spacing concept  
Coin Assignment With Slow in  
Coin Assignment With Slow out  
Coin Assignment on Curve path  
Pencil test

### **2D Animation as a powerful technic**

#### **i. Bouncing Ball**

Weight & Balance  
Iron ball  
Ping pong ball

### **Difference between animation process, techniques & styles**

Pose to pose animation  
Straight ahead animation

### **Using stick drawings**

Follow through With Iron Wire  
Follow through With Rubber Stick  
Follow through With Feather  
Pendulum [ Hinged & Classical]

**SEM-II  
CORE-4  
DIGITAL ANIMATION 2D**

**2D Digital Character animation**

**Animation**

Theme Premise

Script

**Pre- Production**

Story board

Layout

Sequence planning

Scene planning

Shot planning

Animatics

Character

Character Design with pencil

Character Model sheet with Pencil

Posing

**Digital Character Design**

**Digital Character Model sheet**

Back ground

Layout

Pencil Design

**Digital Designing & color**

**Props Designing**

**Symbol Create**

**Production**

**Character Rigging**

**Character Animation**

**Post - Production**

Compositing

Editing

**TUTORIAL**

Tracing and colour fill ten (10) different 2 dimensional & 3 dimensional props

Tracing and colour fill Animation background  
Character model sheet tracing and colour fill  
Character Rigging  
Animation-

Walk cycle[ male & Female]  
Run Cycle  
Jump  
Weight lifting  
Push the box  
Stair Case  
Conversation  
Four leg Animation  
Wing Animation

**SEM-II**  
**GE-2**  
**WEB DESIGNING**

**Group - A**

**Module 1 1.0 Web Design Principles**

- 1.1 Basic principles involved in developing a web site**
- 1.2 Planning process**
- 1.3 Five Golden rules of web designing**
- 1.4 Designing navigation bar**
- 1.5 Page design**
- 1.6 Home Page Layout**
- 1.7 Design Concept.**

**3L+1T**

**Module 2 2.0 Basics in Web Design**

- 2.1 Brief History of Internet**
- 2.2 What is World Wide Web**
- 2.3 Why create a web site**
- 2.4 Web Standards**
- 2.5 Audience requirement.**

**9L+3T**

**Group – B**

**Module 3 3.0 Introduction to HTML**

- 3.1 What is HTML**
- 3.2 HTML Documents**
- 3.3 Basic structure of an HTML document**
- 3.4 Creating an HTML document**
- 3.5 Mark up Tags**
- 3.6 Heading-Paragraphs**
- 3.7 Line Breaks**

### **3.8 HTML Tags.**

**9L+3T**

#### **Module 4 4.0 Elements of HTML**

##### **4.1 Introduction to elements of HTML**

##### **4.2 Working with Text**

##### **4.3 Working with Lists, Tables and Frames**

##### **4.4 Working with Hyperlinks, Images and Multimedia**

##### **4.5 Working with Forms and controls.**

**6L+2T**

#### **Group - C**

#### **Module 5 5.0 Introduction to Cascading Style Sheets**

##### **5.1 Concept of CSS**

##### **5.2 Creating Style Sheet**

##### **5.3 CSS Properties**

##### **5.4 CSS Styling(Background, Text Format, Controlling Fonts)**

##### **5.5 Working with block elements and objects**

##### **5.6 Working with Lists and Tables**

##### **5.7 CSS Id and Class**

##### **5.8 Box Model(Introduction, Border properties, Padding Properties, Margin properties)**

##### **5.9 CSS Advanced(Grouping, Dimension, Display, Positioning, Floating, Align,Pseudo class, Navigation Bar, Image Sprites, Attribute selector)**

##### **5.10 CSS Color**

##### **5.11 Creating page Layout and Site Designs.**

**6L+2T**

#### **TUTORIAL**

#### **Module 6 6.0 Introduction to Web Publishing or Hosting**

##### **6.1 Creating the Web Site**

##### **6.2 Saving the site**

##### **6.3 Working on the web site**

##### **6.4 Creating web site structure**

##### **6.5 Creating Titles for web pages**

##### **6.6 Themes-Publishing web sites.**

**SEM-III**

**CORE-5**

**ANIMATION SET DESIGNING 3DS**

#### **Theory**

Introduction to 3D CGI 2. Getting Started with 3ds Max

3. Viewing and Navigating 3D Space 4. Selecting Objects

- 5. Object Properties 6. Creating Geometry
- 7. Moving, Rotating, and Scaling Objects 8. Modifiers
- 9. Surface Modeling 10 Level Designing For Game

## **TUTORIAL**

Mesh Modeling Tools  
Modeling a Gun  
Modeling a Floor-Buffer  
Modeling a Truck (Low-Poly)  
Modeling a Air force Helicopter  
Modeling a Castle and Environment

## **SEM-III CORE-6 CHARACTER DESIGNING 3DS**

### **Theory**

High & Low Poly Characters  
Before you start: The Concept  
An Exclusive Knowledge of Anatomy  
Collecting References  
Setting up the Image Planes  
Starting to build the character  
Getting the basic proportions right  
Cutting in more detail  
The Hi resolution mesh: Adding More Detail  
Shell Modifier  
Subdivide your model with turbo-smooth

## **TUTORIAL**

Modeling a warrior/ Soldier

## **SEM-III CORE-7 CG TEXTURING 3DS**

### **Theory**

Designing Materials

Material Editor  
Material/Map Browser  
Material Explorer  
Types of Materials  
Maps and Shaders  
Material, Mapping, and Vertex Color Utilities  
Unwrap UVW

### **TUTORIAL**

Texture the Low-Poly Truck  
Texture Warrior/Soldier

## **SEM-III SEC-1 DIGITAL SCULPTING**

### **THEORY**

INTRODUCTION TO Z- BRUSH  
APPLICATION  
TOOLS  
PRESETS  
TEXTURE  
SCULPTING  
DIFFERENT BRUSH STROKES  
Anatomy Study

### **TUTORIAL**

Monster creation

## **SEM-III GE-3 MEDIA MANAGEMENT**

SR. NO.	TOPICS	SUBTOPICS AND LEARNING POINTS
<b><u>UNIT I</u></b>	Introduction to New Media, Traditional Media VS New Media, Channels of New Media, Assimilation to Distribution	Internet: Mother of New Media, Analog Vs Digital, Journey from Traditional Media to New Media, Factors Influencing the Advent of New Media, Website, Blogs, E-Mail, Mobile Phone, Tablet PCs, The Channels and

		Players , The Tools and The Software, The Challenges with Channels of Distribution
<b><u>UNIT II</u></b>	The New Media Content Providers, Introduction to Social Media, From 4Ps to 4Cs, User Focused Content, User Centered Design and User Generated Content, Comparison between Traditional media and New Media	Characteristic of Social Media, Usage of Social Media in Various Disciplines, Social Media: Strategy Planning, Understanding the current trends, Digitization of Media and Power of Mobility/Internet, Disintermediation of Content Distribution, Preparing your organization for new age of IME, Graphic and Static Text, Simulation: Ultimate Content Immersion, Features of effective website, Print and broadcast news over the internet, online vs traditional shopping, www. An introduction
<b><u>UNIT III</u></b>	Introduction to E- Commerce, Various forms of Transactions and Communications, The Player Involved and the Process, New Media Marketing, Elements of E-Marketing	Advantages of E- Business, E- Commerce, Anatomy of E-Commerce, Functions of E-Commerce, Advantages and Challenges, Understanding the online Shopping Experience, User Engagement, Measurements and Analytics for New Media, SEO and SEM, Meta Tags, Tags, Folksonomy
<b><u>UNIT -IV</u></b>	Promotion And Communication, Social Media as a Marketing tool, Behavioral and Contextual Promotion, Contextual Advertising, Customer Service to Customer Service Relationship, Basic of Digital Graphics, Social Media- A Boon or Bane	Modes of Social Media Marketing, Growth, Benefits, Understanding the relevance, The Pervasiveness, Role, Reasons, Barriers to implementation at Companies, Social Media Marketing in India-An Overview, Marketing Strategies, Customer Service Strategies, Boon Or Bane

**SEM-IV  
CORE-8  
ADVANCED BG DESIGNING**

**Theory**

Introduction to Autodesk Maya 2011  
Getting Started with Autodesk Maya 2011 with user interface

3. Viewing and Navigating 3D Space 4. Selecting Objects, paint selection tool, soft modification tool

5. Object Properties 6. Creating Geometry and Component modes

7. Moving, Rotating, and Scaling Objects universal manipulator 8. Deformers

9. Surface Modeling 10 Level Designing For Game 11. Shelf Editor

## **TUTORIAL**

SPACESHIP Designing

**SEM-IV**

**CORE-9**

### **ADVANCED CHARACTER DESIGNING**

High Poly Characters.

Before you start: The Concept

An Exclusive Knowledge of Anatomy

Collecting References images .

Importing the Image Planes to the UI and adjust them in respective coordinates axis .

Starting to build the character with Create polygon tools

Getting the basic proportions right

Cutting in more detail with Split polygon tools

Page-18

The Hi resolution mesh: Adding More Detail

Subdivide your model with –smooth and average vertices.

## **TUTORIAL**

Modeling a High Poly Monster.

Modeling a Quadraped/multileg Creature

Modeling a female Character without face

Designing the cloth for the female

**SEM-IV**

**CORE-10**

### **ADVANCED TEXTURING IN MAYA**

#### **Theory**

Designing Materials from UV texture editor .

UV texture editor window

Using Hypershade to assign and project different types of materials  
Breaking Material in Hypershade by using input and output connections  
Types of Materials and assigning 2D and 3D texture to a selective material  
Assigning basic Utilities to materials.  
Create different UVs like planer maps, cylindrical maps.  
Cut UVs , Sew UVs , Move and Sew UVs  
Unfold UVs , Relax UVs , UV Lattice tools , UV Smudge Tool ,Toggle Texture border , UV  
snapshots

## **TUTORIAL**

Texture the Vehicle model in CDM  
Texture the Monster model in CDM

## **SEM-IV SEC-II DIGITAL PAINTING**

INTRODUCTION TO DIGITAL PAINTING  
BODY PAINT 3D  
DIFFERENT TEXTURING TECHNIQUE  
INTRODUCTION TO UV LAYOUT

## **TUTORIAL**

Applying paint textures to any character

## **SEM-IV GE-4 ARCHITECTURAL VISUALIZATION**

THEORY

### **AUTOCAD:**

Introduction and project overview, Main components and interface,  
Drawing tools, Drawing guides, options, and modifiers, working with layers, drawing the floor  
plan, 3D environment introduction, Beginning the 3D model, Finishing the 3D model, 3D view  
styles

### **REVIT:**

Introduction and project overview, Setting levels, Creating floors, Creating walls, Placing  
components into models and plans, Creating stairs by using the Stair By Component, Creating  
stairs by using the Stair By Sketch tool, Creating a guardrail for floor openings, Creating a basic  
roof system

### **3DSTUDIO MAX DESIGN:**

Introduction 3D Max, Creating Basic Primitives, Selection Types, Customization, Modifiers, Shapes, Compound Objects, Architectural Objects, Lights' Cameras, Array Tools, Materials Basics, Compound Materials, Particle Systems, Forces, Editing Mesh Objects, Importing Objects, Animation Basics, Architecture and Virtual Reality.

## **V-RAY AND GREEBLE:**

Introduction to V-RAY, Application of V-RAY in Computer Graphics (CGI), Glass and Liquid, How to use HDR images in V-Ray, Material settings, Render settings, Standard studio lighting, Greeble city creation

### *TUTORIAL*

1. Introduction to project overview, 2.site texturing, 3.Creating site reflection texture, 4. Importing images to AutoCAD, 5.Drafting contours and building in AutoCAD, 6.Importing AutoCAD files to 3DS Max, 7.Terrain creation, 8.Terrain mesh division and site texture, 9.Greeble city creation, 10.Extracting textures for the façade of the city, 11.Texturing the city model, 12.Preparing architectural AutoCAD plans, 13.Iporting AutoCAD plans to 3DS Max, 14.Updating linked plans, 15.Modeling organic outlines using splines, 16.Extruding splines, 17.Modeling the tower facades, 18 Modeling slabs and balustrades, 19. Creating more slabs, balustrades, and columns, 20. Modeling columns and lift cores, 21. Organic modeling of the stadium support, 22. Modeling the stadium seating, 23.Editing the seating model, 24.Editing the tower and seating connection, 25.Organic modeling of the stadium shell, 26. Editing the top roof slab, 27. Modifying floor slabs and adding stadium details, 28.Editing ground terrain for grass and plants, 29.Creating proxy and billboard plants, 30. Scattering plants and importing proxies into the model, 31.Modeling pavilions using nurms, 32. Texturing the glass façade, 33.Texturing the building interiors, 34.Texturing the balustrades, 35. Summing up the texturing, 36.Render settings for draft views, 37.Getting the final image, 38.Photoshop workflow and conclusion

## **SEM-V CORE-11 CG LIGHTING &RENDERING**

### **THEORY**

Using Lights Ambient light, Direct Light, Point light , Spot Light , Area light , Volume light .  
Retrace shadow and depth map shadow.  
Different types of Render Settings Mental Ray , and Vary render , Maya Vector render .  
Common Lighting Rollouts and Dialogs  
Shadow Types and Shadow Controls  
Create Physical sun and Image based lightning .  
V-Ray Light  
Light Linking Editor . Light centric and Object Centric  
Final Gather , Global illumination , Caustic effects .  
Create Different Pass Render from Render Layer .

Standard, Mental Ray & V-ray Rendering System

## **TUTORIAL**

Interior Lighting any Game Environment

Daylight of any Game Environment

### **SEM-V CORE-12 RIGGING FOR ANIMATION**

#### **Rigging In Maya**

- |                          |                         |
|--------------------------|-------------------------|
| 1. Joint Tool            | 7. Disconnect Joint     |
| 2. IK handle Tool        | 8. Connect Joint        |
| 3. Ik Spline handle Tool | 9. Mirror Joint         |
| 4. Insert Joint Tool     | 10. Orient Joint        |
| 5. Reroot Skeleton       | 11. Set Preferred Angle |
| 6. Remove Joint          |                         |

#### Skinning

Bind Skin  
Detach Skin  
Bind Pose  
Edit Smooth Skin

#### Constrain

Point  
Aim  
Orient  
Scale  
Parent  
Pole vector  
Set Rest Position

#### **MOTION BUILDER THE SET UP MACHINE**

## **TUTORIAL**

**Rigging & Skinning a human in Maya**

**SEM-V**

**DSE-1**  
**ENTREPRENEURSHIP DEVELOPMENT**

**Unit I**

Meaning, Definition and concept of Enterprise, Entrepreneurship and Entrepreneurship Development,  
Evolution of Entrepreneurship, Theories of Entrepreneurship. Characteristics and Skills of Entrepreneurship,  
Concepts of Intrapreneurship, Entrepreneur v/s Intrapreneur, Entrepreneur Vs. Entrepreneurship, Entrepreneur  
Vs. Manager, Role of Entrepreneurship in Economic Development, Factors affecting Entrepreneurship,  
Problems of Entrepreneurship

**Unit II**

Meaning and concept of Entrepreneurial Competency, Developing Entrepreneurial Competencies,  
Entrepreneurial Culture, Entrepreneurial Mobility, Factors affecting Entrepreneurial mobility, Types of  
Entrepreneurial mobility. Entrepreneurial Motivation: Meaning and concept of Motivation, Motivation  
theories, Entrepreneurship Development Program: Needs and Objectives of EDPs, Phases of EDPs, Evaluation  
of EDPs

**Unit III**

Role of Government in promoting Entrepreneurship, MSME policy in India, *Agencies for Policy Formulation and Implementation*: District Industries Centers (DIC), Small Industries Service Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship & Small Business Development (NIESBUD), National Entrepreneurship Development Board (NEDB), *Financial Support System*: Forms of Financial support, Long term and Short term financial support, Sources of Financial support, Development Financial Institutions, Investment Institutions

**Unit IV**

Women Entrepreneurship: Meaning, Characteristic features, Problems of Women Entrepreneurship in India,  
Developing Women Entrepreneurship in India, Concept of Social Enterprise and Social Entrepreneurship,  
Social Entrepreneurs, Sustainability Issues in Social Entrepreneurship, Rural Entrepreneurship, Family  
Business Entrepreneurship, Concepts of Entrepreneurship Failure, Issues of Entrepreneurial failure, Fading of  
Entrepreneurial success among once leading corporate groups, Entrepreneurial resurgence, Reasons of  
Entrepreneurial Failure, Essentials to Avoid Unsuccessful Entrepreneurship.

**Unit V**

Forms of Business Ownership, Issues in selecting forms of ownership, Environmental Analysis, Identifying problems and opportunities, Defining Business Idea, Planning Business Process, **Project Management:** Concept, Features, Classification of projects, Issues in Project Management, Project Identification, Project Formulation, Project Design and Network Analysis, Project Evaluation, Project Appraisal, Project Report Preparation, Specimen of a Project Report

**SEM-V**  
**DSE-2**  
**AUDIO VIDEO EDITING**

**Sonic Foundry Sound Forge**

Introduction

Digitizing sound

Technical terms

Sound Editing concepts

Intro to Sound Forge7

UI

Workspace

Working with sound forg7

Working with projects

Working with files

Recording

Audio editing

Select and positioning cursor

Basic editing

Using markers and regions

Editing with playlist

Effects

Applying effects

Amplification modulation

Chorus

Simple delay

Reverb

Wave hammer

Distortion

Dynamics

Envelop

Flange

Gaper

Noise gate  
Pitch

## **Adobe Premiere Pro**

Objectives

Get started with Premiere Pro

Assemble a project

Edit a sequence

Enhance a sequence with transitions, effects, titles and composites

Work with audio

Export a video

Getting Started with Adobe Premiere Pro

Topic 1A: Explore the Premiere Pro Interface

Topic 1B: Customize the Workspace

Topic 1C: Create a Project

Section 2: Assembling a Project

Topic 2A: Import Videos

Topic 2B: Organize Media Files

Topic 2C: Add Clips to a Sequence

Section 3: Editing a Sequence

Topic 3A: Edit Footage

Topic 3B: Edit Clips

Section 4: Enhancing a Sequence

Topic 4A: Apply Effects

Topic 4B: Add Transitions

Topic 4C: Add a Title

Topic 4D: Create a Composite

Section 5: Working with Audio

Topic 5A: Add Audio

Topic 5B: Apply Audio Effects

Section 6: Exporting Video

Topic 6A: Export a Movie File

Topic 6B: Export Clip Notes

## **TUTORIAL**

Mixing

Song Editing

Applying Sound Effects

Non Linear Video Editing

Reference Books:

Hollywood 2D Digital Animation by Corsaro Parrott  
Character Animation 2D Skills for better 3D by Steve Roberts

**SEM-VI  
CORE-13  
3D ANIMATION**

**Principles of Animation**

Time	15.Line of action	
Space	16.Path of action	
Slow out		17.Arc
Slow in		18.Volum
Stretch		19.Shape
Squash		20.Weight
Follow through	21. Balance	
Overlapping action	22.Rythem	
Secondary action		23.Tension & Force
Anticipation		24. Direction
Cousin		25.Detailing
Settle		26.Simplification
Stagger		27.8 Path
Exaggeration		28. Plans

**Graph Editor**

Spline  
Liniar  
Clamp  
Steped  
Flat  
Platean

Introduction to Character Studio  
Biped User Interface

Figure and Keyframe Modes  
Animating the Biped  
Biped Properties

Understanding Physique

Biped and Physique  
Envelopes and Weighted Vertices  
Deformable and Rigid Envelopes  
The Number of Links That Can Affect a Vertex  
Physique Workflow

Understanding Track Editing

Understanding Motion Flow & Non Linear Animation  
Camera Animation  
Animation Constrain

### **TUTORIAL**

Bouncing Ball[Stretch & Squash]  
Iron ball [ Mass Animation]  
Walk through[Path animation/Camera animation]  
Pendulum with feather[8 path ,Follow through, Secondary action Time & Spacing]  
Tail with Bouncing ball[Overlapping]

### **SEM-VI CORE-14**

### **CHARACTER ANIMATION**

#### **Maya Animation Tools & Technique**

Time line  
Play blast  
Onion Skin

#### **Graph Editor**

Spline  
Linier  
Clamp  
Steped  
Flat  
Platean

#### **Character Animation**

Walk Cycle  
Run Cycle  
Jump  
Weight lifting  
Push the box  
Stair Case  
Conversation  
. Four leg Animation

### **TUTORIAL**

ANIMATION TVC CREATION

### **SEM-VI DSE-3**

### **FILM COMPOSITING**

### **THEORY**

## ***01 Introduction***

A\_00\_intro, 01\_B\_other\_applications

## ***02 Creating a Simple Project***

A\_workflow\_overview, B\_setting\_up, C\_shapes\_presets, D\_animated\_text.

## ***03 Project and Importing Essentials***

A\_glance\_interface, B\_saving\_interface, C\_projects, D\_importing, E\_transparency, F\_sequences.

## ***04 Using Compositions and Layers***

A\_what\_composition, B\_adding\_imported, C\_layers\_work, D\_managing\_multiple, E\_blending\_layers, F\_aligning,

## ***05 Creating Animation***

A\_animating\_properties, B\_wizard\_position, C\_anchor\_point, D\_rotating, E\_adjusting\_moving, F.duplicating\_copying,

## ***07 The Power of Effects***

A\_applying\_effects, B\_glow, C\_infinite\_textures, D\_blur\_effects, E\_lens\_flares, F\_lightning.

## ***08 Color-Correcting Footage***

A\_brightening, B\_changing\_colors, C\_colorizing.

## ***09 Creating and Animating Text***

A\_creating\_text, B\_formatting, C\_text\_presets, D\_text\_manually, E\_text\_3D, F\_layer\_styles.

## ***11 Creating Animated Digital Drawings***

A\_creating\_shapes, B\_modifying\_shape, C\_combining, D\_multiple\_shapes, E\_shape\_variations.

## ***12 Motion Paths***

A\_spatial\_interpolation, B\_motion\_paths, C\_orienting,

## ***14 Concealing with Masks and Keying***

A\_masking\_masks, B\_keying.

## ***15 Compositing***

A\_what\_compositing, B\_removing\_green.

## ***16 Stabilizing and Tracking Motion***

A\_stabilizing, B\_tracking,

## ***17 Precomposing and Nesting Compositions***

A\_when\_precompose, B\_composition\_layers.

## ***18 Exporting to Video and Media***

A\_high\_quality, B\_compressed,

## **TUTORIAL**

1. Create a simple project by the help of shapes presets, animated text, and animating star, adding effects and then precompose them.
2. Create a TV banner add with the help of adobe Photoshop and after effect.
3. Merge multiple videos and colour corrects them and shows all of them with camera animation and may add depth of field if needed.

4. Make a composition by masking and keying or rotoSCOPE ,track any portion and may add some text or effects and color correct all of it by adding adjustment layers and give a final output .

**SEM-VI  
DSE-4  
VISUAL EFFECTS**

**COMBUSTION**

Preferences, UI, and Key Terms  
Workflow Basics, Footage, and Viewports  
Paint and Text Operators  
Compositing in 2D &3D  
The Schematic View  
Selection & Masks  
Working with Color  
Keying  
The Tracker  
Animation & Timeline  
A/V Editing  
Stabilizing and Tracking Motion  
Integrated Particle System  
Rendering & Output

**MAYA**

PARTICLE  
FLUID  
RIGID & SOFT BODIES  
EFFECTS  
SOLVER  
CLOTH  
HAIR  
FUR

**TUTORIAL**

- Creating the Old Movie look with Combustion - Dirt and Scratches.
- Create a final composition with a help of multiple footage and add some particle effects on them.
- Add character FX animation

**Suggested Readings/Reference Course Material (Electronic & Hard Copy)**

### Year –I

1. Acting for Animators by Ed Hooks
2. From Script to Screen by Sharmus Culhane
3. 40 digital photo retouching techniques- Zack Lee
4. Digital Tutors Reference
5. Hollywood 2D Digital Animation by Corsaro Parrott
6. Character Animation 2D Skills for better 3D by Steve Roberts

### Year-2

1. 3DS Max Bible -Willy India
2. 3D Game Texture by Luke Ahearn
3. Mastering Autodesk Maya-Willy India
4. 3D Creature Workshop by Fleming & Schrand
5. Digital Tutors Reference
6. The Aubin Academy Master Series: Revit Architecture 2011- Aubin, Paul F. (1<sup>st</sup> Ed. Ed. Clifton Park, NY: Cengage Learning,2011. Print)
7. Introduction to Autodesk Revit Revit Architecture 201- Davis, Pat, and Patrik Davis (1<sup>st</sup> ed. Hoboken, N.J: Wiley Pub., 2010 Print)
8. Maestering Autodesk Revit Architecture 2011: Autodesk official Training Guide-Krygiel, Eddy, PhilRead, and James Vandezande (Indianapolis, Ind):Wiley, 2010 Print)
9. *AUTOCAD for Engineers and Designers BY Prof.Sham Tickoo*
10. Creating a Photorealistic Bedroom in 3ds Max- by Amr Abdeem (Video Tutorial)

### Year-3

1. 3D Game Animation by Murdock
2. The Modeling And Animation handbook by Autodesk
3. 3DS Max Animation with Biped by Bousquet & McCarthy
4. After Effects for Flash Flash For After Effects by Harrington& Geduld
5. The Focal Easy Guide to Combustion by Gary M. Davis
6. Digital Tutor References
7. Cougar, C- Creativity and Innovation (IPP, 1999)

### Panel of Examiner for Session-2015-16

Sl No	Name	Organization
1	Mr. Somenath Mukherjee	BIT
2	Mr. Pronoy Mukherjee	BIT
3.	Mr. Rakesh Bernwal	BIT
4	Mr. Saket Kumar	ICAT
5	Mrs. Swastika Mukherjee	St. Xavier's College
6	Mr. Naraya Saha	Amity University
7.	Mr. Chayan Bhadury	St. Xavier's College
8.	Mr. Samir Dutta	Architect
9.	Mr. Chandan Kumar	Film Industry Professional

<b>10.</b>	<b>Mr. Rakesh Raja</b>	<b>St. Xavier's College Ranchi</b>
<b>11.</b>	<b>Mr. Sanjoy Chakraborty</b>	<b>Mentor- Arena Animation</b>

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