

**FCBCS Structure & Syllabus of Bachelor of Design in
Visual Graphics & Animation (2023-2027)**

**DIT UNIVERSITY
Dehradun**



**Detailed Course Structure & Syllabus
of
B. Design - Visual Graphics & Animation**

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Structure of B. Des (Visual Graphics & Animation) FFCBCS Program

Basket/ Area	Minimum Credits to be taken	Credit per course	Courses
Language & Literature (LL) Core: Professional Communication Elective: Choose any 2 LL course	6	3	2
Discipline Core (DC)	109	-	30
Discipline Elective (DE) Core: None Elective: Choose any 2 DE courses	18	3	6
Skill Enhancement Courses (SEC) Core: None Elective: Choose any 2 SEC courses	4	2	2
Ability Enhancement Courses (AEC) Core: Entrepreneurship & start-ups Elective: Environmental Science, Indian Constitution, Aptitude & Soft Skills	4	2	2
Humanities & Liberal Arts (HL) Core: None Elective: Choose any 1 HL Courses	3	3	1
Free Electives (FE) Core: None Elective: Choose any 2 FE Courses	6	3	2
Total Credits	150		

DIT University B. Des (Visual Graphics & Animation) FFCBCS Program Structure

Basket/ Area	Credits	Weightage (%)
Language & Literature (LL)	6	4
Discipline Core (DC)	109	72.6
Discipline Elective (DE)	18	12
Skill Enhancement Courses (SEC)	4	2.7
Ability Enhancement Courses (AEC)	4	2.7
Humanities & Liberal Arts (HL)	3	2
Free Electives (FE)	6	4
Total	150	100

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Course Baskets (other than DC/DE) for B. Des (Visual Graphics & Animation) Program

Course Code	FFCBCS Baskets (Other than DC/DE)					
	Language & Literature (Min 6 credits to be taken)	Contact Hours				Credits
Name of Courses		L	T	P	S	
LAF181	Professional Communication	2	0	2	-	3
LAF182	Indian English Literature	3	0	0	-	3
LAF183	English Language Teaching	3	0	0	-	3
LAF184	Corporate Communication & Soft Skills	2	0	2	-	3

Course Code	Skill Enhancement (Minimum 4 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
L		T	P	S	C	
VGf246	Technical Training 1	0	0	4	-	2
VGf247	Technical Training 2	0	0	4	-	2
VGf245	Value Added Training 1	0	0	4	-	2
VGf342	Value Added Training 2	0	0	4	-	2
DC	MOOCS Courses (as advised by the departments)	2	0	0	-	2

Course Code	Ability Enhancement (Minimum 4 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
L		T	P	S	C	
CHF201	Environmental Science	2	0	0	-	2
LAF285	Indian Constitution	2	0	0	-	2
MEF483	Entrepreneurship & Start-ups	0	0	4	-	2
UCF201	Aptitude & Soft Skills	2	0	0	-	2

Course Code	Humanities & Liberal Arts (Minimum 3 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
L		T	P	S	C	
LAF281	Introduction to Psychology	3	0	0	-	3
LAF381	Positive Psychology & Living	3	0	0	-	3
LAF481	Application of Psychology	3	0	0	-	3
LAF282	Human Values	3	0	0	-	3
LAF283	Literature, Language & Society	3	0	0	-	3
LAF284	Principles of Management	3	0	0	-	3
LAF482	Intellectual Property Rights	3	0	0	-	3
LAF382	Engineering Economics	3	0	0	-	3

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Course Code	Free Electives (Minimum 6 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
		L	T	P	S	
ECF481	Analogue Electronics (ECE)	2	0	2	-	3
ECF482	Cellular Communication Networks (ECE)	2	0	2	-	3
ECF381	Microcontroller (ECE)	2	0	2	-	3
ECF382	Bio Medical Instrumentation (ECE)	2	0	2	-	3
ECF483	Digital Image Processing (ECE)	2	0	2	-	3
CSF381	Software Project Management	3	0	0	-	3
CSF345	Introduction to Data Science	3	0	0	-	3
CSF482	Introduction to Cyber Security	3	0	0	-	3
MEF381	Composite Materials	3	0	0	-	3
MEF481	Total Quality Management	3	0	0	-	3
MEF482	Renewable Energy Sources	3	0	0	-	3
PEF381	Carbon Capture & Sequestration	3	0	0	-	3
PEF491	Polymer Technology	3	0	0	-	3
PEF492	Health, Safety & Environment in Industry	3	0	0	-	3
CEF281	Properties of Materials	3	0	0	-	3
CEF382	Disaster Preparedness, Planning & Management	3	0	0	-	3
CEF481	Environmental Management & Sustainability	3	0	0	-	3
CEF482	Natural Dynamics	3	0	0	-	3
CEF483	GIS	3	0	0	-	3
CEF484	Resource Dynamics & Economic Implications	3	0	0	-	3

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Discipline Core (109 Credits)							
	Name of Courses	Pre- requisite Courses	L	T	P	S	C
VGF101	History of Visual Communication	None	2	0	0	0	2
VGF102	Principles & Elements of Design	None	0	0	2	1	2
VGF103	Rudiments of Animation Drawing	None	0	0	4	1	3
VGF104	Visual Composition and Photography Techniques	None	0	0	3	3	5
VGF105	Introduction to Digital Design	None	0	0	4	0	2
VGF106	Raster & Vector Graphics	None	0	0	6	0	3
VGF107	Advertising Design	None	1	0	2	0	2
VGF202	Character Designing for Animation	None	0	0	4	1	3
VGF203	Basics of 3D Animation	None	0	0	2	2	3
VGF204	Classical Animation	None	0	0	2	2	3
VGF205	Basic Compositing and Visual Effects	None	0	0	2	2	3
VGF206	Planning for Animation	None	2	0	0	0	2
VGF209	Typography	None	0	0	2	1	2
VGF212	Publication Design	None	0	0	2	2	3
VGF213	3D Modelling	None	0	0	4	0	2
VGF214	3D Lighting	None	0	0	4	0	2
VGF215	3D Texturing	None	0	0	4	0	2
VGF301	Stop Motion Animation	None	2	0	2	0	3
VGF303	Techniques of 3D Animation	None	0	0	2	2	3
VGF304	Digital Illustration	None	0	0	2	1	2
VGF306	Video Editing	None	0	0	4	1	3
VGF307	Animation Effects	None	2	0	4	0	4
VGF308	Animation Project	None	-	-	-	-	6
VGF309	Package & Branding Design	None	1	0	4	0	3
VGF311	3D Rigging	None	0	0	4	0	2
VGF312	Digital Cinematography	None	0	0	4	0	2
VGF401	Environmental Graphics	None	0	0	2	2	3
VGF402	Ethics & Laws for Media	None	2	0	0	0	2
VGF403	Thesis Project	None	-	-	-	-	16
VGF405	Practical Training	None	-	-	-	-	16

Discipline Electives (Minimum 18 Credits to be taken)							
	Name of Courses	Pre- requisite Courses	L	T	P	S	C
VGF141	Introduction to Promotional Designs	None	2	0	2	0	3
VGF142	Introduction to UI Design	None	0	0	6	0	3
VGF143	Introduction to UX Design	None	3	0	0	0	3
VGF241	Painting with Pixels	None	0	0	6	0	3
VGF242	Programming for Designers	None	0	0	6	0	3
VGF248	Design for Web	None	0	0	6	0	3
VGF249	Interaction Design	None	0	0	6	0	3
VGF341	Advanced Cell Animation	None	0	0	0	3	3

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Detailed Syllabus

Program/Branch: B. Design – Visual Graphics & Animation

Subject Code	VGF101	Subject Title	HISTORY OF VISUAL COMMUNICATION						
LTPS	2,0,0,0	Credit	2	Subject Category	DC	Year	1 st	Semester	I

Course Objective:

UNIT I

Prehistoric visual representations -Paleolithic to the Neolithic Period-Lascaux, Altamira, Indian evidences. The earliest writing - Mesopotamian visual identification, Egyptian hieroglyphs, Chinese calligraphy, Pictographs to Alphabets.

UNIT II

Development of art from the time of Civilizations upto the age of enlightenment – Mesopotamian, Egyptian, Indian, Chinese, Greek & Roman civilizations, Byzantine, Gothic, Renaissance era and Baroque.

UNIT III

History of Graphic Design till today, Bauhaus school, Industrial revolution and its impact

UNIT IV

Development of the art of printing, types of printing, invention of paper, invention of the printing press in Europe. Types Printing techniques

UNIT V

History of Animation, How characters were designed and how Animation industry has progressed over the years. Examples from history. 12 Principles of Animation, Different styles of Animation 2D, 3D. Historical overview of various software's used in 2D & 3D Animation.

COURSE OUTCOME

- To provide an historical overview of visual representations
- To understand the development process of printing art and graphics
- To aware about the evolution of animation.

REFERENCE BOOKS:

1. A Concise History of Art: G.Buzin
2. Encyclopedia of World Art (Vol.I&II): Mcgraw Hill Publication
3. Necessity of Art : Ernest Fisher
4. Meggs' History of Graphic Design : Philip B. Meggs, Alston W. Purvis
5. Graphic Design History: A Critical Guide :Johanna Drucker, Emily Mcvarish

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 102	Subject Title	PRINCIPLES & ELEMENTS OF DESIGN						
LTPS	0,0,2,1	Credit	2	Subject Category	DC	Year	1 st	Semester	I

OBJECTIVE: The course is intending to provide knowledge about principles and elements of design.

UNIT I

Introduction to basic elements of graphic design: Line– line direction and meanings-quality of lines implied, lines and line of forces, Shape- organic shape and geometric shapes-nonrepresentational shape and representational shape, Forms-relationship with 2d shape and 3d forms, Space –negative space and positive space-figure/ground relation, Color-subtractive and additive color-primary, secondary in both modes- Color wheel-what is hue, saturation and value- what is shade, tint and tones-color schemes – monochromatic, analogous, complementary, split complementary, triadic color, double complementary etc. - Color meaning in various context such as culture, religion, gender and emotional factor, texture – visual texture and tactile texture, texture and light value, pattern etc. Type: typeface, typeface family etc. Typeface as a graphical element- selection of a type family in design.

UNIT II

Basic principles of design: balance, proportion, rhythm, emphasis, unity etc. Laws of perception –Gestalt theory: similarity, proximity, continuity, closure etc. Scale and proportion in design-Mathematical ratios and proportional systems: Fibonacci numbers, The Golden Ratio.

UNIT III

Concepts of visual design: Design methodology, problem-solving -Visual structure and visual Interest, visual analysis and refinement of visual representations. Exercises on visual composition and layout: Hierarchy-Centre of visual Impact - How to read a page: active and Passive areas of design - How we view a screen: F Pattern - Inverted pyramid methods. The use of grids in graphics composition. Grid types – Symmetrical- Asymmetrical - Backwards movement - Formats - Margins –slug – Bleed - Columns – Gutters. The relationship of visual form to meaning – Type, Image, Shape relationships.

UNIT IV

Exercise based on nature study: Patterns, color schemes, shapes etc. from nature.

UNIT V

Brainstorming: How we can make a solution for creative problem-identifying needs and target - development of concept-Selection of elements- drafting ideas. Tessellation of shapes (geometric and organic) with various color schemes. Exercise on logo design: size matters, selection of colors, typographic selections etc.

Poster Design/ Advertisement design: design various type of posters- Propaganda posters, Event posters, campaign posters etc.- application of grid system in layout.

REFERENCE BOOKS:

1. The Elements of Graphic Design: Space, Unity, Page Architecture, and Type: Alexander W. White.
2. Exploring the Elements of Design: Mark A. Thomas, Poppy Evans

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Subject Code	VGF 103	Subject Title	RUDIMENTS OF ANIMATION DRAWING						
LTPS	0,0,4,1	Credit	3	Subject Category	DC	Year		Semester	

OBJECTIVE: The course should enable the student to understand the basics of drawings for animation

UNIT I

Introduction to Different Drawing Materials and Tools - Dry Media (Pencils, Charcoals, Chalks, Crayons, Pastels, Erasers, Smudging Tools) - Wet Media (Dip Pens, Disposable and Cartridge Pens – Brushes) – Inks (Water Based, Alcohol Based, Indian/Chinese Ink) – Paints (Water Based, Acrylic, Oil) - Drawing Surfaces – (Papers – Newsprint, Watercolor Paper, Charcoal Paper, Canvas) - Tools for Erasing and Sharpening – Palettes – Knives - Easels.

UNIT II

Doodling and Noodling (Drawing Straight Lines, Drawing Curved Lines, Free Hand Drawing) – Holding the Pencil – Angle and Direction of Lines (Drawing Lines, Circles, Ovals, Scribbles, Patterns Etc.) - Shapes and Forms – Memory and Imagination Drawing - Drawing with Grids.

UNIT III

Drawing from Observation – Still-life Drawing – Use of Basic Shapes and Forms – Sketching Poses – Study of Live Models - Rapid Sketching from Live Models - Attitude - Gestures - Line Drawing - Quick Sketches - Thumbnails - Stick Figures - Line of Action – Balance – Rhythm – Positive and Negative Spaces - Silhouettes - Caricaturing Fundamentals – Exaggeration

UNIT IV

Perspective Drawing – Vanishing Points – Orthogonal Lines – Horizon – Eye Level – One Point Perspective – Two Point Perspective - Three Point Perspective – Multi- Point Perspective - Overlapping and Intersection of Shapes in One Point, Two Point and Three Point Perspective Views – Foreshortening Isometric, axonometric.

UNIT V

Tones - Lighting and Shading – Basic 3Dimensional Light Set Up – Several Types of Shadows – Cast Shadow – Contact Shadow – Contour Shadow – Reflected Light – Overhang Shadow – Highlight – Core Shadow – Objects and Shapes in Perspective with Light and Shade.

REFERENCE BOOKS:

1. Exploring the Elements of Design: Mark A. Thomas, Poppy Evans
2. The Art of Composition: Michael Jacobs
3. The Art of Pictorial Composition: Wolehonok
4. Complete Books of Artist Techniques: Dr. Kurt Herbers

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 104	Subject Title	Visual Composition & Photography Techniques						
LTPS	0,0,3,3	Credit	5	Subject Category	DC	Year		Semester	

OBJECTIVE: To develop an understanding of the basic elements of visual compositions and photographic techniques.

Unit I

Visual Perception: The Psychology of Visual Perception, Human eye and vision, Perceiving Objects, Colour, Depth and movement. Spatial Vision, Colour Spectrum and Psychology of Colour, Visual Aesthetics, Art and Science of Imaging

Unit II

Photography as 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

Basic features of DSLR camera, Human eye and Camera, Composition and Framing & Image Lay out, Basic features and operation of Camera, Image Formation – Aperture, Shutter speed, Depth of Field and Depth of Focus, Basic techniques for Composition - Principles and Rules, Histogram.

Unit IV

Developing Visual Grammar: Imaging Techniques – Image size, Angle etc. View Points – Moving shots – Camera Movement – Subject Movement – Combined Movement, Simple Editing Principles - Cut, fade, Dissolves etc. Scenes and Sequences and visual narratives, Angle Selection, Imaginary line concept

UNIT V

Exercise: Project work based on the syllabus and parameters of the course under the guidance of supervising faculty.

COURSE OUTCOME

The students will be able to:

- Understand the principles and elements of visual design basics of Photography.
- Gain the ability to compose visuals and visual narratives
- Develop creative problem solving skills used in communicating visually as an artist.

REFERENCE

- Film and the Director: Don Livingston
- Film Technique and Film Acting: V.I. Pudovkin
- Technique of Film: SpottisWoode
- Film Form: S.Eisenstein
- Basic Principles of Photography: Gerald Millerson

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Subject Code	VG F 105	Subject Title	INTRODUCTION TO DIGITAL DESIGN						
LTPS	0,0,4,0	Credit	2	Subject Category	DC	Year		Semester	

OBJECTIVE: The course should enable the student to work with digital design tools

UNIT I

Photoshop fundamentals: Introduction of interface, menu and tool box, layers and blending options, gradient, color correction, retouching images, masking, filters. Image making and manipulation, paint with brush tool, save file, export file.

UNIT II

Digitization of Design ideas- Application in Design projects.

REFERENCE BOOKS:

1. Fundamentals of Computers- V. Rajaraman
2. Adobe Illustrator CS5 One-on-One by Deke McClelland
3. Adobe Photoshop Bible
4. The Adobe Photoshop CS6 Book for Digital Photographers by Scott Kelby

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Subject Code	VGF 106	Subject Title	RASTOR & VECTOR GRAPHICS						
LTPS	0,0,6,0	Credit	3	Subject Category	DC	Year		Semester	

UNIT I

Digital Image- Pixels – Bit Depth – DPI – LPI - Resolution - File Formats (Print and screen media Formats - GIF, JPEG, TIFF, etc.) - Compression: Lossy - Lossless - Colour: Colour Coding - Process colour (CMYK) – RGB - Spot Colour - Colour systems. Duotones - Tritones – Quadrtones etc. Selection Tools, Retouching Tools, Path Making Tools, Image Adjustment Options. Processing Camera RAW Layer, Channel, Mask, Path, Layer Comp, Paragraph & Character, Swatches, Adjustment Layers.

UNIT II

Preference Settings, Color Settings, Assign Profile Automate, Script. Proof Setup, Gamut Warning, Bit Preview, Screen Mode Show, Pixel Aspect Ratio. Saving with Clipping Path and alpha Channel, PSD, PDF, EPS, TIFF, JPEG. Camera RAW.

UNIT III

What is the use of blend modes? How to apply blend modes? Different types of blend modes – Normal modes - Darken modes, Lighten modes, Contrast modes, Comparative modes and Color modes. Application of blend modes - Creating custom textures for 3D models, Blending modes for compositing etc.

UNIT IV

Introduction- What is Vector? Technical Differences of Vector& Raster Imaging, Adobe Illustrator/ Ink scape, Document Profile, Art boards, File Size, Page Orientation, Units, Bleed, Color Mode, Raster Effects Resolution. Tools: Stroke & Fills, Basic Shape Tools, Pen Tool, Transformation, Rotation, Perspective, Grid, Guides. Type Tool: Character & Paragraphs, Type Controls, Path & Area Typing, Paragraph Styles. Glyphs.

UNIT V

Panels: Work Space, Tools & Control, Align & Pathfinder, Appearance, Art boards, Brushes, Color, Color Guide, Radiant, Layers, Links, Stoke Options, Symbols Transparency. Advanced Options & Settings: Preference Settings, Color Settings, assign Profiles Expand, Envelop Distort, Color Guide, Perspective Grid Smart Guide, Live Paint, Image Trace, Wrap, Clipping Mask, Path. Preview: Outline, Over Print, Pixel Preview, Proof Setup. Export: AI, EPS, PDF, SVG, SVGZ & Other Raster Formats

UNIT VI

Design Exercises: Logo or corporate identity design
Designs based on typography
Symbols or Icons Designs

REFERENCE BOOKS:

1. Adobe Illustrator Classroom in a Book: Adobe Creative Team

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2. The Book of Inkscape - The Definitive Guide to the Free Graphics Editor: Dmitry Kirsanov

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Subject Code	VGF 107	Subject Title	ADVERTISING DESIGN						
LTPS	1,0,2,0	Credit	2	Subject Category	DC	Year		Semester	

UNIT I

Evolution of Modern Advertising - Definitions – Scope and present status- - Industrial Revolution - Advertising in the 20th Century. Types of Advertising: Classified - Display - Campaign ads - public service ads etc. Advertisers and Advertising Agencies - organizational structure of advertising agency.

UNIT II

Persuasive forms of Communication – what is persuasive communication. Advertising Theories: Hierarchical Effects Theory-Audience Resistance, Resilience and Selectivity-Marketing Mix -Brand Management and Market Segmentation - Brand Positioning: Strategies for competitive advantages - product class – consumer segmentation. Advertising and Media- Media Planning: Research, Frequency and Continuity, media plan frame work-reach and frequency and GRP goals - creativity in media planning. Ethics in advertising and other commercial art forms.

UNIT III

Copy writing: Headline, sub-headlines, body, logo, copy style. Slogans or taglines- Writing for print creative, strategy for print media-newspaper, magazine etc.

UNIT IV

Lay-out and Design, Lay-out stages – Thumb-nail sketches - rough sketch - comprehensive layout – application of principles of design - balance - contrast - unity - harmony -proportion - eye movement and emphasis - Art works – photographs, Illustration, typography etc.

UNIT V

Design Project

REFERENCE BOOK:

1. The Advertising Concept Book: Pete Barry
2. Brand Thinking and Other Noble Pursuits: Debbie Millman
3. The Art of Looking Sideways: Alan Fletcher
4. Tested Advertising Methods: John Caples, Fred Hah

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Subject Code	VGF 202	Subject Title	CHARACTER DESIGNING FOR ANIMATION						
LTPS	0,0,4,1	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Human Anatomy – Anatomy of Different Age Groups (Babies, Kids, Teens, Young Adults, Aged) - Basic Proportions – Basic Understanding of the Skeletal and Muscle System – Human Forms in Perspective.

UNIT II

Male and Female Anatomy - Body Structure, Proportion and Construction of Body Parts (Torso, Face, Eyes, Nose, Ears, Mouth, Hand, Feet Etc.) – Motion Analysis - Study of Poses.

UNIT III

Anatomy of Animals, Birds, Reptiles: Body Structure - Basic Forms, Proportion and Construction of Body Parts, Head, Legs, Tails - Use of Perspectives While Drawing Animals, Birds, Reptiles and Insects. - Understanding Motion and Grace.

UNIT IV

Cartoon Characters -Understanding Cartoon Characters - Cartoon Constructions – Character Development - Drawing from Basic Shapes - Distortion of Proportions - Cartoon Faces, Eyes, Mouths, Hairs, Nose, Hands, Feet - Facial Expressions.

UNIT V

Classic Cartoon Characters (Humans, Animals, Birds, Reptiles –Cute, Screwball, Goofy, Heavy, Pugnacious –Fairy Tale Characters, Gnomes, Elves, Dwarfs, Witches) - Manga Style

REFERENCE BOOKS:

1. How to Draw What You See: Rudy De Reyna
2. Figure Study Made Easy: Aditya Chari
3. Figure Drawing Without a Model: Ron Tiner
4. Classic Human Anatomy: The Artist's Guide to Form, Function, and Movement: Valerie L. Winslow
5. Anatomy for the Artist: Sarah Simblet
6. The Art of Animal Drawing: Construction, Action, Analysis, Caricature: Ken Hultgen
7. Animal Drawing: Anatomy and Action for Artists: Charles R. Knight
8. Animal Anatomy for Artists: Eliot Goldfinger
9. Bird Anatomy for Artists: Natalia Balo
10. Cartoon Animation: Preston Blair
11. Disney Animation - The Illusion of Life: Frank Thomas and Ollie Johnston
12. How to Draw Animation - Learn the Art of Animation from Character Design to Storyboards and Layouts: Christopher Hart

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 203	Subject Title	BASICS OF 3D ANIMATION						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Introduction to 3D animation, its uses and scope, 3D production pipeline, various 3D soft wares -Different file types used in 3D animation and their applications- Basic skills for handling the selected software like transforming objects, object properties, hierarchies, pivots, etc.

UNIT II

Modeling techniques like Spline, NURBS, Polygon and Sub D- Various tools and their applications, Detailed modeling of furniture, instruments, character props, etc.

UNIT III

Shaders and Materials, 2D and 3D textures, Texturing with HDR images, Different Types of Material Creation, Normal and Artificial Lighting – 1 Point, 2 Point, 3 Point Lighting In 3D Space, Common Light Attributes, Shadows and its attributes.

UNIT IV

Introduction to Animation, Key frame creation, Animation curves - Animating through paths, Application of basic animation principles: Squash & Stretch – Timing & Spacing – Anticipation – Slow-In & Slow-Out. 3D Cameras, Creating Camera movements.

UNIT V

Exterior Modeling: - Environments- Buildings, Hills, City Etc. - Interior Modeling: - Architectural / Industrial Structures - Exterior Lighting – Interior Lighting, Rendering basics, Global illumination, Final gather.

REFERENCE BOOKS:

1. The Art of 3D Computer Animation and Effects: Isaac Kerlow
2. Autodesk 3ds Max 2014 Essentials: Randi L .Derakhshani, DariushDerakhshani
3. Autodesk Maya 2014 Essentials: Paul Naas
4. Blender Master Class - A Hands-On Guide to Modeling, Sculpting, Materials, and Rendering: Ben Simonds
5. Blender Studio Projects: Digital Movie Making: Tony Mullen, Claudio Andaur
6. Digital Animation Bible - Creating Professional Animation With 3ds Max, Lightwave, And Maya: George Avgerakis
7. 3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design: Andrew Gahan

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 204	Subject Title	CLASSICAL ANIMATION						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Animation Equipment – Cels - Light Box– Peg Holes and Peg Bars – Line/Pencil Tests - Field Charts - Rostrum Camera - The Exposure Sheet (X Sheet) – Concepts Of: -Soundtrack, Track Breakdown, Key Frames, In-Betweens, Clean-Up etc.

UNIT II

Line of Action - Path of Action – Maintaining Volume - Key Drawings – Extremes and Breakdowns - In-Between – Timing Ladder and Numbering of Animation Drawings – Flipping Key Drawings - Animation Methods: - Straight Ahead, Pose to Pose, Combination of Both.

UNIT III

Acting for Animators – Character Acting - Difference between Acting for Drama and Acting for Animation
Studies from movies - Motion Analysis - Basics of Animation Acting - Posing, Timing, Staging - Voice Acting –Facial Expressions - Body Language.

UNIT IV

Experiments with Basic Principles of Animation (Squash and Stretch, Anticipation, Staging, Straight Ahead and Pose to Pose Animation, Follow Through and Overlapping Action, Slow Out and Slow In, Arcs, Secondary Action, Timing, Exaggeration, Solid Drawing, Appeal).

UNIT V

Animating Walks – Normal and Stylized Walks – Walks of Different Types of Human Characters - Runs -
Different Types of Runs – Runs of Different Types of Human Characters - Jumps – Skips – Leaps – Takes and Double Takes – Anticipation – Overlapping Actions – Mass and Weight.

REFERENCE BOOKS:

1. The Illusion of Life: Disney Animation: Ollie Johnston, Frank Thomas
2. The Animator's Survival Kit: Richard Williams
3. Cartoon Animation: Preston Blair
4. Timing for Animation: Harold Whitaker and John Halas
5. How to Make Animated Films: Tony White
6. Animation from Pencils to Pixels: Classical Techniques for the Digital Animator: Tony White
7. The Animator's Workbook: Step-By-Step Techniques of Drawn Animation: Tony White
8. The Male and Female Figure in Motion: Eadweard Muybridge

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Subject Code	VGF 205	Subject Title	BASIC COMPOSITING & VISUAL EFFECTS						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

What is Compositing? Introduction to After Effects Interface Create a new composition, Timeline panels, Adding footage, Resolution, Quality.

UNIT II

Adjustment layers, Solid layers, Pre-Composition, Layers, Basic Animation Rotation, Scale, Transform, Anchor point, Key frames, Text animation, Easy Ease.

UNIT III

Layer Management Selecting - Moving layers, Trim in and out points, Motion blur, Masking Create Masks - Transforming masks, Mask points, Feather - Animating masks, Blending modes, Track mattes luma, Alpha matte, Animated mattes.

UNIT IV

Effects and Presets Applying effects, Effects and preset panel, Garbage mattes to support keying, Chroma Keying, Color correction.

UNIT V

Tracking Motion tracking, Motion stabilization, Time warp, creating a VFX Demo Reel.

REFERENCE BOOKS:

1. Compositing Visual effects: Steve Wright
2. The art and science of Digital Compositing: Ron Brinkmaan
3. Digital Compositing in Depth: Doug Kelley.
4. Motion Graphics: Graphic Design For Broad cast and Film: Steve Curran
5. How did they do that: Motion Graphics: David Green
6. Creating Motion Graphics with AE: Trish Meyel.

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 206	Subject Title	PLANNING FOR ANIMATION						
LTPS	2,0,0,0	Credit	2	Subject Category	DC	Year		Semester	

Course Objective:

UNIT-1

Techniques of Animation – Different Types of Animation - Workflows of Different Types of Animation - Preproduction, Production and Post-Production Stages - Types of Animation - Experimental Animations.

UNIT-II

Developing Idea/ Concept - Story - Basic Elements of a Story – Types of Stories - Creating Story Ideas - Sources of Story Line - Adaption - Character Roles - Characterization– Dialogues – Basic Structure Of A Story – Old and Modern Structures – Concept of Acts –Theme – Subplots – Tone – Genre - Writing for Different Types and Groups of Audience – Animation Script - Animation Script Vs. Live Action Movie Script– Shot – Scene – Sequence – Screenplay Format – Elements of Screenplay Format –Montage

UNIT-III

Character Designing - Features of a Character – Types/Kinds of Characters – Designing Props and Assets of Character – Creating Turn Arounds / Character Model Sheets – Blueprints - Character Size Comparison Charts – Character Attitude Poses

UNIT-IV

Story Board - Definition - Importance of Story Boarding - Different Types of Story Boards - Story Board 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 Story Board - Visual Continuity – Transitions - Digital Storyboarding

UNIT-V

Introduction to the creation of Animatic – Scanning Storyboard panels and Synchronizing it with the sound tracks.

REFERENCE BOOKS:

1. The Encyclopedia of Animation Techniques: A Comprehensive Step-By-Step Directory of Techniques, with an Inspirational Gallery of Finished Works: Richard Taylor
2. How to Write for Animation: Jeffrey Scott
3. Writing for Animation, Comics and Games: Christy Marx
4. Animation Writing and Development: From Script Development to Pitch: Jean Ann Wright
5. How to Draw Animation - Learn the Art of Animation from Character Design to Storyboards and Layouts: Christopher Hart
6. The Art of the Storyboard - Storyboarding for Film, TV, and Animation: John Hart
7. Exploring Storyboarding: Wendy Tumminello
8. Don Bluth's Art of Storyboard: Don Bluth

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 209	Subject Title	TYPOGRAPHY						
LTPS	0,0,2,1	Credit	2	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Art of Writing: Calligraphy: basic tools and instruments: dip pens, brushes, nibs etc. Application of calligraphy in designs: Logo designs, announcements, thematic posters etc. Understanding difference between Calligraphy and Typography.

UNIT II

Understanding typeface: Typefaces and fonts, Anatomy: Apex, Beak, Arm, tail, serif, X height etc. Measurements: relative and absolute, point, pica etc. Em space and En space. Majuscule and minuscule display type and text types.

UNIT III

Classification of type - old style, transitional period, modern, slab serif, sans serif, script, decorative etc.

UNIT IV

Selection of a type face in design: point size, line length, leading, tracking, and kerning. Readability and legibility, integration with visuals, concept, theme etc. 3D type – application of perceptive etc.

UNIT V

Express the meaning or idea of a word by use of size, spacing or placement of letters. Pattern poems or Concrete poetry, Typo grams, Calligramme etc.

REFERENCE BOOKS:

1. Thinking with Type, 2nd revised and expanded edition: Ellen Lupton
2. Hand-Lettering Ledger: Mary Kate McDevitt Publisher: Chronicle Books
3. The Typographic Universe: Letterforms Found in Nature, the Built World and Human Imagination: Steven Heller & Gail Anderson
4. Shadow Type: Classic Three-Dimensional Lettering: Steven Heller & Louise Fili
5. Drawing Type: An Introduction to Illustrating Letter forms: Alex Fowkes.

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 212	Subject Title	PUBLICATION DESIGN						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Layout Design: Directing the Eye, Backwards Movement, Application of Design Principles in Lay Out, Free Style Lay Out, Grid Design etc. understanding of Formats, Margins, Columns and Gutters. Visualization of various layouts- magazine, newspaper, books, screen media etc. Creating a Suitable Grid, Title and Cover Policies. Selecting and Using Type family, White Space, Color, Headlines, The Masthead etc.

UNIT II

Introduction to Adobe InDesign / scribes: Various tools and panels-Character formatting options and paragraph formatting. Colour and swatches palette, understanding of swatches exporting. Objects and its treatments: Shapes, Path – corner options, pathfinder etc. Clipping path and image masking. Page Panel, Insert Page, Concept of master page- apply Master to Page, Override master Item. Number & Section Option, Table of Content, Bullets & Numbering etc. Proof setup: - Pre-flight options, separations preview etc. Exporting of documents, Print booklet options etc.

UNIT III

Book Design: Effective Grid design for the book, Typography, Margins in page design, Layout text and images. Consistency in design: Creating style guides and printing instructions.

UNIT IV

Multipage publication design exercises: Visualization for various Formats: Magazine, Newspaper, books etc. Electronic Publishing: Interactive PDF and Other E-Pub Formats, Interaction Between Movies, Sound Clips URL's And Other E-Books, E-Publication for Various Platforms.

REFERENCE

1. The Big Book of Layouts: David E. Carter
2. Layout Essentials -100 Design Principles for Using Grids: Beth Tondreau
3. Best of Newspaper Design: Society of News Design
4. Designing for Newspapers and Magazines: Chris Frost
5. Layout Workbook: Kristin Cullen
6. Designing Books: Practice and Theory: JostHochuli and Robin Kinross
7. Building Your Book for Kindle: Kindle Direct Publishing

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 301	Subject Title	STOP MOTION ANIMATION						
LTPS	2,0,2,0	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Difference between Time-Lapse and Stop Motion Animation Techniques – Time Lapse Animation Set Ups, Creation of Time-Lapse Animations.

UNIT II

Brief History of Stop Motion Photography - General Workflow of Stop Motion Animations – Procedures and Techniques: – Choosing Camera, Tripods, Lights, Software Etc. – Preparation Of: - Script, Storyboard, Character Designs Etc. - Character and Props Creation for Stop Motion Animation – Set Designing for Stop Motion Animation – Lighting - Post Production.

UNIT III

Cutout Animation Project - Preparation of Characters/ Models – Finding Suitable Materials for Making Characters – Different Medium for Adding Details on a Model - Set Designing – Lighting.

UNIT IV

Puppet Animation /Clay Animation Project – Types of Puppets: –Simple Clay Models, Toys, Maquette, Armature, Simple Wire and Plasticine Puppets, Clothed Puppets - Preparation of Models – Coloring – Costumes - (Clay Modeling) – Set design for animation.

UNIT V

Pixilation Project - Preparation Of: - Script, Storyboard, Models Etc. - Set Designing - Lighting - Animation -Post Production, Sand Animation.

REFERENCE BOOKS:

1. The Animation Book: Kit Laybourne
2. The Encyclopedia of Animation Techniques: A Comprehensive Step-By-Step Directory of Techniques, with an Inspirational Gallery of Finished Works: Richard Taylor
3. Stop Motion - Craft skills for model animation: Susannah Shaw
4. Stop Motion Passion, Process and Performance: Barry J C Purves
5. The Animator's Survival Kit: Richard Williams

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 303	Subject Title	TECHNIQUES OF 3D ANIMATION						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Description:

The course will equip the students with the skill to produce visually appealing animations within a 3D space

Course Objective:

The course should enable the student to utilize 3D software and its tools to comprehend procedures to execute principles of animation and fine-tune them to perfection

Unit 1: Introduction to 3D Animation

Maya Animation Interface and Tools, Scene Layout, Graph Editor, Dope Sheet, Trax Editor

Unit 2: Principles of Animation

Timing and Spacing - Bouncing Ball Animation, Understanding Timing and Spacing, Fine tuning Animation with Graph Editor tools, Breakdowns and In-betweens for Bouncing Ball, Blocking for Bouncing Ball Follow-through and Overlapping - Blocking for Pendulum Animation, Introduction to Pendulum Animation, Offsetting the Keyframes, Applying Wave Principle, Fine tuning Animation with Graph Editor tools
Anticipation - Building up an action, Fine tuning animation with graph editor, Exercise for anticipation
Keyposes - Importance of Keypose, Understanding the rig set up of the character, Bad pose vs Good Pose, Staging the Pose

Unit 3: Basic Walk Cycle

Blocking for Walk Cycle, Breakdowns and In-betweens for Walk cycle, Adding Primary and Secondary Animation, Fine tuning Walk Cycle with graph editor tools

Unit 4: Finalizing and Troubleshooting

Offsetting key frames, Fine tuning animation with graph editor tools

COURSE OUTCOME:

- Demonstrate mastery of specific conceptual, technical and critical aspects within 3D animation.
- Apply animation principles on both organic and inorganic characters.
- Practice practical knowledge to explore possible industry and career directions.
- Develop an animation skill with better understanding of timing and spacing.
- Visualize the animation outcome with self-acting references.
- Produce a good animation portfolio.

Text Books:

- Timing for Animation - John Halas, Harold Whitaker (Routledge)

Reference Books:

1. Disney's Illusion of Life - Ollie Johnston, Frank Thomas (Disney Editions)

Approved by the Academic Council in its 22nd Meeting held on 06.03.2023

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 304	Subject Title	DIGITAL ILLUSTRATION						
LTPS	0,0,2,1	Credit	2	Subject Category	DC	Year		Semester	

2. Autodesk Maya 2017 Basics Guide - Kelly L. Murdock (SDC Publications)

Course Objective:

UNIT I

Introduction Digital illustration applications - Creating brush presets - Creating patterns for color mixing, Using pen stroke paths. Digital painting techniques – Using blending modes, Opacity.

UNIT II

Concept Art: Character, Costume, Product, Equipment, Background concepts, Speed painting, Creature Concepts, Flora and Fauna, Comic Book layout & Illustration.

UNIT III

Basics of Information Design visualization – translating data into visuals. Designing statistical information graphics, Semiotics: The representation of objects – the process of simplification.

UNIT IV

Visualizing complex data – process of converting data into useful information using graphics, Recreating events in space and time.

UNIT V

Design Project.

REFERENCE BOOK:

1. Digital painting techniques: Practical Techniques of Digital Art Masters
2. The Visual Display of Quantitative Information: Edward R. Tufte
3. The Skillfull Huntsman: Visual Development of a Grimm Tale (Concept Art)
4. Complete Digital Illustration: A Master Class in Image-Making - Lawrence Zeegen
5. The Complete Guide to Digital Illustration: Steve Caplin, Adam Banks, Nigel Holmes
6. Information Design: Robert Jacobson
7. Envisioning Information: Edward R. Tufte

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 306	Subject Title	VIDEO EDITING						
LTPS	0,0,4,1	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

How films are made? Persistence of vision, Fragmentation of action, Image sizes LS, MS, Close Up, Shot, Scene, Sequence. Linear Editing, Nonlinear Editing, Selecting Good shots- stages of editing.

UNIT II

Different Types of cables and connectors- Fire wire, HDMI, SDI, AV, Thunderbolts. Different Media formats- Film, VHS, DV, HD DVD, CD Blue Ray.

UNIT III

Introducing a Non-Linear Editing Software- Project setting- Introducing interface, different windows, Monitors - timeline, tools – Working with Bins, importing footage, Drag and drop editing, three-point editing JKL, time line trimming, rearranging clips in time line.

UNIT IV

Continuity Editing-Match cut, cross cut, jump cut, Dialogue overlapping, L-Cut, J-Cut, Slow motion Fast motion, Synchronizing and mixing Video and Audio.

UNIT V

Working with effects, adding different transitions and effects to Video- Working with Key frames, Compositing, Color Correction, Titling, Exporting to different Video formats.

REFERENCE BOOK:

1. Nonlinear Editing: Bryce Button (Focal Press)
2. Notes on Digital Film Editing: Gerhard Schumm (Digital Publish)
3. Grammar of edit (Second edition): Roy Thompson (Focal Press)
4. Make the cut: Lori Jane Coleman A.C.E& Diana Friedberg. (Focal Press)
5. Grammar of Shot (Second edition): Roy Thompson (Focal Press)

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 307	Subject Title	ANIMATION EFFECTS						
LTPS	2,0,4,0	Credit	4	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects – Smoke Effects- Fire Effects – Cloud Effects – Snow Effects.

UNIT II

Fluid Effects-Coloring- designing Clouds Background – Designing Fog Effects – Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing Thick Smoke.

UNIT III

Designing Paint Effects – Coloring paints- Designing Trees and green effects – Designing Weather and seasons –Effects on seasons- Designing Glass image – Designing Different glass reflection- Designing Glow Effects – Liquid Effects and Reflection design.

UNIT IV

Designing Special Effects – Designing effects of Hair and shape – Designing Fur Effects- Designing Clothes and effects.

UNIT V

Visual Effects Tool and advanced functions– Converting images from 2D to 3D Pictures - Creating 3D Effects- Differentiation 2D effects and 3D effects.

REFERENCE BOOKS:

1. The Invisible Art: Mark Cotta Vaz
2. Visual Effects Cinematography: Zoran Perisic
3. Industrial Light & Magic: The Art of Special Effects: Thomas G. Smith
4. The Art and Science of Digital Compositing (The Morgan Kaufmann Series in Computer Graphics) : Ron Brinkmann
5. The Language of Visual Effects: Micheal J. McAlister
6. Special Effects: The History and Technique: Richard Rickitt

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 308	Subject Title	ANIMATION PROJECT						
LTPS	----	Credit	5	Subject Category	DC	Year		Semester	

Course Objective:

Students should create an animation not less than three minutes excluding titles using any of the following methods for their animation project,

- Full 2D Animation
- Full 3D Animation
- Full Stop-motion Animation
- 2D Animation + 3D Animation
- 3D Animation + Stop-motion Animation
- 2D Animation + Stop-motion Animation
- 2D Animation + Visual Effects
- 3D Animation + Visual Effects
- Stop-motion Animation + Visual Effects
- 2D Animation + 3D Animation + Visual Effects
- 3D Animation + Stop-motion Animation + Visual Effects
- 2D Animation + Stop-motion Animation + Visual Effects
- Live Action + Animation

Project should be worked out through various production stages after the final approval by the supervising faculty. Students have to complete the final project within the given time period. Student should keep all the important paper works (script, storyboard and character designs) along with them.

Viva Voce is part of the examination.

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 309	Subject Title	PACKAGE & BRANDING DESIGN						
LTPS	1,0,4,0	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

The role of Packaging, An historical perspective, Marketing Considerations, Measuring package design's success. Packaging dynamics.

UNIT II

Anatomy of Packages, Structural designs, Cartons, Bottles, Tubes, Cans, Tubs and Jars, Multi-packs, Clamshells and blister packs.

UNIT III

CDs, Gift Packs, Innovative formats, Materials, Surface graphics, Branding, Typography, Information layout and hierarchy, Back of packs, Photography, Illustration, Color, Symbols and icons, Weights, Measures and bar-codes.

UNIT IV

Study of various package designs in the market, Study of famous packaging port folios.

UNIT V

Branding a Product with Creative Package Design.

REFERENCE

1. Packaging Design: Successful Product
Branding from Concept to Shelf: Marianne R. Klimchuk and Sandra A. Krasovec
2. Package Design Now: Sue Jenkins
3. Structural Package Designs: Pepin Press
4. Package Design: Daab
5. The Packaging Designer's Book of Patterns: Lászlo Roth and George L. Wybenga
6. Special Packaging Designs: The Pepin Press

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 311	Subject Title	RIGGING						
LTP	0040	Credit	3	Subject Category	DC	Year	-	Semester	-

Course Objective:

This course will introduce the organic and inorganic rigging of humans and machines. After the completion of course, students will be able to acquire the skills to apply advanced techniques for blend shapes and facial expression setup.

Unit 1: Basic Bone & IK Setup

- Anatomy of a joint to create a skeleton form
- Local rotation axes, parenting & un parenting the joints
- Applying forward and inverse kinematics for a 3D character
- Node functions of Hypergraph and outliner
- Joint setup for a biped character.

Unit 2: 3D Character Rig Using FK/IK Technique

- Creation of a biped character with full skeleton structure
- Applying FK and IK for the character.
- Applying Spline IK handle tool and cluster for biped character
- Adding addition joints for detail deformation

Unit 3: Linking Attributes of Character Rig

- Connecting objects using connection editor.
- Attributes creation and connection using set driven key controls.
- Joints animation using set driven key technique.
- Point, Orient and Parent Constraints and its limitations in connecting the 3d objects.
- Control curves for control the skeleton structure.

Unit 4: Biped Binding and Editing Skin Weights

- Reverse foot technique and pole vector for rigging the leg.
- Mesh binding using smooth skinning and Interactive Binding methods.
- Paint skin weights on the mesh for better skinning.
- Skin weight editing and transfer using other tools.
- Robot rigging techniques and binding methods.

Unit 5: Facial Rigging Techniques

- Joint setup for facial Rigging.

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- Aim constraint for Eyeball movements in facial rig
- Creating various expressions for facial setup. Expressions.
- Creating lip-sync deformer for animation audio synchronization.
- Editing skin
- Blend deformer for merging the character facial
- Weights tool using component editor.

Unit 6: Animal Rigging & Skinning Techniques

- Quadruped skeleton character structure.
- Quadruped skinning and editing skin weights-1
- Quadruped skinning and editing skin weights-2
- Creating control curves and constraints for quadruped rigging.
- Creating an overall control curve for the character rig.

LEARNING OUTCOME:

1. Students will be able to understand role of rigging in animation.
2. Students will be able to understand and apply industry standard rigging techniques.
3. Students will be able to work in advanced techniques and methodologies of 3D character rigging.

Text Books:

1. Tina O’Hailey, “Rig it Right! Maya Animation Rigging Concepts”, 1st edition, Focal Press,

Reference Books:

1. Todd Palamar, “Mastering Autodesk Maya 2015”, 1st edition, sybex
2. David Rodriguez, “Animation Methods - Rigging Made Easy: Rig your first 3D Character in Maya” 1st edition, CreateSpace

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 312	Subject Title	DIGITAL CINEMATOGRAPHY						
LTP	0 0 4 0	Credit	3	Subject Category	DC	Year	-	Semester	-

Course Objective:

This course will introduce the art of cinematography. The students will learn film making and functioning of a video camera. After the completion of course, students will be able to acquire the skills to create a story and tell it to the audience.

Unit 1: Basics of Video Camera

- Basics of video camera and how to handle it
- Various Shooting modes in Video Camera and 3 Point Lighting using Video Lights'
- To Creating a Concept for a short film

Unit 2: Short Film- One Liner & Script

- Analyzing few examples of one liner
- Writing an own one liner script.

Unit 3: Short Film- One Liner

- Writing a Story and characterization of the story.
- Choose Character & Location Selection for Shooting in an area assigned to students

Unit 4: Short Film- Dialogue & Story Development

- Writing Dialogue for the story.
- Create and segment Shot, Scene & sequence for the story.

Unit 5: Short Film- Screenplay and Storyboard

- Planning the storyboard
- Preparing a storyboard for Video Shoot
- Production Planning and will book the camera for his/ her shoot

Unit 6: Short Film- Lighting, Camera Angle, Editing & Effect

- Location Management
- The student will submit the equipment list needed for his shoot.
- The student will set the lighting and camera angle according to the shot and make a shooting script
- Capturing the rushes using cord and editing software
- Finish of shooting and take the rushes to editing to sequence it and finalizing the real cuts.

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- Order the sequence according to the story and add effects, transitions, voice overs, subtitles and credit on his own creativity.

LEARNING OUTCOME: Students will be able to

1. Understand basics of camera.
2. Create one liner for short film
3. Develop dialogue and story for short film.
4. Screenplay and storyboarding for short film
5. Perform editing and adding effects for short film

Text Books:

1. Directing: Film Techniques & Aesthetics 5th Edition by Michael Rabiger and Mick Hurbis-Cherrier.

Reference Books:

Cinematography: Theory & Practice: Image Making for Cinematographers and Directors 2nd Edition by Blain Brown.

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 401	Subject Title	ENVIRONMENTAL GRAPHICS						
LTPS	0,0,2,2	Credit	3	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I

Understand the different areas of environmental graphic design and it relates to other design disciplines including graphic design, information design, architecture and interior design.

UNIT II

Different types of Environmental art: Site specific art, Green art, Sustainable art and Environmental architecture to develop design concepts.

UNIT III

Develop strategies and design goals that translate into usual communication pieces that connect people to places through Way finding systems, Place making and identity, Exhibition design, Public installations, Branded environments and themed environments.

UNIT IV

Apply principles of color theory, design systems, narrative, legibility, usability and accessibility to articulate visual messages in the environment.

UNIT V

Research and understand the main fabrication processes, technologies and materials involved in the implementation of environmental design projects.

REFERENCE BOOKS:

1. Land & Environmental Art: Jeffrey Kastner
2. Signage & Way finding designs: Chris Calori
3. Environmental Graphics- Project & Process: Wayne Hunt
4. You are Here: Graphics that direct, explain and Entertain: Gail Deibler Finke
5. Way finding Pictographic Systems: Non verbal Universal: Paul Arthur & Branimir Zlamalik

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 402	Subject Title	ETHICS & LAWS FOR MEDIA						
LTPS	2,0,0,0	Credit	2	Subject Category	DC	Year		Semester	

Course Objective:

UNIT I - INTRODUCTION TO INDIAN CONSTITUTION

- A brief introduction to Indian Constitution-Salient features,
- 1.2 Fundamental Rights, Freedom of Press
- Concept of Freedom of Speech & Expression
- Democracy & Media as Fourth estate,
- Press Council of India- Its organizational structure, functions, history and rationale behind its establishment, its powers; Code of conduct for journalists

UNIT II- MEDIA REGULATIONS IN INDIA

- History of Laws regulating the media in India:
- Defamation clauses, Right to privacy, Right to Know, Laws related to Sedition, Obscenity
- Contempt of Court Act 1971, Information Technology Act 2000 and the amendment Act of 2008, Right to Information Act 2005, Contempt of Parliament, Working Journalists Act, Cyber Laws etc.
- Laws related to Broadcasting media, Advertising, Advertising Council of India
- Copyright Act 1957, International Copyright laws, Concept of authorship

UNIT III - MORAL ETHICS AND MEDIA

- An Introduction to the Terms and Concepts of Ethics: Definition of Ethics and its branches, stages of ethical development
- Major theories in Ethics
- Role of conscience in ethical decision making; code of ethics
- Moral relativism and ethno centrism
- Principles of Ethical journalism
- Public relations and Ethics

UNIT IV - ETHICS IN MEDIA

- Media ethics as applied ethics; ethics in changing media environment.
- Media Ethics: Why Ethics Matters in the Field of Media, Ethical perspectives of print, audio and visual media; ethical values

Approved by the Academic Council in its 22nd Meeting held on 06.03.2023

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- Ethical issues in the field of Advertisements
- Advertorials, Paid News, and News as a product
- Social Media and Fake news

UNIT V- MEDIA AND SOCIETY

- Mass Media as the Mirror of society and Promoter of Social Change: Mass media and its impact on society
- Transmission of culture and values through media; media and public opinion; media and family; social media addiction
- Media as a business enterprise with profit motives
- Merger of news and entertainment□

REFERENCE BOOKS:

1. Introduction to the Constitution of India : Durga Das Basu
2. Press Laws and Ethics of Journalism : P.K. Ravindranath
3. Introduction to Media Laws and Ethics : Juhi P Pathak
4. Mass Media and the Moral Imagination : Philip J Rossi
5. Media Education in India : Jacob Srambickal
6. Media Ethics : Bart Pattyn
7. Digital Media Ethics : Charles Ess
8. The Ethical Journalist : Gene Foreman

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Subject Code	VGF 403	Subject Title	THESIS PROJECT						
LTPS	----	Credit	16	Subject Category	DC	Year		Semester	

Course Objective:

Final project comprises of following assignments:

A DESIGN PROJECT

Students should work individually to achieve the production goal within the prescribed time period under the guidance of a supervising faculty. Develop an innovative and theoretically informed body of work which proves their creativity, aesthetic sense and technical skill. Students should submit the design along with the comprehensive report to the concerned faculty.

PRESENTATION

Select a subject for the project, whether it is a Service or Product based design and prepare a detail research report and conduct individual presentation as per the schedule.

FINAL PRESENTATION

The final presentation will be in Print, Web and Interactive media.

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Subject Code	VGF 405	Subject Title	PRACTICAL TRAINING						
LTPS	----	Credit	16	Subject Category	DC	Year		Semester	

Course Objective:

Practical Training is on the job training to assimilate the professionalism in a career. Internships offer students a period of practical experience in the industry relating to their field of study.

The students should have to undergo an Internship at a Graphic Design Studio for one month at the beginning of the 4th semester. A faculty member should monitor the students during the internship.

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 should be submitted to the HOD/Guide for evaluation along with a certificate from the organization.

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Subject Code	VGF 141	Subject Title	INTRODUCTION TO PROMOTIONAL DESIGN						
LTP	0 0 0 3	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

The course should enable the student to understand promotional design.

Unit 1:

Techniques of representation to acquire the necessary skill to represent visual images. Exercise on converting visual images into 2D representation. Branding and identity as communicated through visual signs

Unit 2:

Design of Signage - Graphic Symbols for use in the different public environments. Printing and materials. Signage design process, applications and case studies

Unit 3:

Corporate Design- students design a corporate logo and its style guide. Corporate Identity design – students work on developing a visual identity for a company/product

Unit 4:

Text and image Poster design – history and development. Types of posters – Propaganda, Advertising, Events, Educational. Poster design project–students design a poster for an event/cause/awareness campaign

Unit 5:

Brochure design project- students design a brochure for an event/ cause / awareness campaign

LEARNING OUTCOME:

- To be able to represent visual images
- To be able to design signage for public environment
- To be able to design logos
- To design poster and brochure for an event.

Text Books:

Reference Books:

1. Graphic Design that Works : Cheryl Dangel Cullen
2. The best of Brochure Design : Jason Godfrey
3. Designing Brand Identity : Aliena Wheeler
4. The complete Design thinking guide : Daniel Ling
5. The big book of Illustration Ideas : Roger Walton
6. Graphic Design : The new Basics : Ellen Lupton
7. New Signage Design : Wang Shiaoqiang

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Subject Code	VGF 143	Subject Title	INTRODUCTION TO UX DESIGN						
LTP	3 0 0	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

The course should enable the student to understand how UX evolved and works.

Unit 1: Evolution of UX Design

Understand the evolution of UX design as an industry practice and learning about UX industry experts, Design around us, Job roles and responsibilities in the UX industry

Unit 2: Processes and Methodologies

Understanding UX design processes and methodologies – user centered design

Unit 3: Tools and Technology in UX Design

Tools, prototype, Industry standards, Technology, NFC, Chatbot, Siri

Unit 4: Multiple Domains and Trends in UX Design

UX industry trends in various sectors

Unit 5: Project

Project on UX design process and industry trends

LEARNING OUTCOME:

1. To understand the concept of UX design and how it has evolved
2. Able to understand UX design process and methodology
3. Able to understand how UX industry works
4. To know the job, roles and responsibilities in UX industry
5. To understand the importance of UX in digitalization and different types of industries

Text Books:

Reference Books:

1. Designing for Digital Age: How to create human-centered products and services
- Kim Goodwin
2. Sketching the User experiences - Bill Buxton
3. The design of everyday things - Don Norman
4. The elements of user experience - Jesse James Garrett

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Subject Code	LAF184	Subject Title	Corporate Communications and Soft Skills						
LTPS	2,0,2	Credit	3	Subject Category	HL	Year	IV	Semester	

This course is to enhance the soft skills of the students. It also focuses on Business communication. It will help the students to develop professional skills and how to be effective communicator at work place.

Course Objective:

- To introduce to students to the business & corporate environment and its expectations.
- To help students to identify and sharpen their personal and professional skills.
- To ensure employability of students through a perfect blend of hard & soft skills.

Unit 1: Business Communication

Importance & Features of Business Communication, Flow of Communication: Channels & Networks, Business Presentation, Business Etiquette, Telephonic Etiquette, Interview Skills, Impression Management

Unit 2

Business Letter Writing, Job Application Letter & Resume, Communication: E mails & E- Tools

Unit 3: Personal Skills for Corporate Communication

SWOT Analysis: Self-Assessment, Identifying Strength & Weakness
Self-Awareness, Self-Disclosure & Self-Management (Stress, Anger)
Goal Setting: Personal & Professional Goals, SMART-ER Goals
Human Perception: Understanding People, Perceptions, Attitudes
Personality (Personality Test)

Unit 4: Professional Skills for Corporate Communication

Decision Making: Techniques, Six Thinking Hats
Creative Thinking, Lateral Thinking
Team Building & Leadership Skills
Time Management: Planning Organizing, Time Wasters
Conflict Resolution Skills
Negotiation Skills

- Lab 1** Telephone Etiquette: Making an appointment, answering calls (Role Play)
Lab 2 Telephone Etiquette: Making an appointment, answering calls (Role Play)
Lab 3 Business Presentations (PPT Presentation)
Lab 4 Business Presentations (PPT Presentation)
Lab 5 Interview Skills: Mock Interview
Lab 6 Interview Skills: Mock Interview
Lab 7 Panel Discussion
Lab 8 Panel Discussion
Lab 9 Conflict & Negotiation (Situational Role Play)

Approved by the Academic Council in its 22nd Meeting held on 06.03.2023

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Lab 10 Conflict & Negotiation (Situational Role Play)

TEXT BOOKS

- Rizvi, Ashraf. Effective Technical Communication, McGraw Hill, New Delhi, 2005.
- Gulati, Sarvesh. Corporate Soft skills, Rupa & Company, 2006

REFERENCE BOOKS

1. Steven R. Covey. The Seven Habits of Highly Effective People, Simon and Schuster, London, 2007.
2. Robbins, Stephen. Management, Pearson Prentice Hall. 2009
3. Carnegie, Dale. How to win Friends and influence People, Simon and Schuster, London, 2009.
4. Dr. Alex. Soft Skills: Know Yourself & Know the World, S. Chand Publications, 2001.
5. Gopalswamy, Ramesh. The ACE of Soft Skills: Attitude, Communication and Etiquette for Success, Pearson, New Delhi, 2008.
6. Ghosh, B. N. Managing Soft skills for Personality development, Laxmi Publications Ltd., New Delhi, 2013.
7. Elizabeth B. Hurlock. Personality Development, TMH Publication, 2010

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SUBJECT CODE	VGFA142	SUBJECT TITLE	INTRODUCTION TO UI DESIGN						
LTPS	0003	Credit	2	Subject Category	DE	Year		Semester	

Course Description:

The course will equip the students with the skill to develop user interface design using UI elements and design tools. The studio project will also enhance their employability skill.

Course Objective:

The course should enable the student to make UI design through Digital tools

Unit 1: Basic elements of UI design

Introduction to basic elements of visual design – detailed study of color, color wheel, visual hierarchy, legibility and readability, grid, layout

Unit 2: Typography

What is typography, Typefaces history and study, Types of fonts - serif and non-serif, Font anatomy, Importance of Typography in modern age UI design, Usage of type for print vs digital, Latest Trends in Typography

Unit 3: Iconography

What is iconography, visualization of icons, industry standards and specifications for iconography, designing for various form factors, trends in iconography, User perception about iconography

Unit 4: Introduction to Visual Tools

Introduction to visual design tools including lab session on elements of visual design and tools

Unit 5: Project work

Project work in tools & elements of visual design

COURSE OUTCOME:

- Learning UI design guidelines for different platforms and operating systems
- Understanding the principles and fundamentals of UI Design.
- To be able to learn and get hands on Iconography & typography for interface design.
- To fundamentals of screen design based on design guidelines and Cross platform screen design.
- To master with the practical training in UI design for digital screens

Text Books:

Reference Books:

- Graphic Design The New Basics - Ellen Lupton and Jennifer Cole Phillips
- The Visual Miscellaneous - David Mc Candless

Approved by the Academic Council in its 22nd Meeting held on 06.03.2023

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 241	Subject Title	PAINTING WITH PIXELS						
LTP	0003	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

This course will introduce the students to the art and craft of painting techniques like matte painting and digital paint effects.

Unit 1:

Concept of digital painting, learning digital painting, Techniques used for drawing with tablet and graphic pen, Draw and painting in Photoshop, Digital creation of charcoal drawings, pastel watercolor and oil painting, Colorizing black and white photograph with Photoshop

Unit 2:

Character design: issues and limitations, Creating character history, Designing the physical look, 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 3:

Digital matte painting: Preparing the background plate, Articulated mattes, Plate restoration, Plate extension, Adding 3D elements, Creating sky mattes, Static matte and motion matte painting, Color grading, Final output

Unit 4:

Methods and techniques of creating a dreamscape or BG using elements from various sources

Unit 5:

Wire removal technique using various compositing softwares. Rotoscopy: basics and examples, Tracing for animation, matting with green screen, Garbage matting, mid ground Roto, Compositing mid ground, colorizing and animated wipe

LEARNING OUTCOME:

- Students will be able to understand the painting techniques
- Students will be able to apply the matte painting technique and digital paint effects
- Students will be able to apply the visual effect techniques

Text Books:

Reference Books:

- Bold Vision: A Digital Painting Bible: Gary Tonge
- Digital Fantasy Painting Workshop: Martin McKenna
- Digital Character Design and Painting: Don Seegmiller
- Complete Digital Painting Techniques: David Cole
- Digital Fantasy Painting: Michael Burns

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- The Complete Guide to Digital Illustration: Steve Caplin, Adam Banks and Nigel Holmes
- 100 Ways to Create Fantasy Figures: Francis Tsan

Subject Code	VGF 242	Subject Title	PROGRAMMING FOR DESIGNERS						
LTP	0003	Credit	3	Subject Category	DE	Year	-	Semester	-

Course Objective:

This course will introduce the front end development methodologies. After the completion of course, students will be able to acquire the skills to apply front end development technology and design a web page.

Unit 1: Front End Development

Learning front-end development technologies – HTML, Css, JavaScript, JQuery.

Unit 2: HTML Pages

Structure of HTML Page, Mandatory tags in html page (html, head, body).

Unit 3: CSS

What is CSS, Different ways of applying CSS for elements, and priority chain of CSS.

Unit 4: Attributes

Heading tags (H1...H6), Tags and attributes (Class, Id, style etc.). Inline and block level elements

Unit 5: Project

Project and lab in front-end-development

LEARNING OUTCOME: The students will be able to

- Understand the basic structure of the web page
- Understand and apply of HTML and CSS
- Develop the skill to design web page.

Reference Books:

1. Responsive web design with HTML 5 and CSS 3 - Ben Frain
2. CSS mastery: Advance web standards Solutions - Andy Budd
3. HTML and CSS: Design and Build Websites - Jon Duckett

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Subject Code	VGF 249	Subject Title	INTERACTION DESIGN						
LTPS	0,0,0,3	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

UNIT I

Explore the internet terms like web hosting, web server, client server, domain registration etc. Explain the difference between static and dynamic Web Sites.

UNIT II

Client Side Scripting Language - Java Script: Creating User Logins and Form validation using J Script. Introduction to DOM (Document Object Model) concept.

UNIT III

Server Side Scripting Language - PHP: Explain how the form data are being sent to the server and retrieve it from the server to the browser window.

UNIT IV

Database Management System (DBMS) - Intro to SQL or MySQL which is used to create, read, write, delete and update records / data to/from a database from a PHP file.

UNIT V

Project: Hosting of the student's Portfolio Site or Creating a Blog which showcase their skillset to the realm of multimedia for the job hunting purpose.

REFERENCE BOOK:

1. Adobe Flash Professional CC Classroom in a Book: By Adobe Creative Team Publisher - Adobe Press.
2. Adobe Flash Professional CC: A Tutorial Approach: (Revised and Updated Version) Prof. Sham Tickoo
3. Learning ActionScript 3.0 (A Beginner's Guide): Rich Shupe, Zevan Rosser.
4. Fundamentals of ActionScript 3.0: Develop and Design: Doug Winnie

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 248	Subject Title	DESIGN FOR WEB						
LTPS	0,0,0,3	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

UNIT I

Study of how an interactive system to be used to form an effective User interface and user Experience Design. Interaction Design Principle.

UNIT II

Utilization of Design concepts, Colors, Typography, Layout & Digital Imaging to form an affective interface system for Internet Media. Using Photoshop make it possible to form an aesthetic Layout.

UNIT III

Introduction to HTML, a language which is used to display & information from the World Wide Web through a browser. Introduction to Notepad++ (An application professionally used to code or script web based content widely)

UNIT IV

Advanced web coding using HTML5 & CSS3 in Dreamweaver. Intro to animation, transition, font & -webkit- techniques in the advanced version of HTML.

UNIT V

Introduction to Responsive Webpage Design (RWD) Layout in connection with 960GS (Grid System) which is used to access the information from web through different devices. Explore the unique layouts in accordance with content, purpose, device, user etc.

REFERENCE BOOKS:

1. Interactive Design for New Media and the Web: Nicholas V. Iuppa
2. Principles of Interactive Design: Lisa Graham
3. The Design of Everyday Things: Donald A. Norman

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGFA341	Subject Title	ADVANCED CELL ANIMATION						
LTPS	0,0,0,3	Credit	3	Subject Category	DE	Year		Semester	

Course Objective:

UNIT I

Animation of Four Legged and Two Legged Animals - Normal and Stylized Movements of animals

UNIT II

Bird Flight / Movements in Different Stages - Movements of Reptiles - Animating Insects and Fishes.

UNIT III

Phonetics – Standard Mouth Shapes - Dialogue Animation – The Sound Track - Phrasing – Accents – Attitudes – Recoding of Dialogues and Voice-Over –Marking in X Sheets – Synchronizing Sound. - Dialogue Animation of Humanoid Characters.

UNIT IV

Animating Special Effects: - Cloth, Sky, Lightening, Rainfall, Snow, Water Drops, Water Ripples, Waves, Smokes, Fire, Explosions Etc.

UNIT V

Project: Creation of a digital 2D animation short film with proper use of (digital) ink and paint, sound Synchronization etc.

REFERENCE BOOKS:

1. The Animator's Survival Kit: Richard Williams
2. Cartoon Animation: Preston Blair
3. Timing for Animation: Harold Whitaker and John Halas
4. How to Make Animated Films: Tony White
5. Character Animation-2D Skills for Better 3D: Steve Roberts
6. Horses and Other Animals in Motion: Eadweard Muybridge
7. The Illusion of Life: Disney Animation: Ollie Johnston, Frank Thomas
8. Animation from Pencils to Pixels: Classical Techniques for the Digital Animator: Tony White
9. The Animator's Workbook: Step-By-Step Techniques of Drawn Animation: Tony White

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

Subject Code	VGF 343	Subject Title	SCRIPTING & STORYBOARDING TECHNIQUES						
LTP	0 0 6	Credit	3	Subject Category	DE	Year	-	Semester	-

Course Objective:

This course will provide a comprehensive introduction to scripting and storyboarding techniques.

Unit 1: Story Writing Concepts

Developing a story from a one liner or a concept. Understanding the story writing: anatomy of the story: beginning, middle and end. Write an original story out of an given basic idea (love, peace, tragedy etc).

Unit 2: Screenplay

Understanding screenplay, the anatomy and structure of a screenplay. Developing a screenplay from a given short story. Developing a screenplay with proper details out of the original story written by the student.

Unit 3: Camera Shots

Understanding camera angles: case study. Understanding camera shots: case study. Understanding camera transition: case study. Understanding scene transition: case study

Unit 4: Animation Film Screenplay

Develop a short animation film story with proper anatomy (beginning, middle, end). Develop the screenplay for the animation film marking each scene description, time, shots, dialogue etc

Unit 5: Advertisement film screenplay

Develop a basic concept and story for a 30sec commercial advertisement of any selected product. Develop the screenplay for the commercial advertisement marking each scene description, time, shots, dialogues etc.

Unit 6: Storyboarding

Understanding different storyboarding techniques. Develop storyboard in given module with details of camera angles and transitions. Develop 20 panel storyboard out of any existing story or screenplay in pencil drawing

Develop the required storyboard in proper panels and in details from the screenplay made for animation. Develop the required storyboard in proper panels and in details from the screenplay made for commercial advertisement. Develop the required storyboard in proper panels and in details from the screenplay made for documentary film.

LEARNING OUTCOME:

1. Students will be able to understand the various techniques of writing a script and storyboard out of a given concept.
2. Students will be able to acquire knowledge and idea about various types of script and storyboarding techniques.
3. Students will be able to write the script and storyboard.

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Text Books:

1. Vladimir Minuty and Stephanie Torta, Storyboarding: Turning Script to Motion (Digital Filmmaker Series), 2014, 3rd edition, Mercury Learning & Information.

Reference Books:

1. Giuseppe Cristiano, Storyboard Design Course: Principles, Practice, and Techniques, 2016, 3rd edition, Barron's Educational Series.
2. Mark Simon, Producing Independent 2D Character Animation: Making and Selling a Short Film, 2016, 2nd edition, Focal Press.

FCBCS Structure & Syllabus of Bachelor of Design in Visual Graphics & Animation (2023-2027)

SUBJECT CODE	VG F 214	SUBJECT TITLE	3D LIGHTING						
LTPS	0 0 4	Credit	2	Subject Category	DC	Year		Semester	

Course Description:

The course will equip the students with the skill to develop skills for various lighting techniques in 3D environment

Course Objective:

The course should enable the student to utilize 3D software and it's tools to conduct artificial lighting and managing resulting shadows and reflections

Unit 1: Introduction to Lighting

Point Lighting, Naturalistic Lighting, Lighting Concepts, Stylized Lighting, Light Examples

Unit 2: Lighting in 3D space

Working with Light attributes, Testing light properties, Shadow Types, Experimenting lighting concepts, Behavior of light and shadow, Understanding 3D space and Lighting Concepts, Introduction to Lighting tool kit,

Unit 3: Setting up Lighting

Analysing scope of lighting, Scene set up, Creating lighting Rig

Unit 4: Rendering

Integrating texturing and lighting through rendering, preparing scene for render engines, Understanding Render engines, exploring render settings, Arnold engine, Lights-shapes-camera, Rendering workflow, Operators and utilities, Shaders and textures Introduction to PBR concepts, PBR workflow, PBR methods and practices

Unit 5: Finalization and essentials

Managing render layer editor, Creating Render layer and passes, Finalizing lighting and rendering, Managing project scene with lighting, Compositing render passes, Troubleshooting methods, Managing Render images

COURSE OUTCOME:

- Develop 3D lighting for a CG environments using different render engines.
- Analyze the essentials of 3D lighting and rendering using a professional production setting.
- Analyze and create a 3D lighting rig to develop different look and feel for a 3D scene.
- Make studio lighting rig to light a character or prop.
- Compare different lighting methods and render the final output of 3D scene.
- assess the rendered output and fine tune the scene using different render tools.

Text Books:

Reference Books:

1. Advanced Maya Texturing and Lighting - Lee Lanier (Wiley)
2. Digital Lighting and Rendering - Jeremy Birn (New Riders)
3. Maya Studio Projects Texturing and Lighting - Lee Lanier (Wiley)

Approved by the Academic Council in its 22nd Meeting held on 06.03.2023

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SUBJECT CODE	VGF 213	SUBJECT TITLE	3D MODELING						
LTPS	004	Credit	2	Subject Category	DC	Year		Semester	

Course Description:

The course will equip the students with the skill to develop organic and in-organic models in 3D space

Course Objective:

The course should enable the student to utilize 3D software and its tools to perform digital modeling and sculpting

Unit 1: Introduction to 3D Space

Overview and Introduction, Reviewing 2D Space and exploring 3D space: Shape vs forms, Customizing UI, Working with Orthogonal and Perspective views, Understanding the UI and toolbox, Modeling in production pipeline

Unit 2: Modeling methods - NURBS & Polygons

Introduction to NURBS, Look examples, Creating NURBS curve, NURBS surface tools and utilities, Creating NURBS Surface, NURBS curve tools and utilities
Introduction to Polygon components, Subdivisions, Subdiv tools and utilities, Creating polygon mesh, Polygon tools and utilities, Polygon modeling practices

Unit 3: Creating In-organic and Organic forms

Understanding In-organic forms, STAGE 1: Blocking, STAGE 2: Detailing, STAGE 3: Refining, Finalizing your mesh, Exploring Transfer attributes

Unit 4: Finalizing and troubleshooting

Showcasing your mesh, Refining: Tips and Tricks, Troubleshooting Methods, Terminologies

COURSE OUTCOME:

- Analyze and develop an understanding of 3D space, pipeline process of 3D production, tools and techniques.
- Appraise students with the fundamentals of 3D inorganic modeling concepts and process.
- Construct 3D prop model to understand the modelling methodology.
- Evaluate and review the created 3D models.

Text Books:

1. Character Modeling With Maya And Zbrush - Patnode, Jason (Taylor & Francis)

Reference Books:

1. Maya Character Creation: Modeling and Animation Controls - Chris Maraff (new riders)
2. Maya 8-character Modeling - Gary Oliverio (Jones & Bartlett Learning)
3. Stop Staring: Facial Modeling and Animation Done Right - Jason Osipa (Wiley)

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SUBJECT CODE	VG F 215	SUBJECT TITLE	3D TEXTURING						
LTPS	0 0 4	Credit	2	Subject Category	DC	Year		Semester	

Course Description:

The course will equip the students with the skill to develop skills for unwrapping UVs of and texturing 3D objects

Course Objective:

The course should enable the student to utilize 3D software and it's tools to explore various techniques of unwrapping and texturing 3D objects ranging from easy to complex topology

Unit 1: Basic concepts for texturing

Understanding color and composition, Color theory overview, Checking color calibration – color temperature, Setting a white point, Surface shading concepts, Look and feel examples, An overview of image editing tool set, Creating texture from raw files

Unit 2: Shading in 3D space

Understanding 3d space and texturing concepts, Understanding shading network, Introduction to shading models and materials in hypershade, common mapping techniques, reviewing 2d and 3d textures maps, procedural texturing methods, placement nodes

Unit 3: UVs

Introduction to UVs, Understanding UV projections, managing UVs in UV editor, exploring UV sets, exploring third party tools, Finalizing texture for lighting

Unit 4: File texture methods

Creating psd networks, Creating different texture maps, Managing texture files, Introduction to 3d digital painting and texturing, 3d projective paint, Flat UV paint, Masking techniques, Geometry handing, Texture mapping, Layering, Color management

Unit 5: Finalizing and troubleshooting

Troubleshooting methods, Finalizing texturing, Managing project scene with texturing

COURSE OUTCOME:

- Analyze scope of using different types of texture on 3D models.
- Construct through process and techniques to creating shaders, textures and to build shading trees
- Analyze and create a 3D lighting rig to develop different look and feel for a 3D scene.
- Apply techniques in UV texture mapping.
- Develop texture using software, arnold shaders input and output nodes.

Text Books:

Reference Books:

1. Advanced Maya Texturing and Lighting - Lee Lanier (Wiley)
2. Inspired 3d Modeling & Texture Mapping - Tom Capizzi (Prima Tech)