DEPARTMENT OF KAUSHAL KENDRA

M.Voc. - 3D ANIMATION

SYLLABUS

Effective from the Academic Year 2016-2017

LOYOLA COLLEGE (Autonomous)

RESTRUCTURING-2016 (2016-17 batch ONWARDS)
PG - Arts / Science / Commerce / Social Work

Part	Semester 1	Semester 2	Summer Vacation	Summer 3	Summer 4	Total Hours
Major Core (MC)	30(20 C)	24(20 C)	– –	20(15 C)	30(24 C)	104(79 C)
Elective Subject (ES)	– –	4(3 C)	– –	4(3 C)	– –	8(6 C)
Inter - Disciplinary (ID)	– –	– –	– –	6(5 C)	– –	6(5 C)
Self study Paper (SSP)				Outside class hours(2C)		(2 C)
Summer Training Program (STP)	– –	– –	3 to 4 weeks (1 C)	– –	– –	(1 C)
Life Skills Training (LST)	– –	2h + 2h# (2 C)	– –	– –	– –	2+2# (2 C)
Extension Activities	LEAP	LEAP(3 C)	– –	– –	– –	(3 C)
Total Hours (Total Credits)	30 (20 C)	30+2# (23+5 C)	–(1 C)	30 (23+2 C)	30 (24 C)	120+2# (90+6+2*)C

Note: A theory paper shall have 5 to 6 contact hours and a practical session shall have 3 to 5 contact hours.

New format of the subject codes from the 2016 regulation

Subject codes are 10 characters long:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th

- ➢ 1st & 2nd digits – last two digits of regulation year in YY format (If 2016, it will be 16).

- ➢ 3rdalphabet: U – UG / P – PG / M – M.Phil. / D – Ph.D.

- ➢ 4th & 5thalphabets: department wise program code(example – MT / CO / HT…..)

- ➢ 6th digit: Semester for UG/ PG / M.Phil. and year for Ph.D.

- ➢ 7th & 8th alphabet: Category of paper or group of category of papers (GE/RL/OL/HE/OR/AL /ES/SK/MS/CM/CC/ ……)

- ➢ 8th & 9th digits: subject number range (01 to 99).

For example,

Example 1:16UCH1MC01	**Example 2:16PCO2ID01**
16 – Admitted in 2016	16 – Admitted in 2016
U – UG student	P – PG student
CH – Chemistry Student	CO – Commerce Student
1 – 1st Semester subject	2 – 2nd Semester subject
MC01 – Major paper	ID01 – Inter disciplinary paper

- ➢ For subjects which are carried forward from one regulation to the next, the first two digits representing the regulation alone will change.

- ➢ Subjects which are not carried forward from one regulation to the next, will not appear in the new regulation.

- ➢ For new subjects which need to be added to a regulation, a new subject code must be created in continuation of the last created code under that type/category.

- ➢ Subject codes which are identical (except for the first two digits which represent the regulation year) are treated as equivalent for the purpose of syllabus / question paper setting / conducting examination / etc.

KAUSHAL Kendra
M.VOC. 3D ANIMATION

S. NO	SUBJECT CODE	SUBJECT TITLE
1	16PAN1MC01	ANIMATION PRINCIPLES AND STORY DEVELOPMENT
2	16PAN1MC02	ADVANCED DRAWING FOR ANIMATION
3	16PAN1MC03	3D MODELING AND TEXTURING
4	16PAN1PJ01	INDUSTRY VISIT AND PROJECT - I
5	16PAN1ES01	ADVANCED GRAPHIC DESIGN
6	16PAN1ES02	PHOTOGRAPHY AND VIDEOGRAPHY
7	16PAN1FC01	COMMUNICATION AND CREATIVE WRITING
8	16PAN2MC01	2D ANIMATION AND CHARACTER DESIGNING
9	16PAN2MC02	ADVANCED MODELING AND TEXTURING
10	16PAN2MC03	LIGHTING AND RENDERING
11	16PAN2ES01	CLAYMATION AND STOP MOTION
12	16PAN2ES02	DIGITAL MATTE PAINTING
13	16PHE2FC01	LIFE SKILLS TRAINING
14	16PAN2TP01	INTERNSHIP-I
15	16PAN3MC01	VISUAL EFFECTS GAMING APPS DESIGN
16	16PAN3MC02	DYNAMIC SIMULATIONS
17	16PAN3MC03	RIGGING AND ANIMATION
18	16PAN3PJ01	INDUSTRY VISIT - II AND PROJECT – II

19	16PAN3ES01	MODELING AND TEXTURING
20	16PAN3ES02	LIGHTING AND RENDERING
21	16PAN4MC01	VIDEO EDITING TECHNIQUES
22	16PAN4PJ01	PORTFOLIO
23	16PAN4ES01	2D PROJECT
24	16PAN4ES02	3D PROJECT
25	16PAN4TP01	INTERNSHIP-II

16PAN1MC01-ANIMATION PRINCIPLES AND STORY DEVELOPMENT

SEMESTER   I   **CREDITS 6**

CATEGORY   MC(L)   NO.OF HOURS/ WEEK   6

Course objectives:

- To provide an overview of the history of Animation
- Introduction to the fundamentals of Animation - Traditional Animation to CGI Animation till date, Types of Animation
- To provide a solid foundation of the principles animation, together with essential observational studies
- To guide the student through the various stages of pre-production before the production starts of an animation project - from developing an idea through to a story using storyboards and animatics.
- Introduction to 2D Cel animation and Flash Animation

Unit-I: Introduction to Animation & History of Animation

What is Animation, History of Animation – Starting from Early approaches to motion in art, Animation before film, Traditional Animation – The silent era, Walt Disney & Warner Bros., Snow White & the seven dwarfs, The Television era, Stop-motion, CGI Animation - till date. Major animation studios all over the world, Pioneer Animators and Experimental animations.

Different Types of Animation:

- Traditional Animation - Cel Animation or hand drawn Animation
- Stop Motion Animation – Puppet Animation, Clay Animation, Cut-out Animation, Silhouette Animation, Model Animation, Object Animation etc.
- Computer Animation – 2D Animation, 3D Animation

- Experiment different types of animation – Stop motion, cutout, silhouette, Celetc

Unit-II: The 12 basic Principles of Animation

The basic rules of animation including Squash and stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow In and Slow Out, Arc, Secondary Action, Timing, Exaggeration, Solid drawing, Appeal.

Unit-III: Animation Production Process

Understand Animation Requirements, Basic steps in Pre-Production, Production and Post-Production. Animation techniques, Technical advancements in animation. To apply the principles of animation, Posing and character emotion. How to observe and study human behavior and expressions to help visualize   concepts. How to enact and emote.

Animation equipment - Cels - Light box - Peg holes and Peg bars - Line/Pencil tests, Field charts, The exposure sheet (X Sheet), Key frames, In-betweens, Clean-up etc. Layers, Ease in & Ease out, X-Sheet handling, Field Chart usage, Camera Panning, Zoom-in & Zoom-out, Cut-shot, Dissolve transform, trick shot, hook-up shot etc. How to create hook-up poses for animation.

Unit-IV: Story Development

How to create story for animation – Developing idea or concept, different genres, types of stories, sources of storyline, creative exercises to create story, Characterization dialogues, Target audience, animation script, shot, scene, sequence, screenplay, story-boarding

Unit-5: Introduction to Flash: Introduction to Adobe Flash, Workspace overview, Using the Stage and Tools Panel, Understanding timeline tools and their usage, Property inspector - Library panel - Movie Explorer - History panel - Color panel,

Understanding layers, Basics of Animation in Flash, Methods of Animation, Technical Animation creation. Drawing in Flash - choosing colors, choosing line style, designing and alignment of elements, drawing panels - Time-line animation - applying layer type - adding sounds. Working with project - Importing artwork into Flash.

Assignments:
Story creation, story-board creation, animatics creation, character turn-around and other charts. Flip book animation, Cel animation samples - Bouncing Ball, Walk cycle, Run Cycle, 4 Leg Walk cycle, Fly Cycle etc. Animation Movie Studies – Analyzing Traditional Animation Movies – Snow White and Seven Dwarfs, Bambi, Pocohontas, Mulan, Prince of Egypt etc.

Methodology:
Extensive Theory & Practical sessions, Drawing Sessions, Traditional Animation Sessions using Light-box, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits, Movie Showcase

Evaluation:
Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks
External 50% - Semester Examination – Written – 100 Marks

Reference Books & Online References:
1. The Illusion of Life: Disney Animation - Frank Thomas and Ollie Johnston
2. Cartoon Animation - Preston Blair
3. The Animator's Survival Kit - Richard Williams
4. History of Animation - https://en.wikipedia.org/wiki/History_of_animation
5. Principles of Animation - https://en.wikipedia.org/wiki/12_basic_principles_of_animation YouTube Video -

https://www.youtube.com/watch?v=haa7n3UGyDc&feature=youtu.be

6. Enchanted Drawings: The History of Animation: Charles Solomon
7. The World History of Animation: Stephen Cavalier
8. Cartoons: One Hundred Years of Cinema Animation: GiannalbertoBendazzi
9. Of Mice and Magic: Leonard Maltin
10. Before Mickey: The Animated Film, 1898-1928: Donald Crafton
11. Timing for Animation : Harold Whitaker and John Halas
12. How to Make Animated Films: Tony White
13. Character Animation-2D Skills for Better 3D: Steve Roberts
14. The Anime Encyclopedia: A Guide to Japanese Animation Since 1917: Lowry
15. Animation from Pencils to Pixels:Classical Techniques for the Digital Animator: Tony White
16. The Animator's Workbook: Step-By-Step Techniques of Drawn Animation: Tony White
17.

16PAN1MC02 - ADVANCED DRAWING FOR ANIMATION

SEMESTER	I	CREDITS	6
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	6

Course Objectives:

- To provide an overview of Drawing and Design & its Principles
- To introduce students to animate figures by the observation of human, animals and birds form
- To focus on Action, Rhythm, Twisting, balance of human figures, movement of figure with step by step.
- To Study light and shade with different materials, study on tone variation of Shading.

Unit-I   Proportion and Perspective

Study of Ideal proportion of male and female figure with different ages, Focus on Head, Hand and Feet. Study of animal and birds with simple proportion. Drawing figure with different perspective views.

Unit-II   Balance and Rhythm

Draw different poses of human figure with balance and rhythm, advance study on movement of human figure, basic movement of birds and animal.

Unit-III   Turning and Twisting

Drawing human figure in action, using mannequins, focus on dynamic figure study.

Unit-IV   Light and Shade

Draw figures with dimensions, focus on Tone variation with different lighting on object, Study with still life.

Unit-V   Action and Emotion

Motion drawing including Human, Animal and Birds. Focus on human emotion.

Assignments:

Outdoor and indoor study human in action, study light and shade using still life,

Different poses of human, animal and birds

Methodology: Extensive practical sessions, drawing session, Field Visits for out-door studies- Zoo park, museum etc.,

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks
External 50% - Semester Examination – Practical – 100 Marks

Reference Books & Online References:

1. Andrew Loomis - Figure Drawing for all it's Worth
2. BRIDGMANS - Complete Guide to Drawing from Life

3. BurneHogarth - Drawing Dynamic Hands
4. Burne Hogarth - Drawing the Human head
5. Burne Hogarth - Dynamic Figure Drawing
6. Ken Hultgren - The Art of Animal Drawing
7. Animation by prestonblair

16PAN1MC03 - 3D MODELING AND TEXTURING

SEMESTER	**I**	**CREDITS**	**6**
CATEGORY	**MC(L)**	**NO.OF HOURS/ WEEK**	**6**

Course objectives:

- To introduce the student to the world of 3D
- The student will learn about how to work in 3D space, model, texture, apply lights and finally take a render output of his/her creation

Unit-1: Polygonal modeling: poly model overview- polygon normal – component loops and rings – polygonal geometry – planar & non planar poly – interactive creations.

Unit-2: Polygon selection and creation – editing polygons – sculpting with soft selection – coloring polygons.

Unit-3: Nurbs modeling: creating nurbs curves – creating nurbs surfaces – editing nurbs – trimming – stitching – sculpting nurbs surface

Unit-4: Preparing texture map using Photoshop: preparing the texture – choosing and creating colors and patterns – fixing the size of the of the texture – maintaining resolution and quality of the image.

Unit-5: Mapping UVs: creating UVs – viewing and evaluating UVs – UV Editor – UV sets – UV tiles – UV mapping: planar, cylindrical, spherical, automatic. Editing UVs - UV sets – - Specular and Bump

Assignments: Room Model with objects, Over-layer handling, Set model creation in 3D with texturing, lighting. Experiment exercise on unwrapping techniques using a simple model. How to create photo-realistic textures consistent with the creative look of the production. For eg. Students can shoot the tree texture from the campus and wrap it to the tree form created in MAYA and show a tree trunk.

Methodology:
Extensive Theory & Practical sessions, Drawing Sessions, Guest Lectures, Industry Experts, Assignments, Industry Visits. 3D Animation Movie Studies – Analyzing 3D Animation Movies – Toy Story Tangled, Rio, Up, Rango etc.

Evaluation:
Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks
External 50% - Semester Examination – Practical – 100 Marks

Reference Books:
1. The Art of 3D Computer Animation and Effects: Isaac Kerlow
2. Autodesk Maya 2014 Essentials: Paul Naas
3. 3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design: Andrew Gahan

Online References: Autodesk help online

16PAN1PJ01 - INDUSTRY VISIT & Project-I

SEMESTER	I		CREDITS	4
CATEGORY	PJ(L)	NO.OF HOURS/ WEEK		4

Objective:

- Will be taken for Industry Visits and put under the guidance of an external resource person from the Industry / Research / Similar Organization.

Industry Visit:

- Animation Studio – 2D / 3D
- Website creation studio

Evaluation:

Internal 50%
External 50%

16PAN1ES01 – ADVANCED GRAPHIC DESIGN

SEMESTER I		CREDITS 4
CATEGORY ES(L)	NO.OF HOURS/ WEEK 4	

Course objectives:

- A detailed understanding of Design elements and its Principles
- Importance of colour theory, typography and texture
- Common uses of graphic design
- To know how to create texture for 3D elements.
- To know techniques of Restoration.

UNIT-I: Introduction

Graphic design and its role in visual communication, Introduction to Drawing, Free flowing designs, Geometric Designs, Positive and Negative space, Elements of Design – Dot, Line, Shape, Value/Tone, Texture, Space. Principles of Design – Balance – Symmetrical or Asymmetrical, Repetition / Rhythm, Focus / Emphasis / Dominance, Unity / Harmony, Scale, Proportion, Contrast, Depth.

UNIT-II: Colour Theory

Colour wheel, lightness, saturation hue, Typography-typefaces, point size, tracking, kerning, and leading, Page layout techniques-image placement, text layout and style, Texture- use and simulation of textures- natural, Experimental design using

artificial texture, Photography as texture background, Textured typography

UNIT-III: Common uses of graphic design

Identity (logos and branding), Publications (magazines, newspapers and books), Print advertisements, posters, Website graphics and elements, signs and product packaging,

UNIT-IV: Clean Plate

Selection tools, Input/output formats and color spaces. Canvas size vs. Image size, Resizing and resampling images, Layer and blending modes, Selection tolls, cropping images, Essential keyboard shortcuts, Retouching techniques, Contrast and Color balance, histogram. Alpha channels

UNIT-V: Working with 3D

Working with Video and 3D files, Texture Painting for 3D objects: Revisiting clone brush and Healing brush, Texture painting. Manipulations: Advanced Layer Manipulations, Image Optimization, Understanding animation and making moving images, Animated GIF Images.

Assignments: Concept Designs in color, Abstract designs representing Principles & Elements of Design, CGI – Software outputs

Methodology: Extensive Theory & Practical sessions, Drawing & Coloring Sessions, Computer Lab sessions, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks

External 50% - Semester Examination – Written – 100 Marks

Reference Books:

1. Kelly McCathran and video2brain, "Adobe Photoshop CS6: Learn by Video": Core Training in Visual Communication by (Jun 18, 2012)

2. Peter Lourekas and Elaine Weinmann," Visual QuickStart "GuideA, ug 18, 2012

3. Philip B. Meggs, Alston W. Purvis,Meggs' "History of Graphic Design", 5th Edition November 2011.

4. James D. Foley, Andries van Dam,"Computer Graphics: Principles and Practice in C" Publisher: *Addison*,*Wesley* Professional (2nd Edition) 2nd Edition1982.

Online References:

1. Multimedia – http://www.slideshare.net/kenshin1017/introduction-to-multimedia-4663053

2. Elements & Principles of Design – http://teaching.ellenmueller.com/drawing-i/resources/elements-principles-of-2d-design/

3. Design Principles – http://www.design-skills.org/design_principles_guidelines.html

16PAN1ES02- PHOTOGRAPHY AND VIDEOGRAPHY

SEMESTER	I	CREDITS	4
CATEGORY	ES(L)	NO.OF HOURS/ WEEK	4

Course objective:

- Techniques of Photographic Composition is intended to help students understand the basic knowledge of image making using digital camera. Students will be introduced to basic picture composition.

Unit-I   Aesthetics

The Psychology of Visual Perception - Visual Aesthetics - Art of Filmmaking - Stages in Brief.

Unit-II   Composition

Photography as a communication tool - Basics of visual composition - Visuals - Image Sizes - Camera Angles - Elements and Principles of picture composition - Balance and

Structure - Composing movement, rule of space - Rule of odd - Rule of third - Golden triangle etc. - Perspective and depth of field - foreshortening.

Unit-III   Camera

Basic features of DSLR camera - human eye and camera - Principles of Image formation - Properties of light and its control - Shutter - Lenses and exposure controls - Aperture, focus and depth of field, depth of focus. Colour Temperature, Direction, and Quality of Light etc. Measurement of light - Light meters. Histogram - Understanding basics of histogram.

Unit-IV   Shooting for Chroma-key

Modern day Travelling Mattes and how they works: Luma-Key matte, Chroma-key matte, Difference mattes, Blue Screen matte, Green Screen mattes, etc. Green Vs. Blue screen, shadow matting, Poorly lit green screens and its problems, Pulling the Mattes, different type Keyers

Unit-V   Lighting Techniques for Chroma-key Shoot

Basic Setups for Shooting Green Screen: Lights- Key, Fill, Back, Side Spill suppressor light - Matte keying fabrics and materials, Flood lights an Umbrella lights, Lighting the backing, Lighting the talent, creating tracking markers for motion tracking, White balancing the camera before shooting, Shooting with HD camera. Matching with background objects, Interacting with the background and objects

Assignments:

Photographs and Videos : In-door Study & Outdoor Study Two projects by shooting green screen and composite it with a background

Methodology:

Classroom Lectures Workshops Guest lectures Interaction with Industry Experts

Evaluation:

Internal 50% - CA I & CA II = 80 Marks and Faculty Assessment = 20 Marks

External 50% - End Semester Evaluation – Viva-voce 100 Marks

Reference Books:

1. Jack Newbart, [1989] Industrial Photography, Am Photo, Watson GuptillPublications,New York.
2. Basic Principles of Photography: Gerald Millerson
3. Grammar of Shot (Second edition): Roy Thompson (Focal Press)
4. How to read a film: James Monaco
5. The T.V. Production: Handbook - Zetti Herbert
6. Elements of film: Lee .R. Bobker
7. The Art of Pictorial Composition: Wolohomok

16PAN1FC01 - COMMUNICATION & CREATIVE WRITING

SEMESTER	I	CREDITS	4
CATEGORY	FC(T)	NO.OF HOURS/ WEEK	4

Course Objectives:

- To educate students the various Communication Process and Types and thereby improve their Communication Skills
- Understand Methods and Techniques of Effective Written and Oral Communication
- Learn the principles of creative writing, various writing styles and formats for writing.

Unit-I   Basic Principles of Communication

Introduction **-** Understanding Communication **-** The Communication Process – Barriers to Communication-Importance of Communication in the 21st century.

Types and Channels of Communication:

Communication Models **-** Types of Communication Classification of Communication Channels- Barriers to Effective Communication.

Unit-II: Introduction to Writing

Elements of Writing-Styles of Writing-Types of Compositions-Creative Writing- Processes of Creative Writing- Challenges of Creative Writing

Unit-III: Types of Writing

Fictional and Non-Fictional-Rules of Grammar and Usage-Short Story Writing-Poetry Composition-Animation Genres-Essay Writing- Composition and Creative Writing- Performing Writing

Unit-IV: Types of Media Writing

Characteristics of Print and Broadcast Media Writing-Editing and Re-Writing-Principles of Editing-Techniques of Rewriting.

Unit-V: New Media

Writing for New Media and Travel-Internet and Mobile Phone as Media-Writing for Blogs.

Assignments

- Extensive Creative Writing Projects
- Group Production of Literary Magazine

Methodology

- Classroom Lectures
- Group Discussion
- Workshops
- Guest Lectures

Evaluation

Internal 50% - CA I & CA II = 80 Marks and Faculty Evaluation = 20 Marks

External 50% - End Semester Evaluation – 100 Marks

Reference books

- Adair, John. Effective Communication. London: Pan Macmillan Ltd., 2003
- Prasad, H. M. How to Prepare for Group Discussion and Interview. New
- Delhi: Tata McGraw-Hill Publishing Company Limited, 2001.
- Guffey, Mary Ellen. Essentials of Business Writing. Ohio: SouthWestern
- College Pubg., 2000.
- Strunk, William, Jr. and White, E.B. The Elements of Style, 3rd ed. (Macmillan, 1979)
- Barkas, J.L. How To Write Like a Professional (Arco, 1984).
- The Cambridge Introduction to Creative Writing- DAVID MORLEY, Cambridge University Publications, First edition, 2007
- Rules for Writers (Book 7), Bedford/St. Martin's; 7th edition (2011)

16PAN2MC01 - 2D ANIMATION AND CHARACTER DESIGNING

SEMESTER	II	CREDITS	5
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	5

Course Objectives:

- To guide the students from developing an idea through to a story creation, to storyboards, animatics, character designing and animating it.
- Character design for animation with an understanding of different forms and shapes involved to create a cartoon character.

- To teach them to apply fundamental principles of animation in both traditional cel animation and in Flash space.
- Appropriately plan out their animated scenes visually; To get an understanding of composition and visual storytelling; To gain a basic understanding of character and scene design.

Unit-I: Story-boarding and Animatics:

Storyboard – Definition, Importance of storyboarding, Different types of storyboards - Storyboard formats, Elements of storyboarding (Design, Color, Light and Shadow, Perspective, Staging, Composition rules – Concept of panels and its usages - Floor plans - Storyboarding movements - Illustrating camera techniques in a storyboard, Understanding different camera angles and shots, Visual continuity - Transitions - Digital storyboarding. Camera Panning techniques, Zoom-in & Zoom-out, Cut-shot, Dissolve transform, trick shot, hook-up shot etc. Using standard symbols in story-board to depict the camera angles, zooming options etc.

Create a story-board for their own characters, dialogues, Experiment different types of story-board, Creation of Animatic - Scanning storyboard panels and synchronizing it with the sound tracks.

Unit-II: Character Designing

Character designing - Features of a character - Types/Kinds of characters, Designing props and assets of character, Creating turnarounds/Character model sheets - Blueprints - Character size comparison charts - Character attitude, Classic Cartoon Characters (Humans, Animals, Birds, Reptiles - Cute, Screwball, Goofy, Heavy, Pugnacious – Fairy Tale Characters, Gnomes, Elves, Dwarves, Witches). Principles of Characters and Props Design: Props Design, Create your own cartoon character and its relative props. Understanding the Character

Bible: Original character creation and its turn-around, lip-synch, size relation chart and their respective props etc

Unit-III: Cartoon Characters

Basics in creation of Cartoon Characters, Understanding Cartoon Characters, Cartoon character constructions and Character Development, different body shapes for cartoon characters, Head shapes and characteristics, Hands – on Characters, Drawing from Basic Shapes, Distortion of Proportions, Cartoon Faces, Eyes, Mouths, Hair, Nose, Hands, Feet -Facial Expressions, Different styles of characters – Classic, Anime style

Unit-IV: Acting for Animation

Acting for animators - Character acting, Difference between acting for drama and acting for animation – Studies from movies, Basics of animation acting - Posing, Timing, Staging - Voice acting - Expressions - Body language, Body Acting and Gestures, Facial expressions, Feeling of the Character: Actions that show Joy or Inner Torments, Space and Effort, Speech Analysis, Acting for Camera, Techniques of Acting, Pantomime, Voice-over acting.

Unit-V: Advanced 2D Animation

Advanced cel animation practices, How to use story-board effectively, How to plan the action before starting animation, How to work in a team for animation, Applying the principles of animation, Expertising in Posing and Character emotion for different actions, Animating for own story. Advanced Flash Animation: Understanding and applying complex movie clip properties, layers, library etc. Understanding advanced timing in animation, Coloring in flash, BG and Layout creation in flash. Creating your own group project in flash, Understanding the different industries and domains where 2D animations can be used like – Entertainment, Education, Technical, e-learning etc.

Assignments:

Characters and Props creation in 2D and Flash, Background with over-layers creation, Staging, Character Animation in Flash, Animation with EFX, 2D Compositing in Flash

Methodology:

Extensive Theory & Practical sessions, Drawing &Coloring Sessions, Computer Lab sessions, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Reference Books & Online References:

1. The Encyclopedia of Animation Techniques: A Comprehensive Step-By-Step Directory of techniques
2. An Inspirational Gallery of Finished Works: Richard Taylor
3. How to Write for Animation: Jeffrey Scott
4. Writing for Animation, Comics and Games: Christy Marx
5. Animation Writing and Development: From Script Development to Pitch: Jean Ann Wright
6. How to Draw Animation- Learn the Art of Animation from Character Design to Storyboards and Layouts: Christopher Hart
7. The Art of the Storyboard - Storyboarding for Film, TV, and Animation: John Hart
8. Exploring Storyboarding: Wendy Tumminello
9. How to Draw What You See: Rudy De Reyna
10. Figure Study Made Easy: Aditya Chari
11. Figure Drawing Without a Model: Ron Tiner
12. Classic Human Anatomy: The Artist's Guide to Form, Function and Movement: Valerie L. Winslow
13. Anatomy for the Artist: Sarah Simblet
14. The Art of Animal Drawing: Construction, Action, Analysis, Caricature: Ken Hultgen
15. Animal Drawing: Anatomy and Action for Artists: Charles R. Knight

16. Animal Anatomy for Artists: Eliot Goldfinger
17. Bird Anatomy for Artists: Natalia Balo
18. Cartoon Animation: Preston Blair
19. Disney Animation - The Illusion of Life: Frank Thomas and Ollie Johnston
20. How to Draw Animation- Learn the Art of Animation from Character Design to Storyboards and Layouts:Christopher Hart
21. How to Make Animated Films: Tony White
22. Animation from Pencils to Pixels: Tony White
23. The Animator's Workbook: Tony White
24. The Male and Female Figure in Motion: Edward Muybridge

16PAN2MC02 - ADVANCED MODELING AND TEXTURING

SEMESTER	II	CREDITS	6
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	6

Course Objectives:

- The objective of the subject is to impart the skills to visualize objects in 3D and also to learn the methodologies of creating 3D environments.
- To make students understand the detailed process of 3D modeling, Texturing in the created models.

Unit-1: Modeling with polygon tools – working with symmetry – using image planes – block modelling – sculpting the character

Unit-2: Sculpting a mesh – preparing & sculpting a model – sculpting tools – sculpt target tools – freeze regions on a model – sculpt using symmetry – produce smooth tool strokes –hotkeys. Stamps: sculpt using stamps – save images for stamps – turn off a stamp image.

Unit-3: Modeling with subdivision surfaces – subdivision

surface levels – refining surface components – texturing techniques for subdivision surfaces – modelling character with subdivision surfaces – geometry deformation.

Unit-4: NURBS Topology – modelling with profile curves – Modeling a character with NURBS - Modeling the human head – shaping and refining torso and limps

Unit-5: UV texturing: preparing the textures from Photoshop for human parts - UV mapping the humanoid

Assignments: Creating a human model / any part of the human body, texturing the human character.

Methodology: Extensive Theory & Practical sessions, Drawing Sessions, Guest Lectures, Industry Experts, Assignments, Industry Visits. 3D Animation Movie Studies – Analyzing 3D Animation Movies – Toy Story Tangled, Rio, Up, Rango etc.

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks

External 50% - Semester Examination – Practical – 100 Marks

Reference Books & Online References:

1. DariushDerakhshani, "Introducing Autodesk Maya 2015, Jon Wiley & Sons, (2014).
2. Maraffi, Chris (2004). Maya Character Creation: Modeling and Animation Controls. New Riders.
3. Animation from pencils to pixels: classical techniques for digital animators, Tony White ISBN-10: 0240806700
4. 3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design for ... By Andrew Gahan
5. Introducing Autodesk Maya 2012 By DariushDerakhshani.

16PAN2MC03 - LIGHTING AND RENDERING

SEMESTER	II	CREDITS	6
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	6

Course Objective:

1. To be able to understand the principles of lighting.
2. To be able to apply the manual and technology based techniques of lighting in Maya and Mental Ray.
3. To understand the process of rendering and learn batch rendering using Maya and Mental Ray.
4. To learn to develop an effective workflow and pipeline.

Unit-1: Lighting: Light and Shadow in real world – indirect vs global illumination – default lighting- direct light sources – absorption, reflection & refraction of light. Setup light source – interactively place spot, area or directional light.

Unit-2: Light specific surfaces: Light linking – link light source to surfaces – control shadow calculation. Link set of lights and objects – select light illuminating a specific object – select object illuminated by specific light.

Unit-3: Create, group & modify light in scene with light editor: create and group lights – snap lights to object. Adjust lighting: turn default light on or off – adjust light source attributes – control area lights – control spot lights – glows, halos, and lens flares – shadow catching – remove shadows., Shading: shading networks – assign materials to surfaces – identify shders assigned to each object in the scene – identify objects to which a material assigned – creating atmosphere using lights – Creating backgrounds & image plane

Unit-4: Reflection and Environment: True reflection - simulated reflection - create true reflection - simulate reflection with Env ball - simulate reflection with Env cube - simulate

reflection with Env sphere . surface relief: bump maps –
displacement maps

Unit-5:. Hardware, software, and vector render, Camera
setup: create and use camera – camera types – framing
objects with camera –lock ing current camera – focus and
blur – panning and zooming – using stereoscopic
camera.Quality, render speed diagnostics – tessellation
and approximation: rendering methods – render outputs:
color, Mask(alpha)and depth channels – file formats –
output location – aspect ratio - render passes.

Assignments: Lighting & rendering for the given scene

Lighting:

1. 3 Point lighting
2. Mood lighting
3. Indirect lighting
4. Animation of lights

Rendering:

1. Working with cameras.
2. Software rendering.
3. Hardware rendering.
4. Mental Ray rendering.
5. Batch rendering.
6. Trouble shooting.

Methodology:

Hands-on learning of lighting and rendering techniques in 3D
space. They will learn the various tips and tricks that result in
stunning 3D animation.

Evaluation: Course grading is based upon:

Critiques/Assignments/Skills

- Successfully completing all assignments

- Assignments ready for participation in class critiques
- Attitude and willingness to experiment
- Aesthetics/Quality of work
- Evaluation of Core Competency skills
- Final Project: Animated flick in playblast form
- Final Project: Animated shortfilm of at least 1 minute in HD Resolution.

Reference Books:

1. Kelly L. Murdock – "Kelly L. Murdock's Autodesk 3ds Max 2015 Complete Reference Guide", Perfect Paperback – 8 Oct 2014
2. Kelly L. Murdock – "Autodesk Maya Basics Guide 2015", 21 November 2014
3. Jeremy Birn "Digital Lighting and Rendering" (3rd Edition) (Voices That Matter) 3rd Edition

Online References: Autodesk Maya Help online

16PAN2ES01 - CLAYMATION AND STOP MOTION

SEMESTER	II	CREDITS	5
CATEGORY	ES(L)	NO.OF HOURS/ WEEK	5

Course Objectives:

- Demonstrate a basic understanding of character and scene design.
- To Introduce a wide range of stop motion styles, materials and techniques including clay, object.
- To develop a personal approach while exploring possibilities in character design.

Unit-I: Basics of Clay Modeling:

Model from a still life set-up in the classroom, a sculptural equivalent in clay, emphasizing inter-relationships of form, space and surface.

Unit-II: Types of Clay Modeling

Create different characters in clay modeling, Cartoons, human figures, Animals, Props etc. Preparation of a prototype work product/pre-visualisation for review. Preparation of the following stop motion animation end-products: Film, Television series, Advertisement, Education content. Application of the following stop motion animation techniques:

- Traditional frame-by-frame capture
- Claymation
- Cut-out
- Using Computer-generated tools

Unit-III: Claymation

Claymation techniques, Different types of Armatures, Properties of clays,Modeling of body parts (Head, Ear, Mouth, Limbs, Torso etc.) ,Recent trends and Techniques, Modeling different types of human characters (Real, Stylized, Comic, Characters of different age group etc.) - Creation of blend shapes

Unit-IV: Process and techniques of stop-motion animation:

History of stop motion Techniques, Introduction to available software for Stop-Motion Animation, Learning to use Monkey Jump Software, study of time lapse and pixilation,Camera angles, Character positioning, Frame by Frame controls, Positioning and actions of secondary characters and Props, Sculpting tools handling, Clay handling techniques, Analyzing

and understanding the challenges faced during clay modeling and shooting, Props & lip-synch handlings

Unit-V: Sand Art

Sand Animation, Recent trends and Techniques in Sand Art

Assignments:

Use clay to create a stop-motion animation, use objects like coins, puppets, marbles, toys and mannequins to create a stop-motion animation

Methodology:

Extensive Practical sessions with required theory classes, Drawing Sessions, Sculpting using clay, Studio Practice, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks

External 50% - Semester Examination – Practical – 100 Marks

Reference Books & Online References:

1. Stop motion Armature Machining: A Construction Manual: Tom Brierton
2. Stop motion Filming and Performance: Tom Brierton 8. Stop motion Puppet Sculpting: Tom Brierton
3. The Art of Stop motion animation: Ken A Priebe
4. Stop motion: Craft skills for model Animation: Susannah Shaw
5. Stop motion: Passion, Process and Performance: Barry JC Purves
6. Creating 3D Animation - The Aardaman Book of Film making: Peter Lord & Brian Sibley
7. A Century of Stop Motion Animation from Melies to Aardaman: Ray Harry Hausen

16PAN2ES02 - DIGITAL MATTE PAINTING

SEMESTER	II	CREDITS	5
CATEGORY	ES(L)	NO.OF HOURS/ WEEK	5

Course Objective:

Upon successful completion of this course, students will be able to

- Use a drawing tablet effectively
- Demonstrate how to utilize the tools within Photoshop
- Identify the steps required to create a concept project
- Apply an understanding of Composition, Perspective, and the Anatomy of Light
- Define the characteristics of Perspective
- Apply artistic direction from their instructor and peers to their own work

UNIT-I Digital Paint Introduction

The Photoshop Workspace, Brush Basics - Pen Tool Basics - Capture Brush Tip Shapes Adding and changing Brush Dynamics -Painting and Blending Techniques - watercolour and oil painting using Photoshop, Illustration techniques.

UNIT-II Designing for characters

Creating Shape Layers and Paths - Stroking Paths with Brushes – Drawing - Sketching and painting of the character - Value and color in character creation - Lighting for a character - Using and blending edges in painting, Creating textures and patterns, Painting an eye, face and hair, Painting real and fantasy characters.

UNIT-III Masking Techniques

Creating, Saving, and Loading Selections - Combining and Modifying Selections - Channels and Masking Techniques - preparing the background plate - articulated mattes - plate

restoration, plate extension - adding 3D elements - creating sky mattes, static matte and motion matte painting - color grading.

UNIT-IV   Rotoscopy

.Rotoscoping - Uses and advantages of rotoscoping, Creating rotos with splines, Hierarchical parent and child roto shapes, Interpolation technique, Keyframerotos, Final inspection, Rotoscope motion blur and semi transparency

UNIT-V   Retouch

Wire removal technique using various compositing softwares, Removing unnecessary elements from the frames.

Assignment: Creating the BG environment using Photoshop.

REFERENCE

- Digital Character Design and Painting: Don Seegmiller
- Bold Vision: A Digital Painting Bible: Gary Tonge
- Digital Fantasy Painting: Michael Burns

16PHE2FC01 - LIFE SKILLS TRAINING

SEMESTER	II	CREDITS	4
CATEGORY	FC(T)	NO.OF HOURS/ WEEK	2+2

Course Objectives:

To improve and sustain the primal level of competence and performance of PG students through an advanced training of holistic development of oneself.

- To empower through various skills and strengthen them to face the future life issues and challenges.
- To equip them with practical and value based learning of soft skills for a better life in future.

INSIDE CLASS HOURS (2 hrs)

Unit – I: Constructing Identity

Self Image – Understanding self image – shadows down the lane – self acceptance - **Self Knowledge** – Knowing oneself - **Self confidence –** Guilt and grudges -Power of belief – positive thinking– optimizing confidence - **Self development –** perception, attitude and Behavioural change, developing a healthy and balance personality - **Self esteem –** signs - indicators

Unit – II: Capacity Building

Motivation – Definition, types (Intrinsic and Extrinsic), Theories (Maslow's hierarchical needs, etc), Factors that affect motivation, Challenges to motivation, Strategies to keep motivated, motivational plan. **Time Management Skills–** steps to improve time management, overcoming procrastination, assessing and planning weekly schedule, challenges, goal settings, components of goal settings, consequences of poor time management, control of interruption and distractions.

Communication, public speaking, talents, creativity, learning ,

Unit – III: Professional Skills

 -Leadership development skills – difference between leader and manager, different styles and their utilities, functions of leadership, application of knowledge, overcoming from obstacles, influential skills and Leadership qualities. **Application skills** – Managing Career and self-direction, Visionary thinking, formulating strategies, shaping strategies, building organizations relationships, change management. Project Management Skills, Independent working skills, Writing skills, Public Speaking, analytical Skills, Neo Research and Development. **Problem solving skills** – Process, approaches and its components, creative problem solving, Tools

and techniques, application of SMART analysis and barriers to problem solving.

Unit – IV: Life Coping Skills

Life skills – Personal and reproductive Health, love, sex, marriage and family – family life education – Gender Equity - child bearing and Childrearing practices,Geriatric   Care - adjustability **Human Relationship** – formal and informal - peer group – friends – same and other gender - family – Colleagues – community – emotional intelligence - **Stress Coping skills –** Definition of stress, strategies to alleviate stress, problem and emotion focused coping, techniques to reduce stress, stress reaction phases, crisis intervention steps, creating positive affirmations, Signs, Symptoms and Reactions of Stress.

Unit – V: Social Skills

Human Rights Education, Understanding Human Rights, International and national mechanisms, protection and preservation of HRs, Human Rights in the context of new, technological and electronic society, **Peace Education,** Social Harmony in the context of religious fundamentalism and fanaticism, Understanding Peace and Justice, Conflict Resolution Strategies.

Reference books :

1. Healing Your Emotional Self: A Powerful Program to Help You Raise Your Self-Esteem, Quiet Your Inner Critic, and Overcome Your Shame by Beverly Engel
2. Self-knowledge and self-discipline by B. W. Maturin
3. Motivation: Biological, Psychological, and Environmental (3rd Edition) by Lambert Deckers
4. Getting Things Done: The Art of Stress-Free Productivity by David Allen
5. Managerial Skills in Organizations by Chad T. Lewiso

6. Social Intelligence: The New Science of Human Relationships by Daniel Goleman

OUTSIDE THE CLASS HOURS (2 hrs)

- Each student will choose either of the above-mentioned modules and is expected to undergo a training/workshop in that module.
- She/he will have to accomplish ten hrs outside the class hours to fulfill the 2 credits.

Methodology:

Inputs, ABL model, Documentaries, group activities and Interaction, Special workshop by professionals.

Evaluation:

There will be end test and a Project for 'inside the class hours'. Viva Voce will be conducted for the 'Outside the class hours'.

16PAN2TP01 - INTERNSHIP-I

SEMESTER	II	CREDITS	4
CATEGORY	TP(L)	NO.OF HOURS/ WEEK	4

Course Objectives:

- Student will be given Project works on the relative subjects.
- Students will be working on a live project in a Design Studio environment / an Organization similar to that with hands on experience in Animation Production.

Competence building	Career Preparatory Training
Power talk	Interview Guidance
Emotional Intelligence	Group Dynamics
Stress management	Leadership skills
Decision Making	Negotiation Skills
Positive image building	Creative writing

Projects:

- Submission of top 5 class works
    - Samples of the below:
        - 3D Dynamics
        - Lighting
        - Compositing
        - Rendering
- Website, Web app and Mobile app creation samples
- A Short Film

Internship:

- Animation Studio – 2D / 3D

Evaluation:

Internal 50%

External 50%

16PVC3MC01 GAMING & APPS DESIGNING

SEMESTER	II	CREDITS	4
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	4

Course Objectives:

- To creatively and effectively apply design knowledge to gaming environments
- Designing the Game assets, Backgrounds and characters etc. Development of a style and visual quality. Drawing story boards. To understand the role of the designer / artist in game development
- To develop skills in designing Web Pages, Web and Mobile Applications, Understanding User Interface designing.
- Course will be supported with case studies and example to illustrate digital content migration to new media and its challenges and tips and tricks to make it effective and appealing.

Content

Unit-1: Basics and History of Game Design: Introduction to gaming and concepts. Meaning and definition, Classification of gaming, Game production process, Pre production for Gaming – Concepts and ideas, Game assets design, Production environment steps and planning – Implementation in 2D Flash. Post production – Compositing and editing, sound designing.

Unit-2: Websites: Introduction to Game design, Designing Web pages, Creating websites and pages using Dream Weaver - editing cross-platform and cross-browse pages. Flash to HTML 5 Conversion: Flash to HTML 5 Conversion, Understanding basics of HTML 5 to create web pages – Building information Management, Planning and designing web page - HTML programming, Text, Table, Image and audio

Unit-3: Web Apps: Introduction to Web Applications, Understanding Graphical User Interface designing, Practical exercises in designing Interface for Web apps and websites

Unit-4: Mobile Apps: Introduction to Mobile Applications, Designing of apps for Android, IOS, Symbian operating systems – Windows Touch apps, Understanding the limitations of the different devices and their specifics, Practical exercises in designing Interface for mobile apps and mobile sites

Unit-5: Virtual Reality & Augmented Reality: Virtual sets – Application and uses of Virtual reality in day to day life. Augmented Reality – Immersive – Location based – Aided Learning. **3D Bio Printing:** Conversion of 3D objects from digital to real life models.

Assignments:

Design a Website, an UI for Web app and Mobile App

Methodology:

Extensive Theory & Practical sessions, Drawing Sessions, Group Discussions, Workshops & Seminars, Guest Lectures, Industry Experts, Assignments, Industry Visits

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks
External 50% - Semester Examination – Theory – 100 Marks

Reference Books & Online References:

1. Karl.M.Kapp (2013).The Gamification of Learning and Instruction Fieldbook: Ideas into Practice
2. Brenda Braithwaite, Ian Schreiber (2008). Challenges for Game Designers.
3. Tracy Fullerton,(2014). Game Design Workshop: A Playcentric Approach to Creating Innovative Games.
4. Jesse Schell, (2008). The Art of Game Design: A book of lenses.
5. Duckett Jon, "Beginning Web Programming with HTML, XHTML, and CSS", Wrox (2004).
6. Adobe Creative Team, " Adobe Dreamweaver CS6 Classroom in a book", Adobe (2012).
7. Bill phillips, (2013), " Android Programming: The Big Nerd Ranch Guide"
8. Ray wenderlich, Mike Berg, Tom Bradely, Mike Daley,(2014) " iOS games by tutorials:Second Edition: Beginning 2D iOS Game Development with Swift"
9. Jens Grubert, Raphael Grasser, (2013), " Augmented Reality for Android Application Development"

10. Tony Parisi,(2015)," Learning Virtual Reality: Developing Immersive Experiences and Applications for Desktop, Web and Mobile
11. The Art of Game Design: A book of lenses BY Jesse Schell / CRC Press, 04-Aug-2008
12. Game Feel: A Game Designer's Guide to Virtual Sensation (Morgan Kaufmann Game Design Books) by Steve Swink
13. On the Way to Fun: An Emotion-Based Approach to Successful Game Design by Roberto Dillon

16PAN3MC02 - DYNAMIC SIMULATIONS

SEMESTER	III	CREDITS	6
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	6

Course objectives:

- Learning the techniques and understand the various methods.
- Develop Skills and Techniques to Create Special Effects.
- And to know the interface used in creating visual effects.
- And to know the physical properties of environmental fields to apply in the effects.

Unit- 1: Particles and fields: Emitting Particles - Particle Grid - Fill objects with particles- create liquids from particles – particle collision- goals – Sprites – rendering the particle – control particles using fields.

Unit -2: Rigid body and Soft body: Constraint types – (point, hinge, slider, cone-twist, spring hinge)- create collision between compound objects -

Unit-3: Fluids: Creating fluid – Modifiying –object interaction with dynamic fluids – playing fluids – texturing and shading fluids

Unit-4: Open water effects: Ocean – pond – wakes – floating objects – convert wave displacement to polygons – add locators.

Unit-5: Effects: Creating fire- fireworks – flow effects – curve flow – surface flow – create lightning – creating shatter effects – creating smoke effects.

Assignments:

Adding effects for the given live footage

Methodology:

Intensive Practical sessions coupled with workshops and discussion with expert from the industry, Workshops & Seminars, Guest Lectures, Assignments, Industry Visits

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks

External 50% - Semester Examination – Theory – 100 Marks

Reference Books:

1. Special Effects: An Oral History: Pascal Pinteau
2. Special Effects: The History and Technique: Richard Rickitt
3. Maya Visual Effects: The Innovator's Guide: Eric Kellu
4. Digital compositing for Film and Video: Steve Wright

Online References:

1. The Art and Science of Digital Compositing (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann
2. The Language of Visual Effects by Micheal J. McAlister
3. Special Effects: The History and Technique by Richard Rickitt

16PAN3MC03 - RIGGING AND ANIMATION

SEMESTER	III	CREDITS	6
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	6

Course Objectives:

- To be able to setup a human/humanoid/quadruped character for character animation.
- To be able to understand the 12 principles of animation and use them to animate a character in 3D environment.

UNIT- I   Concept of Rigging

Understanding the rigging IK and Fk Constraints, Forward Kinematics with Simple leg example. Inverse Kinematics, Constraints Working with Locators. Adding Pole Vector constraints to the elbows and constraining the wrists to locators. Testing the character, Rigging Methods and Process. Create the IK handles, Restricting the heel rotation, Build a foot control hierarchy. Creating a control attribute and Set Driven Key, Adding Selection handles for Arms and shoulders

UNIT-II   Intro to IK solver and IK chain

Intro to IK Rotate plane solver, working with the IK Rotate Plane solver. Creating the arm joints and setting preferred angle, setting up the IK Rotate Plane solver. Translating the end effector of the IK chain.

UNIT-III   Bending and Twisting of Knee

IK AND FK COMBINATION FOOT, Skeleton set,up,Setting up Single Chain IK, Parenting the lK and Orient constraints Parenting the lK , Bending toes and twisting the knee. Adding attributes

UNI- IV   Animation Principles

Animation Principles and Process, Basic Animation with types of Balls. Working with Animation Editor and Tools. Animation

Basics, Key frame Animation,Nonlinear Animation,Path Animation, Motion Capture AnimationGeometry Caching with Animation Layers, Animation Menus, Animation Tools, Animation Windows and Editors, Animation Nodes

UNIT-V   Animating Two leg and Four leg with Dialogues

Advanced Character Animation with Two Leg Animation (walk, run, Jump, Wight lifting etc.). Four Leg Animation (walk, run, Jump) Lip sync Animation. Single Character Animation with Dialogues , Two or more character interacting animation with Dialogues. Work Flow with Graph, Trax, Dope.

Assignments:

Rigging –

1. Setting up deformers
2. Assigning controls
3. Painting weights
4. Setting up pipeline for animators
5. Quality planning and control

Animation –

1. Bouncing ball experiments
2. Layout
3. Blocking
4. Animation with various tools
5. Cleanup

Methodology:

Handson learning of rigging and animation techniques in 3D space. They will learn the various transformations and deformations that result in stunning 3D animation.

Evaluation: Course grading is based upon:

Critiques/Assignments/Skills

- Successfully completing all assignments
- Assignments ready for participation in class critiques
- Attitude and willingness to experiment
- Aesthetics/Quality of work
- Evaluation of Core Competency skills
- Final Project: Animated flick in playblast form

Reference Books:

1. Animator's Survival Kit by Richard Williams
2. Cartoon Animation by Preston Blair
3. Complete Animation Course – by Aaron Blaise
4. Jason Shliefer's Rigging Bundle

Online References:

Digital Tutors on youtube - https://www.youtube.com/channel/UC1KqJLirBgsIfk9lfyMcLVg

16PAN3PJ01 - INDUSTRY VISIT – II & PROJECT – II

SEMESTER	III	CREDITS	4
CATEGORY	PJ(L)	NO.OF HOURS/ WEEK	4

Objective:

- Will be taken for Industry Visits and put under the guidance of an external resource person from the Industry / Research / Similar Organization.

Industry Visit:

- Animation Studio – 2D / 3D
- Shooting spot for observing Chroma key shooting techniques

Evaluation:

Internal 50%

External 50%

16PAN3ES01 MODELLING AND TEXTURING

SEMESTER	**III**	**CREDITS**	**10**
CATEGORY	**ES(L)**	**NO.OF HOURS/ WEEK**	**10**

Objective:

- Student will be given Project works on the relative subjects.
- Students will be working on a live project.

Projects:

- Submission projects on any one of the title below
- Modelling and Texturing – (16PAN3ES01)
- Lighting and Rendering – (16PAN3ES02)

Evaluation:

Internal 50%

External 50%

16PAN3ES02 LIGHTING AND RENDERING

SEMESTER	**III**	**CREDITS**	**10**
CATEGORY	**ES(L)**	**NO.OF HOURS/ WEEK**	**10**

Objective:

- Student will be given Project works on the relative subjects.
- Students will be working on a live project.

Projects:

- Submission projects on any one of the title below
- Modelling and Texturing – (16PAN3ES01)
- Lighting and Rendering – (16PAN3ES02)

Evaluation:

Internal 50%

External 50%

16PAN4MC01 VIDEO EDITING TECHNIQUES

SEMESTER	IV	CREDITS	10
CATEGORY	MC(L)	NO.OF HOURS/ WEEK	10

Course Objectives:

- Introduces the student to advanced tools and compositing techniques.
- Solving any challenges, they would face with respect to compositing.
- To Know the Techniques ofVideo Editing.
- To Know the how to compile the Videos

Content

Unit-I: Interface: User Interface – playback controls – timeline – project setting – working with node – keyframe animation – dope sheet – curve editor. Merge images: Merge node – compositing multipass – mixnode , color correction: colorscopes – grading – color correction. Transforming images: transform – 2D node – position node-reformating – cropping.

Unit-II: Tracking and stabilization: Auto track – keyframe track – stabilizing – match moving.Roto and paint: Rotoshapes – animating shapes – masking – rotopaint – clone and reveal - Warping -morphing

Unit-III: Compositing: 3D viewer – adding geometry and texture maps – adding cameras – adding lights – camera projection -rendering 3D scene

Unit-IV: Final Cut: Tool Palette, Track select and Ripple Edit, Rolling Edit and Rate stretch tool, Razor and Slip tool, Slide and Pen Tool, Hand and Zoom Tool, Trim Window, Project Manager.**Transition and Effects:** Transitions, Effects control window, Video Effects, Audio Effects, Pan and Tilt Effect, Rotation and custom made effects, Colour corrections.

Unit-V: Titling and Exporting: Using Templates, Saving Titles, Creating New titles, Application of Motion in Titles, Exporting.

Assignments:

- Creating montage for one minute.
- Compositing the given footage with CG generated 3D elements.

Methodology:

1. Intensive Practical sessions coupled with workshops and discussion with expert from the industry, Workshops & Seminars, Guest Lectures, Assignments.
2. **Reference Books:**
3. Video Production Handbook: (Focal Press)
4. HD Cinematography: (Focal Press)
5. Non linear Editing: Bryce Button (Focal Press)
6. Grammar of edit (Second edition): Roy Thompson (Focal Press)
7. Make the cut: Lori Jane Coleman A.C.E & Diana Friedberg
8. Compositing Visual effects: Steve Wright
9. Digital Compositing for Film and Video: Focal Press

Evaluation:

Internal 50% - CA I & II = 35 Marks & Assignment – 15 Marks

External 50% - Semester Examination – Theory – 100 Marks

Online References:

http://filmmakeriq.com/lessons/5-elements-of-a-great-chromakey

16PAN4PJ01 – PORTFOLIO

SEMESTER	IV	CREDITS	6
CATEGORY	PJ(L)	NO.OF HOURS/ WEEK	6

Final Compilation of all works of the student as a single video – Demo reel

Evaluation:

Internal 50%

External 50%

16PAN4ES01 2D PROJECT

SEMESTER	IV	CREDITS	12
CATEGORY	ES(L)	NO.OF HOURS/ WEEK	12

Option 1: **2D Project**

- Student are expected to submit the projects on any one of the following
- 2D SHORT FILM (minimum 2 minutes).
- 2D Animation (minimum 2 minutes)
- PSA Advertisement (minimum 2 minutes)
- Small Game Project

Evaluation:

Internal 50%

External 50%

16PAN4ES02 3D PROJECT

SEMESTER	IV	CREDITS	12
CATEGORY	ES(L)	NO.OF HOURS/ WEEK	12

Option 2: **3D Project**

Students are expected to submit the projects on any one of the following

1. 3D Animation (minimum 3 minutes)
    - ➢ 3D Model (Character and set modelling with lighting and texturing).
    - ➢ Walk through camera animation for interior design of house or office.
    - ➢ Title Animation
    - ➢ Walk cycle. OR
2. 3D SHORT FILM (minimum 3 minutes).

Evaluation:

Internal 50%

External 50%

16PAN4TP01 - INTERNSHIP-II

SEMESTER	IV	CREDITS	8
CATEGORY	TP(L)	NO.OF HOURS/ WEEK	8

Course Objectives:

- To acquire practical industry based experience
- To offer students a period of practical experience in the industry relating to their field of study

The students will have to undergo an Internship at an animation studio or a post-production visual effect studio as per the field of specialisation of the candidate.

Assessment:

The students would prepare individual reports after the Internship and the same should be attested by the organization under which the student did the internship. The students' comprehensive report will be submitted to the HOD for evaluation. A faculty member will monitor the students during the internship.

Evaluation:

Internal 50%

External 50%