

Semester –I

- Conceptualization and Storytelling
- Still Photography
- Visual Literacy
- Graphic Design
- Computer Art-I
- Communicative English-I

Semester –II

- Creative Writing
- Preproduction
- Drawing the Key tool
- Computer Art -II
- Animation fundamentals
- Communicative English-II

Semester-III

- Film as an Art form
- Production Pipe line
- Character Design
- Animation Principles
- 3D Lab-I
- Environmental Science

Semester-IV

- Animation Layout
- Advanced 2D Animation
- 3D Lab-II
- Stop motion Animation
- Compositing and Visual Effects
- Project-I (Stop motion)

Semester-V

- 3D Lab-III
- Interactive Media Design
- Motion Graphics
- Music and Sound Effect
- Project-II (2D)

Semester-VI

- Environmental Simulation/Effect Simulation
- Advanced Production Tools and Technique
- Visual and Sound Editing
- Project-III (3D)

Semester-VII

- Specialization Elective
3D-(Modeling and Texturing/ Animation/ Lighting)
2D-(2D Classical Animation/ 2D Flash Animation)
- Project-IV (Specialization)
- Project-V (Compositing)
- Group Project

Semester-VIII

- Case Study
- Individual Project Film
- Professional Practice

1st Semester

Subject : Conceptualization & Storytelling

Semester- I
Hours/Week- 3
Credit- 3

Learning Objective: Students should be able to understand- meaning of conceptualization. Importance of creative thinking in the field of film making, media studies and Animation. This is area also give an idea of how storytelling helps in the film making.

Unit-1

Conceptualization

Introduction to Conceptualization-development of a story from concept of script –concepts for different media – visual conceptualization – thumbnail.

Unit-2

Storytelling

Introduction to storytelling –writing short story – understanding story-graph – action – reaction – climax-anticlimax – protagonist-antagonist – difference in story telling for different medium – theatre- cinema- Television – dialogue-direct speech-indirect speech – storytelling from behind the screen.

Unit-3

Photography in storytelling

Importance of photography in storytelling – photographic story development- treatment- Importance of fantasy in storytelling- created digitally visual fantasy.

Unit-4

Graphic Novel

Undergo different graphic novels- study different artist work – story selection and rewriting for graphic novel –styles and treatment of graphic novel- graphic novel – painted manually and digitally.

Subject: Still Photography

Semester –I
Hours/Week- 3
Credit- 3

Learning Objective: Student should be able to understand the importance of arts and science evolving photography, they should also get brief idea of visual imagery which will help them in visual conceptualization.

Unit-1

Introduction to photography

Cameras- The system camera- Lenses- Filters- Light meters- Supports and lights –Wet areas- Dry areas- History of photography- Time chart.

Unit-2

Color pertaining to slide photography

The colors of light- The balance of color- Forming images- Color vision- Color psychology- Color description- Color temperature- Focusing distance

Unit-3

Handling color in negative and print work

Using the changing light- Exploring the light and angle- angle of views-Light and shade
Monochromatic color- Dominant color- Harmonic and discordant color- Contrasting color-
Composition and line- Balance, position and scale- Point of interest

Unit-4

Shapes and forms

Shape and silhouette- Form and modeling- Tone and hue- Texturing- Pattern- Perspective- Framing-
Existing backgrounds- Planned backgrounds- Movement- High speed photography- Color in close-
ups- Color as abstract design- Mixed images and media

Unit-5

A)

natural light

The Sun- Skies- Water- Backlighting in direct light-Indirect and reflected light- Diffused light- Early morning- Mid-day- Dust- Night- Spring-Summer-Autumn-Winter

The moods of

B)

Conditions

Taking advantages of poor light- Mist and fog- Rain- Storms Snow and cold- Heat
-Underwater photography- Artificial Light- Tungsten- Flash- Mixing tungsten and flash
-Mixing flash and daylight- Mixing daylight and tungsten with flash
-Tungsten and flash as complete sources- Oil lamps, Torchlight and matches- Alternative lighting

Adverse

Unit-6

Subject Lighting

Portraits- Groups- Nudes- Fashion and beauty- Children- Still life- Architecture- Architecture detail
-Interiors- Animals- Indoor sports- Outdoor sports- Copying color Photographs

-Color Materials and Methods

Subject: Visual Literacy

Semester-I
Hours/Week- 4
Credit-4

Learning Objective: Objective- to understand the elements of Visual Communication and appreciate the infinite details of the environs. And once rule in them. Also student will learn how to create a new horizon of visual culture as a whole. And able to design the various related medium.

Unit-1

Visual reading- elements of visual- Dot, Lines, Shapes, Forms, Contour, Texture, Size, Perspective.

Unit-2

Picture reading- figurative level- relationship of elements- Perception Symbolic level and Creativity .

Unit-3

Exaggeration, Distortion, Abstraction and brief history of World Art.

Unit-4

Understanding color, Pigment, Value, Hue, Aspects of Colors, Meaning of Colors, Function of Colors, and color in nature (Atmosphere).

Unit-5

Use of different mediums- Pencil, Charcoal, Crayons, Pastels(Oil and Soft), Pen and Ink, Water and Oil paint etc.

To understand the subject (Visual Literacy), students should design the assignment at class and home with different mediums on: Visual Elements, Color Theory, Perspective, Still Life and Landscapes.

Subject: Graphic Design

Semester- I

Hours/Week- 3

Credit-3

Learning Objective: Objective- To understand and learn Graphic Design principals and the fundamental ideas of Graphic forms. Student will able to judge the Socio-Cultural differences through world history of design.

Unit-1

Design Definition, Language of Design, Elements of Design- Line, Geometrical forms (2D and 3D), volume and mass, Texture, Pattern Black and White, Color, Space, Movement, Form and space.

Unit-2

Brief History of Designs: Evolution of types, changing aspect of Design from different cultural group, Brief history of Graphic Design and the influence of Graphic Design in Global Context.

Unit-3

Principals of Design- Balance, Contrast, Harmony, Rhythm, Proportion, Scale and Unity, Formal and Informal balance, Rhythm and movement, Layout principals, Grid, Proportion- the Golden mean and basic design application.

Unit-4

Typography- Classification, Groups and Sub-groups, Various Fonts, Craft of Typography- Point system, Selection of Fonts and Calligraphy.

To understand the subject (Graphic Design) students should practice at home and class basic elements (2D and 3D Forms), Typographical science and logo, Basic shapes and packages and design for Human kind.

Subject: Computer Art-I

Semester-I
Hours/Week-5
Credit-5

Learning Objective: This area of Design is recognized as a fast changing profession where there is an increasing need for Designers who are adaptable and versatile with a modern approach to technology. The role of a Graphic Designer is being increasingly recognized as a vital factor in the successful marketing of all manufactured products. Student should also get a familiar with a computer Animated program. Students learn how to create a design and Animate it into a visual medium. To provide the basic drawing skills necessary as a foundation for Fine Art, Fashion illustration work and all Design Courses.

Unit-1

Introduction to Vector and Raster Graphics. Painting and drawing software applications- illustration applications (vector graphics) painting bitmapped graphics (Adobe Photoshop).

Drawing devices

Exploring Photoshop, Environment

Design application & techniques

Unit-2

Using different tools and techniques

Concepts of Layers, Layer properties, Advantages of Layers.

Unit-3

Transformation techniques

Using Color Palette, Color Mixing

Unit-4

Masking (Layers mask and Quick mask)

Digital Painting and Photo editing

Unit-5

Publishing Media, Print Media and Electronic Media,

Working with Mixed Media

Unit-6

Introduction to Flash Environment

Drawing in Scene using Tools. Basic Drawing Skills – Visualization skill – Line; perspective; 2D and 3D.

Unit-7

Basic animation through Timeline.

Motion tween & Shape tween/ Morphing

Transformation

Unit-8

Working with custom colors and gradients

Outlines & Contours/ Strokes, Styles/ Object Drawings

Masking Layers

Unit-9

Principles of Animation

Key Frame Animation

Subject: Communicative English –I

**Semester- I
Hours/Week-2**

Credit-2

Learning Objective:

Same as St Xavier's College [Autonomous]-Undergraduate Syllabus.

2nd Semester

Subject: Creative Writing

Semester-II
Hours/Week-3
Credit-3

Learning Objective: To understand the difference of writing for different media.

Student should undergo of studying

Different writing processes for different media.

Unit-1

Introduction to writing

Historical perspective to writing –Role of language in writing –Elements of language
-Writing as communication

Unit-2

Basic of writing for media

Creative writing, Fiction versus non-fiction writing- Association of form and content and role of writing -Principles and methods of effective writing.

Unit-3

Script writing for television

Types of scripts for television-Formats and genres for television.

Unit-4

Writing for radio

Types of scripts for radio: radio play, news –Formats and genres for radio.

Unit-5

Writing for print media

Types of print media, newspaper, magazines, books, loose media-leaflets/ pamphlets/ brochures
-Difference of style in writing –Editing and captioning for print media.

Unit-6

Writing for media (Press release/ back grounders, press briefs, rejoinders etc.)

And Public relations (House journals, bulletin boards, open houses, suggestion boxes, video magazines etc.)

Subject: Pre-production

Semester-II
Hours/Week-3
Credit-3

Learning Objective: Student should be able to understand about to take pre stage preparation for any kinds of movies. And also it is carrying different types of drawing skill and timing sense through Story Boarding.

- Unit -1** Introduction with Pre Production - Medium and Formats – Pre Production process.
- Unit-2** Camera Composition – Different types of composition Camera Angle – Different types of camera – Different types of Camera angle – Camera for Animation Movie – Camera for Live Action Movie
- Unit-3** Concept / Idea – Idea development / Brainstorming Story – Cast – The role of Characters.
- Unit-4** Digital Cinematography –Script – Screenplay –Requirement for Script –Visualizing the Drama -Scenes and Shots division with proper time duration –Film direction.
- Unit-5** Thumbnails – Story Boarding – Pose study for Story Boarding – Frame/ Aspect Ratio – Lance- F O V – Aspects of the Story Board – Preparing Story Board using Digital Software - Preparing X – Sheets – Dialogue Writing.
- Unit-6** Animatics – Preparing Macquettes and Miniatures Preparing Animatics using 2D/3D software.

Subject: Drawing the Key Tool

**Semester-I
Hours/Week-5
Credit-5**

Learning Objective: To study the form and structure of animate and inanimate objects. And learn the process transferring the "IDEA" into the Visual Language. Also to understand the scope and influence of Drawing, evolution of various methods.

Unit-1

Study the Composition and Structure – Form, Shape, Tonal Drawing, Linear Drawing, Focal Point, and Light and Shadow.

Unit-2

Sketching and Painting ---Still-life, Wild-life, and animals, Landscapes, and abstract works.

Unit-3

Human Anatomy ---- Skeleton, Heads, Hands, Feet, Structure and Posture, Proportion and movements.

Unit-4

Portrait Study, Human body with clothes.

Unit-5

In-depth understanding of various instruments and mediums.

Extensive studio practice to understand the process of visualization. And representation of different forms. At least four assignments (Two in Studio and two from home).

Subject: Computer Art-II

Semester-II
Hours/Week-5
Credit-5

Learning Objective: Globally there is a continuing increase in companies who are in need of capable professional designers who can embrace design, visual, ergonomic with a competent application of technology and an appreciation of the social and commercial constraints to create attractive advertising and informative visual communication at all levels.

(A) Digital Imagery

Unit-1

Typographic design- Bitmapped, Postscripts and True Type fonts.

Unit-2

Color modes – grayscale, RGB etc. Different resolutions and color depths.

Unit-3

Working with Filters and Special Effects with Photoshop.

Unit-4

Layout Design for print Media and Electronic media

Input and Output Targeting

Photoshop and Printing option

Understanding Half Toned Cell, Resolution Factors

Subject: Animation Fundamentals

Semester-II
Hours/Week-4
Credit-4

Learning Objective: To understand the different terminologies and types of animation student should also get an idea about animation history and importance of acting in Animation process.

Unit-1

Introduction to motion picture

Terminologies – Human eye- Persistence of vision –Illusion of movement- Frames

-Fast motion – Slow motion – Flip book The Thaumatrope- The Phenakistoscope-Flip –Book

Unit-2

Types of Animation process

Animation techniques, process and style- Difference between capturing live action and animation.

Unit-3

History of Animation

Time chart, history of different animation studios- origin and formation history- Research on different classical Animation productions

Unit-4

Posing and acting for animation

Difference between Acting for film, stage and animation- Performance Animation Human body as rigged character

Subject: Communicative English -II

**Semester-II
Hours/Week-2
Credit-2**

Learning Objective:

Same as St Xavier's College [Autonomous]-Undergraduate Syllabus.

3rd Semester

Subject: Film as an art form

**Semester-III
Hours/Week-3
Credit-3**

Learning Objective: To understand the basic ideas of film as a form of communication and also developing the technical and aesthetical aspect of film making. Students will be able to understand and judge the role of a film on various social Fabric. And socioeconomic factor of the film industry. (Focus on Indian Film Industry).

Unit-1

A brief history of world film. Special references on South-East Asian film Industry.

Unit-2

Study of different shots, scene and sequence.

Unit-3

Technical aspect: Camera, Setting, Props, Costumes, Lighting, Editing, Sound, and SFX.

Unit-4

Films different genre and Animation forms.

Unit-5

Film movement, Study of Great Master's Films

Theoretical inputs supported by ample film screening. Group/ Individual exercise and case studies.

Subject: Production Pipeline

**Semester-III
Hours/Week-4
Credit-4**

Learning Objective: Students should have knowledge about different types of professional production process with proper File formats and Film naming.

Unit-1

Introduction with Production Pipeline – Different types of production.
Episode- Movies (Live action and Animation movies)- Advertisement – Game.

Unit-2

Live action Movie production pipeline.

Unit-3

Animation Movie Production Pipeline.

- Movies 3D Animation
- Movies 2D animation
- Movies Gamming Pipeline

Unit-4

Media – TV Standers – Digital Movies – File Formats – Dedicated Machines.

Subject: Character Design

**Semester-III
Hours/Week-4
Credit-4**

Learning Objective: To start a project of animation it's the primary part, where we develop the characters, from conceptual level to the final forms.

Unit-1

Introduction students with their subject, conception of a character according stories.

Unit-2

Anatomical drawing classes [animated character (anthropomorphism), Drawing character with various style, Human figure), basic structure of human anatomy. Parts of the human body (hands, legs, and head drawing). Proportion of human head according ages.

Unit-3

Basic drawing skill development, inspirational drawing of a character's. Pose drawing, stick figure.

Unit-4

Character Bible, Visualizing the character, changing real character to animated characters drawing same character with various styles [anime and others].

Unit-5

Character design from real life study [workshop], Acting of a character, Costume design, character construction (basic).

Unit-6

Anthropomorphic animal design, adding personality and costume to anthropomorphic characters.

Unit-7

Introduction comic art style, development of graphic novel's, panel distribution in a comic book page. Character pet's [from some known comic character's]

Subject: Animation Principles

**Semester-III
Hours/Week-3
Credit-3**

Learning Objective: Students should be able to understand the logic behind various animation outcomes, they should also be able to understand the importance of laws of motion in animation.

Unit-1

Squash and Stretch
Pressure and weight-rule of thumb on synchronizing action-
-Ball bouncing animation –Balloon Animation

Unit-2

Straight Ahead Action and Pose to Pose
Straight Ahead action-Pose to pose action- combination of straight ahead and pose to pose –
Advantages and disadvantages –Exposure sheet –in-between and keys -coin rolling animation

Unit-3

Arcs
Path of action-importance of arc for animation – arc for normal movement- arc for cycle animation

Unit-4

Follow through- Overlapping Action
Breakdown action –simple overlap-overlapping action- Simple counter action-Flexibility using joints-
follow through in body action –Wave Animation- Flag Animation

Unit-5

Secondary Action
Primary action- secondary action- difference-how it acts-associate studio assignments.

Unit-6

Anticipation
Anticipation- Action –relation-surprise anticipation- invisible anticipation- importance in executing
action and expression/ gesture – associate studio assignments.

Unit-7

Exaggeration

What is exaggeration-importance- types of exaggeration- application in animation- associate Studio assignments.

Unit-8

Timing

Timing and spacing- Timing calculation for animation - slow-motion- fast-motion –FPS- hold-timing for cycle- Animation –stagger timing.

Unit-9

Ease in and Ease out

What is Ease in and Ease out- importance in animation –difference between linear spacing and ease-in-out – understanding ladder- associate studio assignments.

Unit-10

Staging

What is staging-Importance of staging – balancing frame – Field guide – staging according to field guide – change of field size while animating- panning-tilt up-tilt down-diagonal pan- zip pan.

Unit-11

Solid Drawing

Solid drawing for animation- 3D in 2D- use of perspective and exaggeration.

Unit-12

Appeal

What is appeal – importance in animation- process of adding appeal in drawing.

Assignments that covers 'Mechanical Animation' in the whole semester

Ball bouncing

Pendulum and hinged pendulum

Multiple Balloon Animation of 3 different shapes together

Coin rolling Animation

Ball bottle interaction- Multi level Animation

Boat Animation with water

Flag/Cloth Animation

Wheel Animation –Panning

Subject: 3D Lab-1

Semester-III
Hours/Week-5
Credit-5

Learning Objective: With 23 million lines of code is extraordinary powerful 3D Animation software. Last almost a decade **MAYA** is rolling the world of Animation film, Computer Game and Feature Films. Students get the enormous opportunity to get the technical tools they need to do whatever they want to do in 3D.

Unit-1

Modeling

Introduction to Polygonal Modeling-Subdivision Modeling- NURBS Modeling- Advanced Polygon Modeling

Unit-2

Shades

Introduction to shade and Texture- Using the Hyper shade- Applying Textures to model and characters- Photoshop Shadders- Bump mapping- Making animated textures on Aftereffects.

Unit-3

Texturing (Intermediate Shadders and Textures)

Import movies and Texture- Shading Networks- Hyper shade in-depth- Tiling textures- advanced Bump map- Displacement mapping- Introduction to utility Nodes.

Unit-4

UV Mapping

Introduction to UV's- Planar Maps- Advanced UV's Tools- Automatic Maps-Spherical maps- Cylindrical maps-unfold, Relax Moving and sewing UV's.

Extensive studio Practice to understand the Basic of 3D and representation of different forms. At least three assignments (2 in studio and 1 from home).

Subject: Environmental Science

**Semester-III
Hours/Week-2
Credit-2**

Learning Objective:

Same as St. Xavier's College [Autonomous]- Undergraduate Syllabus.

4th Semester

Subject: Animation Layout

**Semester-IV
Hours/Week-3
Credit-3**

Learning Objective: Students should be able to create a realistic background and also develop an atmosphere from which perspective the character's and background match with each other.

Unit-1

Introduction of animation layout, Importance of layout in animation. Basic light and shadow in object from various light sources.

Unit-2

Perspective drawing, types of perspective [One point, two point and three point perspectives].

Unit-3

Model sheets, Character personality and appeal. Extreme poses and turnaround. Stylizations of background drawing, use of different color pencil for characters and B.G. object's in layout.

Unit-4

Laying out character against B.G., object character interaction poses. Composition and framing. Color composition. Inking, use of brush and pen in pencil page inking.

Unit-5

Theme and concept study. Color theories and color symbolism [Staging, model sheets], concept sketches for B.G.

Unit-6

Thumbnail drawing, prop's drawing, interior drawing [kitchen, conference room and other's] Element placement.

Unit-7

Drawing object's according their distance in layout eye level, camera angle, horizon line, vanishing point, B.G. and breakdown for time/ seasons and climate [Showcase].

Subject: Advanced 2D Animation

Semester-IV
Hours/Week-3
Credit-3

Learning Objective: Main objective of training for this area is to give detail idea about involvement of biomechanics in animation and implementation of animation principles in the real life observations.

Unit-1

Biomechanics without surface contact

Basic anatomy of bird – wings construction –Birds fly- path action – secondary action of wings and tail- cycle movement- progressive movement.

Unit-2

Biped movement

Understanding Human walk-cycle- Progressive walk – Perspective walk- Characteristic walk- run cycle- animation cycle of a created character from Walk to run, finally jump.

Unit-3

Tetraped movement

Understanding four legs animal anatomy- synchronization of leg movement- tetraped walk cycle – progressive walk- horse walk- gallop- trot.

Unit-4

Lip-Sync.

Understanding different human lip gestures during speaking – lip chart- lip with expression – breaking dialogue track for lip-sync- writing exposure sheet- Lip animation.

Unit-5

Sound-Sync.

Syncing sound with music track- understanding beat- bar sheet.

Unit-6

Special Effect Animation

Rain- wind- snow- fire- smoke.

Subject: 3D Lab-II

**Semester-IV
Hours/Week-3
Credit-3**

Learning Objective: Students will learn how to make joints and controllers and how to create SKELETONS, which will behave predicatively in MAYA (Focus of these rigging classes). The various properties and aspects of many lights within MAYA. Also the importance of shadows and creating realistic atmosphere. Finally Students will learn to apply the basic principles of animation, to create characters, which have both dynamic movement and weight.

Unit-1

Introduction to Rigging

Building the skeleton-understanding JOINTS-Forward and Inverse Kinematics- Constraints- They make a character's eye follow an object, a hand pick up glass, Skinning- Binding a character of the Rig-Local Rotation, Axis Controllers, Set Driven Key, Blend Shapes.

Unit-2

Intermediate Rigging

Reverse Foot-Spline-IKFK Switch- Advanced Blend Shapes.

Unit-3

Lighting

Introduction to basic 3-Point Lighting-Directional Light- Ambient Light- Spot Light- Depth map Shadows.

Unit-4

Animation (Introduction to Animation)

Key frames- Squash and Stretch- Bouncing a ball- Walk Cycle- Acting for Animators- Creating animation reference materials- The Graph Editor.

Unit-5

(Intermediate Animation)

Bouncing ball 2-Animating a flour sack (the classical Disney animation teaching technique)- Posing a character- Keys- Extremes and In betweens- The Graph editor in-depth.

Need sincere practice to understand and grasp the CORE of 3D Animation,
Atleast 3 Assignments (2 in Studio, 1 from Home).

Subject: Compositing and Visual Effect

**Semester-IV
Hours/Week-3
Credit-3**

Learning Objective: Student will learn how to composite and add graphics in Film footages. They will also learn advanced Visual and Special Effects and composite a scene.

Unit-1

Introduction to video compositing- Introduction to Motion graphics- video formats and its uses- introduction to Adobe After Effects – Understanding the workspace- Importing footages- Preparing footages for compositing- Basic 2D and 3D compositing.

Unit-2

2D Compositing Animating images and Text- Logo Animation –Painting- Rotoscopy- Masking- Rope/Rig removal- Scratch removal- Filters.

Unit-3

Keying- Details of Green screen and blue screen footage compositing and their set up – Color correction – 2D Tracking – Image Stabilization- Morphing- Use of lights and camera-Null objects.

Unit-4

3D Compositing- Z Depth compositing –Importing camera and Tracking information- Match moving – 3D post filters- Apply various types of effects on a HD footage

Unit-5

Using Expressions - Rendering Attributes- Codec's- Video Standards- Batch rendering.

Subject: Project-I (STOPMOTION)

**Semester-IV
Hours/Week-5
Credit-5**

Learning Objective: Each individual student should produce a very short project stop motion Animation (cutout/clay/ thread/ sand/ mixed media/ pixilation) of not more than 1 minute duration. This will execute student's creative ability.

During the production of stop motion project student should follow the bellow checklist-

- Synopsis of concept
- Concept of Art
- Rough storyboard
- Animation/ Shooting
- Composite
- Edit

5th Semester

Subject: 3D Lab-III

Semester-V
Hours/Week-5
Credit-5

Learning Objective: Students are introduced to the real world of Dynamics and VFX, the most beautiful visual and special elements. And also they will know the real cloth Simulation and Dynamics Systems like Water flow, Tornadoes, Rain, Snow, Fire and Smoke. They will know the role of MEL (Maya Embedded Language) in Particles to get real time Effect.

Unit-1

(Introduction to Particle)

Particles tool-create emitter-emit from object-Make Collide-Particle Collision Event Editor-Goal-Instancer (Replacement)-Sprite Wizard-Sprite Wizard-Hardware Rendering.

Unit-2

(Advanced Dynamics)

Different type of fields (Air, Drag, Gravity, Newton, Radial, Turbulence, Uniform, Vertex)- Active Rigid Body- Passive Rigid Body- Constraints (Nail, Pin, Hinge, Spring, Barrier)- Create Soft Body- Create Springs- Paint Soft Body Weight tool.

Unit-3

(MEL and Fluids)

Introduction to Mail- Advanced Expressions- Create 3D and 2D Container- Ocean and Pond- Make Collide- Initial State settings- Fluid Cache Settings.

Unit-4

nParticles (Advanced Particles)

Create nParticle- Types of nParticle (Points, Ball, Cloud, Thick Cloud, Water)- Particle collision event editor- Goal- Instancer (Replacement)- Sprite Wizard- nParticle attributes.

Unit-5

(nCloth)

nMesh- Create nCloth- Create Passive Collider- Convert nCloth output space- Paint vertex Properties- Paint vertex properties- paint texture properties- nCloth caching- generate forces fields with nCloth.

Subject: Interactive media design

**Semester-V
Hours/Week-4
Credit-4**

Learning Objective: Student should able to deliver their presentation in interactive way, they should also get an idea how to design interactive simulation for various requirement- in the field of medical- Aeronautics- Driving- Education.

Unit-1

Introduction to interactive design mediums- User Interface assets design.

Unit-2

Creating Buttons- Menus- Rollovers- Logos using Photoshop and Flash.

Unit-3

Creating navigation pages- frames- flags.

Unit-4

Media Player skins- Texturing skin transparency- Optimization for web and mobile.

Unit-5

Preparing presentation and slide shows using flash.

Unit-6

Interactive simulation for- Education- Gaming.

Subject: Motion Graphics

Semester-V
Hours/Week-4
Credit-4

Learning Objective: In this session student should learn how to give motion for Animated graphics. They also will learn how to produce graphics for broadcasting medium.

Unit-1

History of Motion Graphics- Collage and Cut out animation as motion graphics.

Unit-2

Typography- Animating text and shapes

Unit-3

Creating Montages- Photomontage- Video Montage.

Unit-4

Hybrid animation- Mixing style- Mixing Mediums.

Unit-5

Creating gags- TV commercials- Channel Ads.

Subject: Music and Sound Effect

Semester-V
Hours/Week-3
Credit-3

Learning Objective: This course is design to provide students the below proficiencies:

1. audio. Details of **sound** and digital
2. editing software. How to use digital audio
3. **sound** files How to record and edit

Course Training: This course is design to provide the student with the ability to do standard digital editing and synchronization of digital audio to computer applications. These skills will be instructed to provide support for video, animation, multimedia and web presentations. Hardware will include ; digital Recording Systems, Signal Processors and Sound Effect unit. Additionally, some external devices will be evaluated, such as; Microphones, Mixers and Processors, CD "burner" requirements, DV requirements, web requirements and Sound/ Music Libraries. Software will include; SoundForge, Sound Edit 16, Micrologic AV, Multimedia applications, digital video/audio software and OS system requirements.

Unit-1

Audio for Multimedia

"Audio for Multimedia"- Course description, requirements and an explanation of the projects.

"Audio Terms"- discussion of audio, the electronic audio signal and its components.

"Digital Signals"- Discussion of equipment, levels and waveforms- Assignments.

Unit-2

Digital Audio

"Digital Audio"- discussion of computers, BASE 2, Bit length, sample Rate and tradeoffs.

"SoundForge"- CD Audio file importing.

Project- perform and modify- Related Assignments.

Unit-3

Microphones

"Microphones"- discussion of common microphone types and polar patterns.

"The Audio Studio"- discussion of audio studio requirements, including monitoring, recording, acoustics, mixer and outboard equipment- Related assignments.

Unit-4

Audio Types

"Field Audio"- To examine tools and considerations for live non-studio recording.

"Studio Audio"- To examine tools and considerations for studio recording- Related Assignments.

Unit-5

Editing Sound Effects

Understanding Sound Designing- Lecture description for editing Sound effect files- environmental sound, Domestic sound effect and mixing- Related Assignments.

Subject: Project-II (2D)

Semester-V
Hours/Week-5
Credit-5

Learning Objective: Each individual student should produce a very short project 2D Animation (Classical/ Flash) of not more than 1 minute duration. This will execute students' creative ability.

During the production of stop motion project student should follow the below checklist-

- Synopsis of concept
- Concept Art
- Rough storyboard
- Animation/Shooting
- Composite
- Edit

6th Semester

Subject: Environmental Simulation/ Effect Simulation

**Semester-VI
Hours/Week-4
Credit-4**

Learning Objective: Student should able to recreate Environment digitally they should also able to incorporate digitally created effects into virtually created environment.

Environmental Simulation

Unit-1 - Simulation of barren terrain – Generating grassland terrain

Unit-2 - Generating forests - volcanic region - deserts – icescapes

Unit-3 - Generating water bodies – Rivers – Water Falls – Oceans

Unit-4 - Sci fi landscapes – Fantasy lands

Unit-5 -Cityscape -Space

OR

Effect Simulation

Unit-1 - Simulation of particle effects – Smoke – Fire - Dust

Unit-2 - Simulating storms – floods – ocean waves

Unit-3 - Simulating wind - fog -mist

Unit-4 - Simulating snow fall – rain fall – motion blur

Unit-5 - Simulating clouds

Subject: Advance Production Tools and Technique

**Semester-VI
Hours/Week-4
Credit-4**

Learning Objective: Student should able to recreate Environment digitally they should also able to incorporate digitally created effects into virtually created environment.

Unit-1 - Motion tracking 2D and 3D – Advanced Camera Tracking using Bojou

Unit-2 - Advanced modeling and texturing using Z brush

Unit-3 - Mudbox

Unit-4 - (Combustion)

Subject: Visual and Sound Editing

**Semester-VI
Hours/Week-5
Credit-5**

Learning Objective: Student should be able to understand why editing is very important in film making. They should also get an idea about different types of editing options, editing tools and about editing process.

Unit-1

Introduction to editing

Fundamentals of editing- art and science evolving editing-video editing processes-Linear-Non linear editing- video formats- different editing tools and machines.

Unit-2

Understanding Video editing software's

Capturing media- idea of workspace- Time line- Rendering- Video authoring.

Unit-3

Different options in editing process

Single Track Editing - Editing in Timeline -Editing Tools - Linking and Unlinking Clips – Slip and slide adjustments – Ripple and Role Adjustments – Creating new sequence – Slow and Fast Motion – Freeze Frame- Making of a animatics using editing software.

Unit-4

Transitions and video effects

Time lapse Transitions – Video effect – understanding rough cuts- Working with key frames – Interpolation – Ease in and ease out using keys- Title design.

Unit-5

Sound editing and mixing

Understanding usage of software's in sound editing – Importing audio – Audio mixing – Synchronizing audio with video – Audio effects – Exporting audio – audio channels – audio formats.

Subject: Project-III (3D)

**Semester-VI
Hours/Week-4
Credit-4**

Learning Objective: Each individual student should produce a very short project 3D Animation of not more than 1 minute duration. This will execute students' creative ability.

During the production of stop motion project student should follow checklist.

- -
 -
 -
 - Shooting
 -
 -
- Synopsis of concept
Concept art
Rough storyboard
Animation/
Composite
Edit

7th Semester

Subject: Specialization (Elective)

Semester-VII

Hours/Week-3

Credit-3

Learning Objective: To give maximum inputs for a particular subject in which a student is specialized. Student must opt for either 2D Specialization or 3D Specialization.

**For Specialization in 3D
(Modeling and Texturing/ animation/ Lighting)- Any one from these there**

Modeling and Texturing

Polygonal Modeling

Inorganic Modeling- Modeling a two wheeler- Modeling a car- Modeling conceptual Vehicles (Automobile modeling)- Different Props and set modeling

Organic Modeling- Biped/ Quadruped modeling- Character Designing, Creating different body parts of human figure

NURBS and Subdivision Modeling

Industrial Modeling- Architecture (interior/ Exterior) Modeling- Background and Set modeling

Texturing

Texturing the Tow Wheeler- Unwrap the two wheeler's every part- Unwrap a human Face-Painting the human face in Photoshop- create the Essential layered texture for human face- unwrap different part of human body.

Animation

_Key frame and Path Animation –Animation using set keys- drawing motion paths Creating path

Animation—Non Linear Animation- using deformers-Expressions

Character animation – Blocking out scenes-Posing- Creating Walk and run cycles

Animating multiple deformers- Animating face- Clusters- Wire deformers

Traditional character animation techniques- anticipation action- recovery

Advanced Acting with emotion and Blend Shapes.

Lighting

Introduction to Mental Ray- Mental Ray shaders for advanced lighting- Global

Illumination- Final Gathering- Photons- Importons- Caustics- Define lights for realistic environment in

Mental Ray- Two different light set up for two different times (Day and Night)

The students will engage in a group project and will cover their own specialization topics in that Project.

For Specialization in 2D Animation

(2D Classical Animation/ 2D Flash animation)- Any one from these two

2D Classical Animation

Unit-1

Pre-production for Animation project

Communication procedures in animation –Field-chart, Animation bar sheet, storyboard, model sheet, character bible, posing chart Animatics.

Unit-2

Production for Animation project

Rough Animation, In-between, Final Line Animation

Unit-3

Post-Production for Animation project

Digitization of Drawn frames, Ink and paint, Compositing, Color Correction

Or

2D Flash Animation

Unit-1

Layout and BG

Unit-2

Animation Processes

-
-

Group Animation
Tween Animation

Unit-3

Lip sync and Sound sync

Unit-4

Compositing

Unit-5

Effects

Unit-6

Buttons and interactive Animation, Interactive Game design and Simulation

For Specialization in Compositing

Unit-I

History of the art of compositing – Composite types – working with color – working with channels

Unit-II

Compositing rendered images – Enhancing renders – Compositing render passes – Compositing software and hardware renders – Z depth painting

Unit-III

Tracking- Match moving – creating markers in 3D programs –Stabilization - Morphing

Subject: Project-IV (Specialization- 2D/3D)

**Semester-VII
Hours/Week-5
Credit-5**

Learning Objective: Each individual student should produce a very short project on their specialization elective. This will execute students command on that particular elective.

For

3D Modeling and Texturing

- resolution muscle structure Male with high
- resolution body structure Female with high
- resolution Quadruped in detail
- resolution Alien modeling-High
- resolution Futuristic Cityscape
- resolution Cartoon cityscape
- resolution Automated machine
- resolution Interior modeling
- resolution Historical
- Architectural structure
- modeling Futuristic car/ Bike

For

3D Animation

- walk cycle Biped character
- solo character Animacting with
- cycle Lip-sync acting
- cycle Sound-sync
- cycle Quadruped run

- interaction

Dual character

**For
Lighting**

-
-
-
- fire
- environment
-
-
- projected lights
- with mental ray
- industrial walkthrough

Lighting a still-life

Outdoor cityscape

Indoor light with

Under water

Fantasy land

Neon signboard and

Interior lighting

Lighting for

**For
2D Classical Animation**

- Submission of pencil testing movie of any 2D project of maximum 1 minute duration with sound.

**For
2D Flash Animation**

- Submission of a flash animated 2D project of maximum 1 minute duration with sound.

Subject: Project-V (Compositing)

**Semester-VII
Hours/Week-5
Credit-5**

Learning Objective: Student should submit a series of assignment, after understanding the process of digital compositing.

**For
Compositing**

- composed scene using Blue/Green chroma Submission of a
- composed scene showing motion tracking Submission of a
- composed scene showing time-lapse Submission of a
- composed scene showing Rotoscopy Submission of a
- composed scene swing Alfa mat track mat Submission of a

- light and camera

Composite using

Subject: Group Project

**Semester-VII
Hours/Week-7
Credit-7**

Learning Objective: Each group of student having 5-7 members should produce a short film of not more than 3-4 minutes duration. This will execute students' capability to work together for Animation film Production.

Project Topic can be anything suitable for Animation. While conceiving the concept for the project. Students and guide should avoid controversial topic.

Production Flow-Chart for Student project films

- Development

Concept of

-
-
-
-
-
- recording
-
-
-
-
-
-
-
-

Story
Scripting
Screen-play
Storyboarding
Rough Sound Track

Animatics
Production Process
Compositing
Editing
Color Correction
Final Rendering
Video Authoring

8th Semester

Subject: Case Study

**Semester-VIII
Hours/Week-8
Credit-8**

Learning Objective: Student will undergo research work on various Animation productions. They should research on various aspects of Animation film making in several medium.

**Unit-1
2D Animation Production**

2D Animation feature film – TV software's –Short film- AD Films- TV feelers

Unit-2

3D Animation Production

3D Animation feature film – TV software's –Short film- AD Films- TV feelers

Unit-3

Stop motion Animation Production

Animation feature film –TV software's – Short Film- AD Films TV feelers

Subject: Individual Project Film

**Semester-VIII
Hours/Week-8
Credit-8**

Learning Objective: Student should produce an individual project film. Eventually that film will become part of their final show reel.

Student should produce an individual Animation production of minimum 30 seconds to maximum of 3 minutes.

Minimum 60% of the project must be Animated.

Individual Projects can be anything of the following made in any medium-

- AD Film
- Music Video
- Short film
- TV feeler

Or any other creative production approval by the Guide.

Subject: Professional Practice

**Semester-VIII
Hours/Week-8
Credit-8**

Learning Objective: Main objective of profession practice is to make student acquainted with Profession work environment.

In professional practice, student may work in any production house as part timer or they can work as freelancer.

At the end of the Semester Student should submit their profession output/ Report.

Reference Books :

Reference for Creative Writing

- **The everything Creative Writing Book-** Carol Whiteley
- **The Complete Idiot's Guide to Creative Writing, 2nd Edition-** Laurie E. Rozakis.
- **The Art of Creative Notification: Writing and Selling the Literature of Reality (Wiley Book for Writers Series) –** Lee Gutki
- **Writer's Digest Writing Kit: Everything You Need to Get Creative, Start Writing and Get Published –** Writers Digest Book.

Reference for Still Photography

- **The Complete Kodak Book of Photography –** Jonathan Vince and Jack Tresidder.
- **The Basic Book of Photography, Fifth Edition-** Tom Grimm and Michele Grimm.

- **Amphotos Complete Book of Photography: How to Improve Your Pictures with a Film or Digital Camera-** Jenni Binder and Russ Burden.

Reference for Conceptualization and Storytelling

- **Visual Storytelling: The art and Technique-** Tony Caputo, Jim Steranko, and Harlan Ellison.
- **The visual Story, Second Edition: creative the Visual Structure of Film, TV and Digital Media-** Bruce Block.
- **Graphic storytelling and Visual Narrative (Will Eisner Instructional Books) –** Will Eisner.
- **Cinematic storytelling: The Most Powerful Film Conventions Every Filmmake Must Know –** Jennifer Van Sijll (Paperback Aug 1, 2005)

Reference for Script Writing

- **The Complete Book of Scriptwriting-** Michael Straczynski
Cartoon
- **The Writer's Guide to Writing Your Screenplay : How to Write Great Screenplay for Movies and Television-** Cynthia Whitcomb
- **Animation: From script to Screen-** Shamus Culhane.
- **Animation Writing and Development: From Script Development to Pitch (Focal Press Visual Effects and Animation) –** Jean Ann Wright.

Reference for Animation Fundamentals- Classical Animation –Advanced 2D Animation

- **Gardner's Computer Graphic & Animation Dictionary-** Garth Gardner
- **Animation (Walt Disney Animation Studios: The Archieve Series)-** Ins. Disney Enterprises.
- **Beginner's Guide to Animation: Everything You need to Know to Get Started-** Mary Murphy.
- **The Animators Survival Kit- Revised Edition: A manual of Methods, Principles and Formulas .for Classical, Computer, Games, Stop Motion and Internet Animators-** Richard Williams.
- **The Illusion of Life: Disney Animation-** Ollie Johnston and Frank Thomas.
- **Cartoon Animation (the Collector's Series)-** Preston Blair
- **The Animation Book: A Complete Guide Animated Filmmaking- From Flip- Books to sound Cartoons to 3D Animation-** Kit Laybourne and John Canemaker.
- **Animation 1: Learn to Animate Cartoons Step by Step (Cartooning Book 1)-** Preston j. Blair
- **Force: Dynamic Life Drawing for Animators, Second Edition-** Mike Mattesti.
- **Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1: The Walt Stanchfield Lectures-** Walt Stanchfield and Don Hahn.
- **How write for Animation-** Jeffery Scott.

- **Timing for Animation, Second Edition-** Tom Sito (Paperback- Sep 3, 2009).
- **Animation from Pencil to Pixel: Classical Techniques for the Digital Animation-** Tony White (Kindle Edition- Aug 4, 2006)- Kindle Book.
- **Basic animation: Drawing for Animation-** Paul Wells, Joanna Quinn.

Reference for Film Language

- **Film Language: A semiotics of the Cinema-** Christain Metz and Michael Taylor.
- **Grammer of Film Language-** Daniel Arijon.
- **Film Communication Theory and Practice in Teaching English as A Foreign Language-** David John Wood.
- **Teaching Analysis of Film Language-** David Wharton, Jeremy Grant and Vivienne Clark.
- **Film as Art- Rudolf Arnheim (Paper Back- Mar 6, 2006)-** Deluxe Edition
- **Film Direction Shot by Shot: Visualizing from Concept to Screen (Michael Wiese Production)-** Steve Katz.

Reference for Storyboarding & Animatics

- **Exploring Storyboarding (design Exploration Series)-** Wendy Tumminello.
- **Storyboard Design Course: Principles, Practice, and Techniques-** Giuseppe Cristiono.
- **Prepare tp Board! Creating story and Characters for animated Features and Shorts-** Nancy Beiman.
- **The Art of the storyboard, Second Edition: A filmmaker's introduction-** John Hart.
- **Storyboards: Motion in Art, Third Edition-** Mark A. Simon.

Reference for Character Design

- **Creating Characters with Personality: For Film, TV Animation, Video Games, and Graphic Novels-** Tom Bancroft and Glen Keane (Paperback- Feb 1, 2006).
- **Character Animation: 2D skills for Better 3D, Second Edition (Focal Press Visual Effects and Animation)-** Steve Roberts (Kindle Edition- May 4, 2007)- Kindle Book

- **Gardener's storyboard Sketchbook: story Planning and Character design Workbook (Gardner's Guide Series)-** Garth Gardner.
- **Character Costume Figure Drawing: Step-by-Step Drawing Methods for Theatre Costume Designers-** Tan Huaixiang (Paperback- May 4, 2004)

Reference for Layout Design

- **Animation Background Layout: From student to Professional-** Mike S. Fowler.
- **How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principles of Animation-** Tony White

Reference for Stop Motion Animation

- **A century of Stop-Motion Animation: From Melies to Aadman-** Ray Harryhausen and Tony Dalton.
- **The Art of Stop-Motion Animation-** Ken A. Priebe
- **Basic Animation: Stop Motion-** Barry Purves

Reference for Music and Sound Effect

- **Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema-** David Sonnenschein
- **Sound and Music for the Theatre, Third Edition: The Art &Technique of Design-** Deena Kaye and James LeBrecht.

Reference for Visual and Sound Editing

- **Editing Digital Video: The Complete creative and Technical Guide-** Rober M. Goodman and Patrick McGrath.

Reference for 3D (Maya)

- **Stop Staring: Facial Modeling and Animation Done Right-** Jason Osipa.
- **Learning Autodesk Maya 2009, The modeling and Animation Handbook: Official Autodesk Training Guide-** Autodesk Maya Press.
- **Maya Professional Tips and Techniques-** Lee Lanier.
- **Advanced Maya Texturing and Lighting-** Lee Lanier.
- **Maya Visual Effects: The Innovator's Guide-** Eric Keller
- **Mastering Maya 2009-** Eric Keller, Eric Allen and Anthony Honn.

Reference for Digital Imagery

- Adobe Photoshop CS4 classroom in a book- Adobe Press.
- The Photoshop Book for Digital Photographers- Scott Kelby
- Layers: The complete Guide to Photoshop's Most Powerful Feature- Matt Kloskowski.

Reference for 2D Animation by Flash

- Adobe Flash CS4 Professionals- Classroom in a Book- Adobe Creative Team
- Adobe Flash CS3 Professionals- Hundred Essential Techniques- Mark Schaeffer.

Reference for Drawing the Key Tool/ Visual Literacy/ Graphic Design

- Consize History of Art- Harbart Reed
- Pictorial Webster's' "A Visual Dictionary of Curiosities"- Jhon M.Carrera.
- An illustrated Life: Drawing Inspirations from the Private Sketch Books of Artists, Illustrators and Designers –Danny Gregory.
- Art: A world History- Elke Linda Buchholz, Susanne Kaeppeler, Karoline Hille and Irina Stotland.
- How to read a Film: Movies, Media, Multimedia- James Monaco.
- Our Films and Their Films- Satyajit Ray.
- The Animation Book: A Complete Guide to animated film making- From Flipbooks to sound Cartoons to 3D Animation- Kit Laybourne, John Canemarker.