BHARATHIAR UNIVERSITY, COIMBATORE – 641 046
B.Sc. Digital Media
(For the CPP/COP candidates admitted from the academic year 2016-2017 onwards)

SCHEME OF EXAMINATION-CBCS PATTERN

Part	Course title	Inst hrs / week	Examination				Credit
			Duration	CIA	Uni Exam	Total	
Year 1							
	Semester 1						
I	Language – I	6	3	25	75	100	4
II	English – I	6	3	25	75	100	4
III	Core 1: Design Study	4	3	25	75	100	4
	Core 2: Visualisation I	4	3	25	75	100	4
	Core Lab 1: Design Study Lab	3	3	40	60	100	4
	Allied Paper 1: Visualisation I Lab	5	3	40	60	100	4
IV	Environmental Studies #	2	3	-	50	50	2
	Semester 2						
I	Language – II	6	3	25	75	100	4
II	English – II	6	3	25	75	100	4
III	Core 3: Visual Communication Methods & Ethical Practice	5	3	25	75	100	4
	Core Lab 2: Visual Communication Methods & Ethical Practice	3	3	40	60	100	4
	Core Lab 3: Digital Illustration and Image Processing for specialist practice Lab	2	3	20	30	50	2
	Allied Paper 2: Evolution of Art, Design & Culture	6	3	25	75	100	4
IV	Value Education – Human Rights #	2	3	-	50	50	2
Year 2							
	Semester 3						
III	Core 4: Design & Communication: Option I - Design & Communication for Animation Option II - Design & Communication for Visual Effects Option III - Design & Communication for Game Design	6	3	25	75	100	4
III	Core 5: Visualization II: Option I - Visualization II for Animation Option II - Visualization II for Visual Effects Option III - Visualization II for Game Design	6	3	25	75	100	4

III	Core Lab 4: Design & Communication Lab: Option I - Design & Communication - Lab for Animation Option II - Design & Communication - Lab for Visual Effects Option III - Design & Communication – Lab for Game Design	6	3	40	60	100	4
	Applied Paper 3: Communication & Media Production: Option I - Communication & Media Production for Animation Option II - Communication & Media Production for Visual Effects Option III - Communication & Media Production for Game Design	6	3	25	75	100	4
IV	Skill based 1: Visualization II - Lab: Option I – Visualization II - Lab for Animation Option II - Visualization II - Lab for Visual Effects Option III - Visualization II - Lab for Game Design	4	3	30	45	75	3
IV	Non-major elective- I (Yoga for Human Excellence) # / Women's Rights #/Constitution of India#	2	3	50		50	3
	Semester 4						
III	Core 6: Specialist Practice I: Option I - Modelling, Texturing & Lighting Option II - Compositing Option III - Level Design	6	3	25	75	100	4
III	Core 7: Specialist Practice II: Option I - Rigging & Animation Option II - CG & Effects Option III - Game Art	6	3	25	75	100	4
III	Core Lab 5: Specialist Practice I: Option I - Modelling, Texturing & Lighting – Lab Option II - Compositing – Lab Option III - Level Design - Lab	6	3	40	60	100	4
III	Allied paper 4: Studio Practice I Lab: Option I - Rigging & Animation – Lab Option II - CG & Effects – Lab Option III - Game Art - Lab	6	3	40	60	100	4
IV	Skill based 2: Pre-production for Project & Dissertation proposal	4	3	30	45	75	3
IV	Tamil @ /Advanced Tamil # (or) Non Major Elective – II: General Awareness #	2	3	50		50	2

Year 3							
	Semester 5						
III	Core 8: Dissertation	6	3	25	75	100	4
III	Core Lab 6: Dissertation Lab	5	3	40	60	100	4
	Core Lab 7: Studio Assimilation Lab	5	3	40	60	100	4
III	Core 9: Portfolio	6	3	25	75	100	4
III	Elective I:	5	3	25	75	100	4
IV	Skill based 3: Portfolio Authoring Lab	3	3	30	45	75	3
	Semester 6						
III	Core 10: Professional Practice	5	3	25	75	100	4
	Core 11: Presentation Techniques	6	3	25	75	100	4
	Project Work *	-	-	-	-	100	4
III	Elective II:	5	3	25	75	100	4
III	Elective III:	5	3	40	60	100	4
IV	Skill based 4: Internship *	-	-	-	-	75	3
V	Extension Activities@	-	-	50	-	50	2
		Total				3500	140

$ Includes 25% / 40% continuous internal assessment marksfor theory and practical papers respectively.
@ No University Examinations. Only Continuous Internal Assessment (CIA)
# No Continuous Internal Assessment (CIA). Only University Examinations
* Project/Internship: For Report 80% Marks & Viva-Voce 20% Marks

List of electives:

	Course title
Elective I	Visualization Techinque for Animation & Visual Effects
	Visualization Techinque for Game Design
Elective II	Project Management
	Multimedia and interactivity
Elective III	Audio techninique for post lab
	Game testing lab

SEMESTER -I
DESIGN STUDY

Unit-1

Design fundamental - Characteristics of a good design - visual composition – Elements of design – point , line , shape , form/space , value/tone , texture , colour – principles of design – balance , emphasis , dominance , harmony , unity , contrast , repetition , rhythm , proportion – creativity , importance of creativity , developing creativity.

Unit-2

Gestalt principles- Proximity, Similarity, Common fate, Pragnanz, Isomorphism. Visual Abstraction, Reducing Realism, Cognitive learning Model

Unit-3

Colour theory – introduction – basics of colour theory – attributes of colour – hue , value , saturation – colour wheel – colour harmony – colour schemes – achromatic , monochromatic , polychromatic , warm colours , cool colours , analogous colours , complementary colours , split compliments , incongruous , triads and tetrads – colour blending – additive model , subtractive model – colour contrast – colour psychology.

Unit-4

Typography – typeface anatomy , measurements – typeface classifications – type families – spacing and alignment – selecting appropriate fonts – tips and techniques – Graphics – importance of graphics – types of graphics – vector graphics , raster graphics – image manipulation – format conversion – crop and scale – silhouetting – colour manipulation – edge and transparency – assembling images – filtering – envelope/containers.

Unit-5

Grids and layouts – role of grids – structure – grid system and templates – layouts – layout guidelines – important parts of a page layout - factors influencing a layout – organizing layouts – capturing readers attention - design process – approach - stages of design process – demonstrations and guidelines.

References

- Led Well, William, “Universal Principles of Design”, Rock Fort Publisher, 2003
- Fraser, Tom,”The Complete Guide to Colour. Ilex”, 2004
- Eisman, Leatrice,” Pantone Guide to Communicating With Color”, Grafix Press, 2000
- Pipes, Alan, “Foundation of Art and Design”, Laurence King. 2008
- Contran, Terence, “Terence Conran On Design”, Conran Publication, 1996
- Recommended Reading
- Lipton, Ronnie, “Designing Across Cultures”, How Design Books, 2002
- Davis, Graham, “The Designer's Tool Kit 1000 Colours”, Chronicle Books, 2007
- Carter, David, E, “The Big Book of Design Ideas”, Collins Design, 2005

VISUALISATION I

Unit-1

Perspective views – types of perspective views – linear perspectives vs. aerial perspective – perspective terminology – horizon line/eye level , station point , picture plane , vanishing point – linear perspective construction methods - one point perspective , two point perspective , three point perspective.

Unit-2

Figure drawing basics – Essentials of human figure drawing – Proportion and Gesture - Simplifying body parts in to 2D shapes – Relative proportion of various parts of the body - Constructing the front view using basic shapes - stick figure – line of action – balance – contour drawing(different poses) – Cylindrical forms (front and side view) – foreshortening – overlapping – balance – quick sketches – study from live figure.

Unit-3

Introduction to RYB mode, hue, value, saturation – colour mixing - create a colour wheel – primary, secondary and tertiary colours - Greyscale - understanding colour combinations - colour contrast – colour psychology

Unit-4

Introduction to textures – Types of texture – Understanding the foreground, mid ground and background colour in textures – Useful tips on creating a texture - Creating texture using live reference.

Unit-5

Understanding scale and proportion - Study of different environment – Understanding different materials and their applications – Application of texture and colouring in relation to the relevant subject.

References

- Lidwell, William, “Universal Principles of Design”, Rockport Publisher,2003
- Fraser, Tom, “Complete Guide to Colour” ,Ilex Publisher,2004
- Felder, Eugene., & Elvin, Emmett,”Complete Book of Drawing Techniques”, Kandour Publisher, 2005
- Tomory, Edith, “History of Fine Arts in Indian and the West”, Orient Longman Publisher, 2004
- Chari, Aditya, “Figure Study Made Easy”, Grace Prakashan Publisher, 2005
- Gene, franks, “The art of pencil drawing”, Walter Foster Publisher, 2004
- Mulick, milind, “Perspective”. Jyotsna Prakashan Publisher, 2006

DESIGN STUDY - LAB

Students are required to draw the following:

- Create a Colour schemes, Colour perception and Colour psychology
- Create a typography in a layout
- Design a layout/package/ Interface
- Create a piece of work on social issue

VISUALISATION I - LAB

Students are required to draw the following:

- Draw any environment in one point perspective
- Draw any interior view in 2 point perspective
- Draw any alphabet in 3 point perspective
- Create a pigment colour wheel
- Create a texture

SEMESTER-II
VISUAL COMMUNICATION METHODS & ETHICAL PRACTICE

Unit-1

Introduction to Visual communication & Mass media – Communication Models, Mass communication theories. Dimensions: Static, Animated & interactive. Semiotics, Metaphor & Aesthetics

Unit-2

Illustration as Visual Communication Media – Applications of illustration, Evolution of illustration, Illustration styles, techniques and legendary practitioners. Illustration in Animation. Evolution of Animation. Illustration in interactive media- Game, UI & Web

Unit-3

Photography as Visual Communication Media -Applications of photography, Evolution of photography, photography styles, techniques and legendary practitioners. Evolution of motion pictures and editing techniques. . Photography in interactive media

Unit-4

Typography as Visual communication Media- Applications of typography, Evolution of printing and graphic production, techniques and legendary practitioners. Evolution of motion graphics. Typography in interactive media- Game, UI & Web

Unit-5

Ethical Thinking Framework. Ethics in Mass media: Ethical guidelines of Media governing bodies such as CBFC, PCI, ASCI, BCCC

References

- Keval J. Kumar, “Mass Communication in India”, Jaico Publishing House, 2011
- Joseph R Dominick, “Dynamics of Mass Communication”, 12 edition , McGraw-Hill Higher Education, 2012
- Irving Fang, “A history of Mass Communication Six Information Revolutions”, Focal Press, 1997
- Koch Robertto, “Photo:box” Abrams, 2011
- Zeegan lawrence, “What is Illustration?”, Rotovision, 2009

EVOLUTION OF ART, DESIGN & CULTURE

Unit-1

Prehistoric- Development of Art & Design – Cave Art – Early civilization
Western Art I- Medieval- Focus on religious (Christian) themes; Hieratic Scale or Mental Perspective, Gothic, Renaissance-Artist Spotlight: Leonardo da Vinci, Baroque, Classicism-Greek and Roman, Rococo Neoclassicism- 'Oath of the Horatii,'

Unit-2

Western Art II- Impressionism-Edouard Manet as the father of Impressionism, Use of color and Impressionist techniques, Post Impressionism-technique and relation with Cubism, Expressionism-Use of arbitrary color to show emotion, Cubism, Abstract, Dadaism, Surrealism, Pop Art, Optical art, Romanticism

Unit-3

Indian Art - Mughal and Rajasthani miniature, Painting Madhubani, Kangra and Warli painting. Ajanta & Ellora Cave paintings, Manuscript Painting (Pala, Jain) Company Painting. Far Eastern Art- (Art of China and Japan) Hand Scroll or Hanging Scroll, Pottery, Bronze Art, Calligraphy—Japanese Woodblock printing, Byobu, Mandala, Ukiyo-e.

Unit-4

History of moving image – Animation – Optical Toys to Geroge Melies – Edwin Poter to Willis O Brien – Walt Disney Era – Post war – Dawn of Digital Era

Unit-5

Video game,Imaging Technologies,Modes of Exhibition,Influence and Precursors,The study of video games,Main frame games and simulation,Arcade Games,Early video game systems,Atari,Vector games,The rise of the home computer,Electronic Arts,The video game Industry Crash,Nintendo,A new generation of home video game systems,CD-Rom Games,Interactive movies - The Future of Video Games PAC-MAN,ZORK ,Flight Simulator,Castle Wolfenstein,SuperMariobros, Tetris, Simcity, Alone in the dark,Myst,Doom, The Sims, Grand Theft Auto.

References

- D Bordwell & K Thompson," Film art: an introduction. Boston", McGraw Hill. 2008
- Brown, "Videogames and education. Armonk", N.Y., M.E. Sharpe, 2008
- Byrne Bill , "T H E VISUAL EFFECTS ARSENAL.VFX Solutions for the Independent Filmmaker", Focal Press,N.Y,.London and Singapore ,2008
- S During , "The Cultural studies reader", London, Routledge ,1993
- Pooke & Newall "Art history: the basics. New York", Routledge , 2007

DIGITAL ILLUSTRATION AND IMAGE PROCESSING FOR SPECIALIST PRACTICE - LAB

Students are required to draw the following:

- Create a digital painting
- Create a print advertisement
- Design a promotional material for a given movie or a game
- Re design the UI for the given game.

VISUAL COMMUNICATION METHODS & ETHICAL PRACTICE – LAB

- Create a photo essay for the given theme
- Create a illustrated poster for the given theme
- Create a poster to promote the video/game
- Create a video/game for an exhibition

SEMESTER III
DESIGN & COMMUNICATION FOR ANIMATION

Unit-1

Introduction to animation: History of animation - Role of an animator in media production- Mediums and platforms of application - Underlying skills - Importance of communication in production settings - Legends of animation and their master pieces

Unit-2

Technology of animation: Evolution of animations technology, Types of animations and methods - Cell animation, Motion graphics, Flip book, Cut-out animation, Clay mation, 3D camera animation, Motion capture, Experimental animation, Roto animation etc... , Next-gen animation techniques, Data processing of digital animation

Unit-3

Animation as storytelling medium – Animation vs other storytelling mediums, Traditional vs Experimental story telling methods, Generation stories and concepts for animated short films, Interest curve, creative use of cliches

Unit-4

Defining characters: Acting for animation, understanding character attributes from their roles, Body language and expressions, Identifying essential poses of the actions, communicating essential actions through both simple and complex animations, developing anthropomorphic characters, Use of uncanny Valley

Unit-5

Principles of animation: Understand underlying principles of animation Case study of animated films - Stretch and squash, anticipation, staging, straight ahead and pose to pose actions, Follow through and overlapping actions, slow in and slow out, Arc, secondary action, Timing, Exaggeration, Solid drawing, Appeal

References

- Mary Murphy, “Beginner's Guide to Animation: Everything You Need to Know to Get Started”, Crown Publishing Group, 2008
- Kit Laybourne,”The Animation Book”,Thre Rivers press, 1998
- Whitaker and Hales,”Timing for animation”,Focal press,2007
- Preston Blair,”Cartoon Animation”,Walter Foster,1994
- Richard Williams,”The Animator’s Survival Kit”, Faber and Faber,2001
- Ken A. Priebe,”The Art of Stopmotion Animation”,Thomson course and Technology PTR 2006

DESIGN & COMMUNICATION FOR VISUAL EFFECTS

Unit-1

Film genres and design conventions- Film Styles. Drama, Fantasy, Horror,Science Fiction and sub genres. Their evolution and metaphors of visual conventions/origins

Unit-2

Perspective extension & Scale matching techniques- Camera angles & Compositions- Identifying perspective, lens and scale from the given plate-Extending the perspective-recomposing the shot from a different perspective

Unit-3

Lighting & Shading Techniques: Aesthetics of light & shade in different media- Painting, photography and motion pictures- Characteristics of light and shadow- analyzing the light attributes from the source plate. Lighting approaches: Painting, 2D, 2.5D & 3D - Role of material attributes: Diffuse, Specularity, Reflection, Glossiness, Translucency - analysis and rendering in different media - digital painting and CG rendering

Unit-4

Atmospheric effects & reflections, Lens effects: Aesthetics of Atmospherics in painting, photographs and motion picture. Traditional methods for creating atmospheric effects in films. Scientific phenomena of lens flares- various components of a lens flare- Types of reflections - Methods of rendering reflections in CG.

Unit-5

Camera movements:Purpose of Camera movements : Definition-Simple Shot - Complex Shot - Developing shot . Preparing a matte painting for a moving camera - 2D,2.5D & 3D projection systems

References

- David Bordwell, Kristin Thompson,"Film Art : An Introduction " New York : The McGraw-Hill Companies, 1997. 5th edition
- "How to read a Film" , James Monoco, New Oxford Press, 2000, 3rd Edition
- "The Digital matte painting handbook", David Mattingly, Sybex
- "D'artiste Matte Painting: Digital Artists Master Class", Alp Altiner/Dylan Cole/ Chris Stoski, 2011, Ballistic Publications

DESIGN & COMMUNICATION FOR GAME DESIGN

Unit-1

2d games and 2d art, - Creation of 2D game objects, Importing and Working with 2D GameObjects , Understanding sprite editor, Importing 2D game assets

Unit-2

GUI – In-Game interface screen – designing the GUI – HUD-Information presentation – Screen location for information – Menus – Game Controls – Defining controls interactivity – Non Traditional controls – Problems with controls – Designing Feedback

Unit-3

2D character,The Art form – Form and Shape - Anatomy and Proportions – Perspective - Breaking Down Color - Lighting and Shading - Persistence of vision – Thaumatrope - Principles of animation – Appeal and Dynamics – acting, emotions and expression .Particle system – uses of particle system – Understanding particle system

Unit-4

Prototyping – importance of prototyping – Using game engines for prototyping -Designing – sprites –backgrounds -event- and actions – tiles – spaces – sound - Mechanics and triggers – rooms – score

Unit-5

Sounds - listerner and reverb zones, Sound scripting, Building settings- Profiling, Optimizing, Publishing Assets

References

- Adam Watkins, "Creating Games with Unity and Maya", Focal press, 2011
- Jacob Habgood and Mark Overmars, "The Game Maker's Apprentice", Apress, 2006
- Eric Zimmerman, Katie Salen, ," rules of play game design fundamentals", 2003, MIT
- Brenda Romero, Ian Schreiber," challenges for game designers", 2009
- Tracy Fullerton," Game design workshop a play centric approach", 2014
- Jennifer Crusie, "Adobe Photoshop CS6 Digital Classroom",2012,Willey

COMMUNICATION & MEDIA PRODUCTION FOR ANIMATION

Unit-1

Animation pipeline for various mediums: Production pipeline for 2D animation, VFX animation, 3D animation, Game animation

Unit-2

Basics of film language: Sequence , Scene, shot, Frame, Genre, Narrative, Cinematography, Types of shots, Camera angles, Camera movements, Editing, Special effects, lighting, sound. (Using animated film examples)

Unit-3

Storyboard : Introduction of storyboard - Thumbnail sketches, Styles of story board, Story board format, Golden rule of third & where we can break it - Composition and staging of story elements. Camera movements - Camera Angles - Use of Symbols & Arrows for visual communication - Continuity - 180 Rule – Final story board with Light and shade

Unit-4

Editing for animation: Introduction to after effects, User interface -working with menu items, tools and options , Image transformation and manipulating techniques, Animating objects, Applying effects, using sounds, producing output with desired quality and format.

Unit-5

Animatic: Importance of animistic for animated films, 2d and 3d animistic techniques, Modular drawing techniques, coloring and and fine tuning images, Use of software to create animistic, Elements of observation and learning through animistic, Developing scene based of observations.

References

- Gorham Kindem, Phd, & Robert B. Musburger Phd, "Introduction To Media Production", Fourth Edition: Focal Press, 2009
- S Ganesh, "Hand Book Of Media Communication And Public Relations", Radha Publication, 2007
- S Ganesh, " Studies In Modern Mass Media And Communication", Radha Publications, 2001
- Friedmann Anthony, "Writing For Visual Media", Focal Press, 2007.
- Richard Williams, "The Animator's Survival Kit", Faber and Fabe, 2009
- Ed Hooks, "Acting for Animators", Comics & Graphic Novels, 2003
- John Halas, "Timing for Animation", Elsevier/Focal press, 2009

COMMUNICATION & MEDIA PRODUCTION FOR VISUAL EFFECTS

Unit-1

Fundamentals of Cinematography, Types of lenses - Exposure triangle- Aperture, ISO, Shutter speed -Exposure chart -Exposure meter - Measuring light- Depth of field-Calculating Depth of field and Hyperfocal distance using formula-Motion Blur-180 shutter rule - Shooting for slow motion. Role of Lens, Aperture, Depth of field and motion blur in Visual effects

Unit-2

Lighting: Types of lights and their characteristics-Quality- Direction- Intensity - color. Light modifiers and their functions- White balance and color temperature - Characteristics of film look - Film look while shooting with DSLR

Unit-3

Portrait lighting: 3 point lighting and the variants - Key,Fill and Backlight - Lighting Ratios - Split lighting, Butterfly lighting, Rembrandt lighting, Loop lighting, Broad lighting, Short lighting - Role of light in mood - Creating color schemes in lighting

Unit-4

Lighting interiors & Exteriors: Interior Day lighting- Approach, tools and techniques, Interior Night lighting- Approach tools & techniques: Exterior Day lighting & Exterior Night lighting - Low & High key lighting.

Unit-5

Visual effects cinematography: Shooting foreground miniatures-possibilities, camera techniques and considerations. Indoor and outdoor chroma key shooting-possibilities, camera techniques and considerations. Shooting for crowd multiplication - possibilities, camera techniques and considerations.

References

- Ron Brinkmann, ” The Art and Science of Digital Compositing”, Morgan Kaufmann, 2008
- Doug Kelly, “Digital Compositing In Depth”, Coriolis Group, 2000
- John Jackman, “Bluescreen Compositing: A Practical Guide for Video & Moviemaking”, 1997
- Mascelli Silman, V.Joseph, “The Five C's Of Cinematography”, Silman-James Press, 1965

COMMUNICATION & MEDIA PRODUCTION GAME DESIGN

Unit-1

Selling Yourself and Your Ideas to the Game Industry-Getting a Job at a Publisher or Developer -Pitching Your Original Ideas -Selling Ideas to the Game Industry-Role Definition for Game Designers-Game development career choices

Unit-2

The Core of a Game-Constraints on Game Design-Puzzle Design -Basic Puzzle Characteristics -Puzzle Types-Riddles -Lateral Thinking-Spatial Reasoning -Pattern Recognition -Logic -Exploration -Item Use -Level Design and Puzzle design

Unit-3

Interactive story telling-Story – three act play – story in interactive forms – decision trees and parallel stories – Segmenting stories as levels – Stories with exposition and metaphors – depth of a story – fun in story telling- story impact – moral and immoral – inspiration and casual interactivity – emergent -Types of stories-traditional stories, personal experience stories , created stories

Unit-4

Intellectual Property-Types of IP -Purpose of IP -Working with an IP -Research -Know Your Constraints -Honor the Player -The Core of the Game Versus the Core of the IP-Creating Sequels-Types of Sequels-Targeting a Market-Abilities of the Target Market-Focus Groups-The Mass Market.

Unit-5

Special types of games-Games as Art-Games as a Teaching Tool-Serious Games-Casual Games-Social Games-Game production- Scheduling- Communicating- Cycling-Team Keeping- Apha,beta&gold milestones -Marketing,packaging & releasing-Planning for organic hits.

References

- Ron Brinkmann, ” The Art and Science of Digital Compositing”, Morgan Kaufmann, 2008
- Doug Kelly, “Digital Compositing In Depth”, Coriolis Group, 2000
- Eric Zimmerman, Katie Salen, ,” rules of play game design fundamentals”, 2003, MIT
- Brenda Romero, Ian Schreiber,” challenges for game designers”, 2009
- Tracy Fullerton,” Game design workshop a play centric approach”, 2014
- Jesse Schell,” the art of game design a book of lenses second edition”, 2014 , A K Peters
- S Ganesh, “Hand Book Of Media Communication And Public Relations”, Radha Publication, 2007
- Friedmann Anthony, “Writing For Visual Media”, Focal Press, 2007.

VISUALIZATION II FOR ANIMATION

Unit-1

Art practice : Figure drawing- 10 min study, 5 min study, 1 min study. Cognitive drawing skills: Drawing from memory, visualizing sound, Focus test, Portrait drawing- Male, Female, Facial expressions, Live drawing

Unit-2

Drawing for animation: Speed drawing techniques- 30 sec Action poses, Gesture drawing, Scribbling techniques, Line of action, weight, Force, Maintaining drawing consistency during action poses

Unit-3

Anatomy for art: Basic human anatomy, Basic Animal anatomy, Skeletal system, Muscular system, Body mechanics, Understanding human proportions through head count and grid formulas. Identifying Deformation areas, study of corresponding muscle movement for skinning purpose

Unit-4

Personality art: Describing own personality, Visualizing an avatar through own personality description, Generation multiple character ideas, Finalizing out look with coloring, Drawing model sheets, Facial expressions, Action poses.

Unit-5

2D animation: Animation techniques using Digital platform, Use of pen tablet to draw frames, Application of animation principles in single animated shot, Low and high frame animation for the same action, Pre-viz animation with scribbling, Tracing final poses, Rendering final output.

References

- N, Aditya Chari, "Portrait Techniques Made easy", Grace Prakasham, 2001
- Gottfriend Bammes, " The Artist Guide to Human Anatomy", Dover, 2004
- Daniel Carter, and Michael Courtney, "Anatomy for the Artist", Parragon, 2002
- Aditya Chari, "Figure Study Made Easy", Grace Prakashan, 2005
- Victor Perard, "Anatomy and Drawing" ,Grace Prakashan, 2003

VISUALIZATION II FOR VISUAL EFFECTS

Unit-1

Scene Visualization: Film language & Continuity, Camera angles & Composition. Art of reading a script. Understanding Script dynamics. Shot division - Types of shots - Role of lens in composition- The art of staging

Unit-2

Production Design: Script Breakdown, Character visualization, Location Visualization and other prop visualization- Identifying methods of executing virtual characters, locations and props- an overview of the available technology

Unit-3

Editing: The rule of six – Emotion, Story, Rhythm, Eye trace & Grammar of the edit- 180 degree rule, 30 degree rule, matching eye lines, matching angles and other editing principles

Unit-4

Storyboarding: Formats, Styles. Storyboarding for VFX- Perspective for storyboard -Figure drawing for storyboard - Gestures and facial expressions, depicting camera, actor and lens movements.

Unit-5

Animatics & Advanced Pre-visualization- Purpose of Animatics- Advantages of Animatic over storyboard - 3d Animatics - Advantages and disadvantages - Case studies.

References

- Nicholas T Profes,"Film Directing Fundamentals- See your film before you shoot ", Focal press, 2008
- Steve Katz,"Directing a film Shot by Shot", Michel Weisse, 1991
- Walter Murch,"In the Blink of an Eye", Silman James Press, 2001
- Christopher J Bowen,"Grammar of the Edit",Focal Press 3rd Edition, 2013
- Autodesk,"The Third Floor: Previsualization with Autodesk Maya and MotionBuilder"[video] available at https://www.youtube.com/watch?v=6vBx4Dm47iM
- N, Aditya Chari, "Portrait Techniques Made easy", Grace Prakasham, 2001
- Gottfriend Bammes, " The Artist Guide to Human Anatomy", Dover, 2004
- Daniel Carter, and Michael Courtney, "Anatomy for the Artist", Parragon, 2002
- Aditya Chari, "Figure Study Made Easy", Grace Prakashan, 2005
- Victor Perard, "Anatomy and Drawing" ,Grace Prakashan, 2003

VISUALIZATION II FOR GAME DESIGN

Unit-1

Gesture Drawing: Male - Female - Portrait (Study from live figure - Outline) - Study from live figure (Pencil shading) - Hand & Feet Study – Hairstyle - Skin colors - Facial Expression

Unit-2

Storyboard: Introduction of storyboard - Various types of shots - Where and why we need to use these shots - Golden rule of third & where we can break it - Composition and staging of character –Thumbnail sketches. Camera Angles-Final story board with Light and shade

Unit-3

Introduction to coloring -colour wheel-colour filling-monochromatic-Three swatch color filling-60-30-10 color rule-5 color swatch-Realistic colours-Textures -skin,bark-costume.character art work with color

Unit-4

Modelling: Scale and proportion - Discussion of materials based on the concept art - Making skeleton for the character/set with proper balance - Covering with appropriate materiel to give basic form - Applying colour and texture with details.

Unit-5

Portfolio Making: How to make an art portfolio - Collection of best works - Composition & mounting –How to protect and preserve the works - Portfolio Presentation.

References

- N, Aditya Chari, “Portrait Techniques Made easy”, Grace Prakasham, 2001
- Gottfriend Bammes, “ The Artist Guide to Human Anatomy”, Dover, 2004
- Daniel Carter, and Michael Courtney, “Anatomy for the Artist”, Parragon, 2002
- Aditya Chari, “Figure Study Made Easy”, Grace Prakashan, 2005
- Victor Perard, “Anatomy and Drawing” ,Grace Prakashan, 2003
- Jennifer Crusie, “Adobe Photoshop CS6 Digital Classroom",2012,Willey

DESIGN & COMMUNICATION - LAB FOR ANIMATION

- Using Brian storming mind tools generate 20 differents ideas
- Critique and write about the choice of the medium avaible and state example for each
- Develop pre production works as required for the given project
- Develop a simple project to solve a given problem

DESIGN & COMMUNICATION - LAB FOR VISUAL EFFECTS

- Physically extended the given picture
- Create a matte painting for the given theme
- .Change the season or time of the given image
- Create a simulated camera movement from the given static image

DESIGN & COMMUNICATION- LAB FOR GAME DESIGN

- Create game prototype using any game engine
- Design an audio based game using any game engine
- Create a game environment using any game engine

VISUALIZATION II – LAB FOR ANIMATION

- Create a gesture drawing for the given concept
- Create a compostion for the given scenario
- Create a story board for the given story
- Create an animatics for the given story

VISUALIZATION II – LAB FOR VISUAL EFFECTS

- Create a gesture drawing for the given concept
- Create a compostion for the given scenario
- Create a story board for the given story
- Create an animatics for the given story

VISUALIZATION II – LAB FOR GAME DESIGN

- Create a gesture drawing for the given concept
- Create a background for the given concept
- Create a Prop Design
- Create a character design

SEMESTER IV
SPECIALIST PRACTICE I – MODELING, TEXTURING & LIGHTING

Unit-1

Maya Modeling – Access tools and options using gestures for productive modeling, Stages of modeling- Blocking, Shaping and Detailing, Modeling game objects, Tips and tricks to achieve complex shapes, Uniform span flow techniques, Using Automated tools for faster results- Lattes, Sculpt geometry, Defamers, Bullion etc....view port optimization

Unit-2

Modeling in action - Character modeling - Environment modeling, Objects modeling. Modular modeling techniques, Arranging model sheets in view port, Polygonal economy, Finding appeal through silhouettes, Avoiding mesh problems in deformation areas, Creating span flows keeping body mechanics, Texture in mind. Productive modeling - Creating multiple outputs with same mesh. Preparing model for digital sculpting

Unit-3

Practical light and color - Light basics- Natural light, Artificial light, Bounced light - Shadows - Light and color relation, Global illumination, Surface types and their response to light - Depth and camera - Color bleeding, Understanding light and color concept through life examples

Unit-4

Texture- Unwrapping techniques, UV layout optimization, Handmade texture effects, Image based texture, Texture pipeline- Game engine, Maya, Shader development in Hyper shade, Generating essential maps- Diffuse map, Bump map, Speculator map

Unit-5

Digital Lighting and rendering – Maya lights and their attributes - Shadows generation and troubleshooting -3 point lighting – Interior / Exterior Lighting Rendering - Introduction to Rendering and Types – Render Global - Batch Render - Setting up render layers and passes - Composting in Photoshop.

References

- Spadaro, Joe & Kim, Don, “Maya Bible”, Wiley Publishing Inc, 2005
- Todd Palamar ,”Mastering Autodesk Maya 2016”,Sybex,2010
- Spencer,”Zbrush Character Creation Advanced Digital Sculpting”, Wiley Publishing,Inc,2008
- Steve Caplin,”Art & Design in Photoshop”,Elsevier ltd,2008
- Lee Lanier,”Advanced Maya Texturing and Lighting”, Wiley Publishing,Inc,2006
- Erick Miller,”Autodesk Maya Tehniques”,Autodesk,Inc,2009

SPECIALIST PRACTICE I – COMPOSITING

Unit-1

Computer Graphics fundamentals-Components of a digital image - Pixel, resolution, bit depth, chroma sampling, anti aliasing, compression, lossy and lossless- file formats- Channels- Color spaces and color management

Unit-2

Matte extraction techniques: Rotoscopy: Evolution of rotoscopy: Rotoscopy tools & techniques- Shot analysis- Tips for effective rotoscoping- Keying: Types of keyers - Color, Color ranges and Difference Matte - Evolution of keying- Light wrapping- evolution, tools and techniques

Unit-3

Object removal/ BG Prep techniques: BG Prep applications(Wire, marker, dummy object removals) - various methods/ techniques of object removal - cloning, clean plate tracking & clean plate projection- application, tools and techniques

Unit-4

Color correction applications and techniques- FG/BG Color matching- shot to shot color matching - Fixing exposure problems within a shot - use of waveform monitor, histogram, vectorscopes-Color grading-Primary & Secondary color grading- tools and techniques- LUTs -types of LUTs and their functions- Color management

Unit-5

Tracking/Stabilizing/Matchmoving- Applications of tracking- Pixel based tracking - one point, two point & three point tracking- Corner pinning - Planar tracking - Stabilizing - Camera tracking - Auto tracking and solving methods - Manual tracking - Scene geometry exporting camera to 3D application

References

- "The Art and Science of Digital Compositing" (2nd Edition), by Ron Brinkman
- "Digital Compositing for Film and Video", Steve Wright, 3rd Edition, 2010.
- "Compositing Visual Effects"(2nd edition), 2007, Steve Wright

SPECIALIST PRACTICE I – LEVEL DESIGN

Unit-1

Level design - Level ideation- top view planning – grid sheet and space planning – Camera and focal view – Perspective for better level design – Coloring perspective- Perspective for level design – isometric art and 2d platform design

Unit-2

2D level art and design -Photoshop for sprite design-pixel ratios and pixel art-sprite animation-BG design-maze – Introduction to level design – level design difference between 2d and 3d – principles and segments - 2d landscape painting

Unit-3

3D multiplayer level design -Understanding the game – identifying core game components – top view plan – introduction to hammer/radiant – identifying game play – blocking and playing and executing textures and clips – play testing – detailing – play testing and finalizing

Unit-4

3D singleplayer level design- Brush concepts – Room - scale factor – texture – lights - static meshes - triggers - Building level - Level mapping – lights setup – adding existing meshes

Unit-5

Sand box-terrain-height map-scaling-texture layers-terrain textures-resolution-vegetation-flora-setting time – adding atmosphere-road object.

References

- Tom Meigs, "Ultimate Game Design: Building Game Worlds", McGraw-Hill, 2003
- Josiah Lebowitz and Chris Klug, "Interactive Storytelling for Video Games: A Player-Centered Approach to Creating Memorable Characters and Stories", Focal Press, 2011
- Eric Zimmerman, Katie Salen, ," rules of play game design fundamentals", 2003, MIT
- Brenda Romero, Ian Schreiber," challenges for game designers", 2009
- Tracy Fullerton," Game design workshop a play centric approach", 2014
- Jesse Schell," the art of game design a book of lenses second edition", 2014 , A K Peters
- Dr. Edward Lavieri, " Getting Started with Unity 5" , 2015
- Jennifer Crusie, "Adobe Photoshop CS6 Digital Classroom",2012,Willey

SPECIALIST PRACTICE II – RIGGING & ANIMATION

Unit-1

Introduction to Rigging - Rigging Tools & Techniques – Parenting – Grouping – Set Driven Key – Constrains – Defamers – Lamp Rigging –Rigging for Mechanical objects- vehicle rigging, Robot rigging, object rig.

Unit-2

Character Rigging: Character Study – Delete history - Joint Setup – Naming Conversion - Orientation – Mirror joints – joint parenting – arm three joint setup – IK handle tool – IKFK Method - Constrains – Control Parent – leg setup – spine setup – Neck/Head setup – Arm and Leg Stretch - Painting skin weights - mirroring smooth skin weights - expression editor – facial rig - adding expression - adding attributes – Global control.

Unit-3

Introduction to 3D animation: Animation UI tool and option in Maya, Graph editor, Study of animation squash and stretch – anticipation – staging – straight ahead and pose to pose – follow through and overlapping action – slow out and slow in – arcs – secondary action – timing – exaggeration using bouncing ball

Unit-4

Character Animation: Introduction to Character and studying the rig - Posing and Gestures - Weight Shifting and Body Mechanics, Facial expressions - Animation for games-Walk Cycles- Run cycles, action cycles, Handling complex scene.

Unit-5

Camera Animation: Camera tools and settings in Maya, Resolution gate, Camera reaction, Tracking characters and motion, crane shots/boom shots, Hand held camera- using Model as a camera, Zoom effects, Handling multiple cameras in the scene, Interactive shading

References

- Eric Allen & Kelly L Murdock, Body Language: Advanced 3D Character Rigging, Wiley, 2008
- Brad Clark, John Hood, – Joe Harkins, Inspired 3D Advanced Rigging & Deformations, Thomson Course Technology, 2005
- Cheryl Cabrera, An Essential Introduction To Maya Character Rigging ,Focal Press, 2008
- Richard Williams, "The Animator's Survival Kit", Faber and Fabe, 2009
- Ed Hooks, "Acting for Animators", Comics & Graphic Novels, 2003
- John Halas, "Timing for Animation", Elsevier/Focal press, 2009
- Jason Osiapa, "Stop Staring", second edition, Wiley/Sybex, 2007
- Kyle Clark, "Inspired 3D character animation", Premier Press, 2002
- Peter Ratner, "Mastering 3d Animation", second edition, Allworth Press, 2004

SPECIALIST PRACTICE II - CG & EFFECTS

Unit-1

Set Extension pipelines, procedures, tools & techniques: Shooting considerations- Data required from the shooting spot for evaluation- BG prepping- Perspective matching - Use of proxy model- Set modeling- unwrapping - texture painting- Color, Bump, Specular and other required maps - Gamma correction of texture maps- Lighting : Matching live action with CG- Use of Image based lighting - Render setting- Multiple passes - Compositing.

Unit-2

Virtual environment pipelines, procedures, tools & techniques: Shot planning- storyboard, animatic and concept art. Setting up a green screen stage and lighting- Matching the camera angle in the concept art during the shoot -Matching light directions and other characteristics - Identifying sections of live props, sets- CG set and matte painting portions - Producing the environment using appropriate technique-Tracking the camera-Atmospheric effects- 2d techniques- Particle and Physics based simulations- Multipass rendering- Keying - Marker removals - Compositing.

Unit-3

Virtual props integration pipelines, procedures, tools & techniques: Shot planning- storyboard, animatic and concept art. Creating dummies during the shoot for live action interaction- Surveying camera information-Modeling the prop in CG to scale- Matching perspective and scale using survey and track information- Matching lighting using Image based lighting- Dummy prop removal - Multi pass rendering and compositing

Unit-4

Crowd multiplication pipelines, procedures, tools & techniques: Shot planning- Storyboard, Concept art and animatics. Evaluating different approaches of crowd multiplication - Full Live, Full CG, CG and Live action and Particle based crowd simulation with live action elements-Shooting crowd elements- Matte extraction -Particle simulation- adding atmospherics and other elements.

Unit-5

Virtual characters pipelines, procedures, tools & techniques: Character modeling techniques- Polygon, Nurbs, Subdivsion, Sclupting, Digital scanning- Character texturing- skin shading - sub surface scattering - Rigging Fundamentals- Hair and fur layout - Animation- Keyframe and principles of animation overview - Motion capture process- Character integration into live action plate- Perspective matching and camera tracking- Character staging- Animation- matching lighting - Multipass rendering- Compositing

References

- "Special Effects: The History and Technique" (2nd edition), Richard Rickitt, Billboard Books, 2007 "Digital Compositing for Film and Video", Steve Wright, 3rd Edition, 2010.
- "The Art and Science of Digital Compositing" (2nd Edition), by Ron Brinkman
- "Visual Effects Cinematography", Zoran Perisic, Focal Press, 2000.
- "Hollywood Camera Works: Visual effects for Directors" [DVD Volume 1-6]

SPECIALIST PRACTICE II – GAME ART

Unit-1

Game environment modeling:Introduction to Maya –interface –polygon modeling – prop modeling - What is game art - what are the core modeling techniques used in games - Theories of LOD - Kit bashing - static meshes and animated meshes - Modeling low poly props with high poly details using transfer maps and bake maps – understanding normal's and one sided objects.

Unit-2

Vehicle creation for games,Vehicle modeling basics – proportion and layout –topology –body mesh – assigning basic color maps – baking detail to low poly-unwrapping –texturing and material allocation Primitive rig - Rigid Rigging–Skinning for each model - animation cycles for engines -Animated meshes.

Unit-3

Character creation for games,character modeling basics – proportion and layout – character topology – building character body mesh – creating hands and feet – building a profile of the character shape – handling hair and face mesh – assigning basic colour maps – baking detail to low poly - unwrapping, texturing and material allocation – Next-Gen character unwrapping – character unwraping– Introduction to sculpitng – sculpting tools – sculpting brushes – alpha textures – character detailing – texturing character specular, normal, diffuse maps

Unit-4

Introduction to character animation for games - introduction to rigging and tools - Primitive rig - Rigid Character Rigging – basic character rigging - Character animation cycles for engines.

Unit-5

3D GameWorld Design-3d and game engine theories Introduction to 3D -2d vs 3d-Introduction to game engine –interface –project panel –hierarchy project –inspector panel – terrain – tool, sculpt brush, set height, paint textures, place details, settings –understanding size and scale –proportion –importing exporting assets –sky box

References

- Michael McKinley, "MAYA STUDIO PROJECTS: Game Environments and Props", SYBEX ,Wiley Publishing, 2010
- Adam Watkins, "Creating Games with Unity and Maya", Focal press, 2011
- Penny de Byl, "Holistic Game Development with Unity: An All-in-One Guide to Implementing Game Mechanics, Art, Design and Programming", Focal Press, 2011
- Sue Blackman, "Beginning 3D Game Development with Unity: All-in-one, multi-platform game development", Apress, 2011
- Jennifer Crusie, "Adobe Photoshop CS6 Digital Classroom",2012,Willey

SPECIALIST PRACTICE I – MODELING, TEXTURING & LIGHTING – LAB

- Create a props model with texture & lighting.
- Create a vehicle model with texture & lighting.
- Create an exterior set model with texture & lighting.
- Create a Character model with texture & lighting.

SPECIALIST PRACTICE I – COMPOSITING – LAB

- Day to night conversation of a given footage.
- Keying and compositing a shot.
- Tracking and compositing a shot.
- Plan, execute and composite for given theme

SPECIALIST PRACTICE I – LEVEL DESIGN – LAB

- Create a Level plan and topography with proper scale using graph sheets.
- Create a 2D or Isometric level using pixel art.
- Create a multiplayer level design using Hammer /GTK radiant.
- Create a Single player level design using game engine
- Create cinematics using kismet editor using game engine

STUDIO PRACTICE I – RIGGING & ANIMATION – LAB

- Create a lamp rig & Animate
- Create an entire body rig with three joint setup for hand, leg with global control.
- Animate the character walking in blank canvas
- Animate the character lifting a weight from ground to the table placed in the distance.

STUDIO PRACTICE I - CG & EFFECTS – LAB

- Create Domino effects.
- Create an explosion using live footage.
- Breaking a wall or glass in Cg using effects.
- Create a fireworks
- Plan execute and Create a commercial using CG & effects

STUDIO PRACTICE I – GAME ART – LAB

- Create a basic level prototype using game engine.
- Create a game prop with proper map generation.
- Vehicle model with texture, Rigging and animation cycles.
- Character model with texture, Rigging and animation cycles.
- Create a character detail and different map generation techniques using 3D Software

PRE-PRODUCTION FOR PROJECT & DISSERTATION PROPOSAL

- Generate Multiple Ideas, Concept, Story
- Research
- Choose the appropriate Medium & techniques for the story
- Choose a research title related to the project which need to be done later
- Generate the proposal for the research title
- Do the introduction and literature review for the choose title

SEMESTER V
DISSERTATION

Unit-1

Introduction to Research – Meaning of Research – Objectives of Research – Characteristics of research - Types of Research – Research Approaches – Significance of Research – Research process – criteria of good Research – Research methods Vs Methodology – research and scientific methods – how research is done

Unit-2

Reviewing the literature – search for existing literature – review the literature selected – develop a theoretical framework – develop a conceptual framework - Research Problem – Selecting the Problem – Defining the Problem – Research Design – Need for Research Design – Different Research Design – Research Proposal – Formats of research proposal.

Unit-3

Variables – definition of variables – difference between a constant and variable – types of variable – Hypothesis- definition of a hypothesis – functions of hypothesis – Characteristics of hypothesis – types of hypothesis - Sampling Design – Implications of Sampling Design – Steps in Sampling Design – Criteria of selecting a sampling procedure – Types of Sampling Design.

Unit-4

Methods of Data collection – Collection of Primary Data – Observation Method, Interview Method , Questionnaires Method , Other methods of data collection – Collection of secondary data – selection of Appropriate Method for data collection - Processing and Analysis of Data – Processing Operations – Elements and types of analysis – statistics in research

Unit-5

Interpretation and Report Writing – Meaning of Interpretation , Technique of Interpretation – significance of Report Writing - Different steps in writing report – layout of the research report – types of research report – Evaluation – intervention – development – evaluation process , types of evaluation from a focus perspective.

Reference

- Richard Rickitt and Ray Harryhausen, “Special Effects - The History and Technique,
- Billboard Books”, Second edition, 2007
- Colin Dempsey, “The Ultimate Encyclopaedia of Mythical Creatures, Barnes and
- Noble Books”, 2006
- Steve Katz , “Film Directing Shot by Shot”, Michael Wiese, 2004
- Mitch Mitchell ,”Visual Effects For Film and Television”, Focal Press, First Edition

PORTFOLIO

Unit 1

Basics of Portfolio; Importance of portfolio - Elements in Portfolio - Types of Portfolio - The Effective Showcase - Development Techniques - Portfolio requirements - Portfolio Development Techniques Do's and Don'ts - Comments from Experts in the Field.

Unit 2

Introduction to the Digital Portfolio - The Effective Digital Showcase - Production Techniques - Design document -, Different stages of digital media of their specialization -- Digital Portfolio Do's and Don'ts.

Unit 3

Presentation: Preparing professional Theatre/TV/Film Portfolio Presentation Techniques - Professional presentation skill - Presentation Format and requirements.

Unit 4

Marketing: Business Cards - Blog and Web pages - Importance of Business Cards, Blog and Web pages - Design and development of Business Cards, Blog and Web pages - Market analysis for using medium of marketing - Introduction to social networking and its importance

Unit 5

Portfolio Maintenance - Components of a Portfolio - Audience, Tone, Range Format, Portfolio Guidelines - Portfolio Design - Portfolio Budget and Deadline planning - Publishing your portfolio - Portfolio enhancement .

References

- Rafael Jaen, "Developing and Maintaining a Design-Tech Portfolio: A Guide for Theatre, Film and TV", 2006
- Sara Eisenman , "Building Design Portfolios: Innovative Concepts for Presenting Your Work (Design Field Guides)", 2004

DISSERTATION LAB

- Thesis and viva voice

STUDIO ASSIMILATION LAB

- Using Brian storming mind tools generate 20 differents ideas
- Perform a SWOT analysis of the given company scenario
- Develop pre production works as required for the given project
- State selection of tools and design pipeline for the execution of the given project
- Develop a presentation for pitching the project
- Develop a simple project to solve a given problem

PORTFOLIO AUTHORING LAB

- Crete logo and graphic signature for representing yourself.
- Create your resume for a professional corpaorate company.
- Create your blog for showing your personal development.
- Do a video edit of the composed video clips
- Create your audio track to assit your demoreel.
- Create and author a interactive portfolio using any authoring tool

ELECTIVE I - VISUALIZATION TECHNIQUE FOR ANIMATION & VISUAL EFFECTS

Unit 1

Types of Storyboard –Animation storyboard, Music album storyboard, Add film storyboard, Visual effects storyboard, Live action storyboard, multimedia storyboard and Gaming storyboard. - Styles of storyboard – Explore different techniques, methods and media.

Unit 2

Animatics – Meaning and purpose - Types of Animatics – Animatics based on art - Animatics based on photography - Animatics based on digital works – 2D and 3D Animatics - Media, process, time and budget.

Unit 3

Importance of Color in real life and virtual life -Color Psychology –Physical and emotional impact of colors - Color based on Culture and religious practises - Role of Color in Social implications

Unit 4

BG Creation – foreground, mid ground and back ground – Ariel perspective - Matte painting - meaning and purpose – Explore different techniques, media, material and process.

Unit 5

Costume and accessories based on Character–culture, theme, time and place –Environment and mood - props based on the concept. The look and feel of the visual media completely depends on the role of costume and props.

References

- Aditya Chari, "Portrait Techniques Made easy", Grace Prakasham, 2001
- Bammes Gottfriend "The Artist Guide to Human Anatomy", Dover, 2004
- Daniel Carter, and Michael Courtney, "Anatomy for the Artist", Parragon, 2002
- Aditya Chari, "Figure Study Made Easy", Grace Prakashan, 2005
- Victor Perard, "Anatomy and Drawing", Grace Prakashan, 2003

ELECTIVE I – VISUALIZATION TECHNIQUE FOR GAME DESIGN

Unit 1: Board game design

Colour theory and shape drawing – Deconstruct the board game – elements of the board game – dynamics of the board games – territorial – path – shapes and forms – redesign a exiting board game – rule changing and game balancing – drawing icons and metaphors – introduction to materials and board game design

Unit 2: Introduction to painting techniques and Texturing

Introduction to Photoshop –interface ,brush ,basic tools ,filters ,layers ,masking –text tool - image formats – jpg, png ,tiff ,psd ,gif –painting – Creating textures – seam and seamless textures -UI theory -UI design – HCI basics – UI buttons state and creating buttons styles – HUD interface and HUD immersion - POV

Unit 3: Character sketching and anatomy

Character design – figure study – Head study – gesture drawing – character sketching - variations and stylization – character coloring and finalization – Quick sketching and digitizing – Coloring and iteration – Archetypes – Shapes and silhouettes – Character templates

Unit 4: Storyboard and rough sketching

Story boards and flowcharts - Origin - Importance of a storyboard - Essential parts of a story board - Visual representation of a game – storyboard for games as game flow boards – Side scrolled and top scrolled - Power point as a presentation tools and flow of presentation – World design

Unit 5: Introduction to 2D animation

The principles – the reasons – the word "anima" – what are the primary and secondary movement – why move in games – what is animation – 2D animation basics – key frames and key poses – the centre of gravity and its importance – the power centre – forms to weight functions

Reference Book:

- Brenda Brathwaite and Ian Schreiber, "Challenges for Game Designers", Course Technology, 2009
- Jesse Schell (Author), "The Art of Game Design: A book of lenses", CRC Press, 2008
- Chris Solarski, "Drawing Basics and Video Game Art: Classic to Cutting-Edge Art Techniques for Winning Video Game Design", Watson-Guptill, 2012
- Luke Ahearn, "3D Game Textures: Create Professional Game Art Using Photoshop", Focal Press, 2009
- Brent Fox, "Game Interface Design", Course Technology PTR, 2004

SEMESTER VI
PROFESSIONAL PRACTICE

Unit 1

Soft skills development : Soft Skill vs Hard Skill - Importance of soft skill - Communication – Assertive Communication – Inter-personal Communication – Corporate Communication - Listening Skill – Writing Skill – Presentation Skill – Public Speaking – Body Language - Professional Ethics

Unit 2

Motivate yourself – Motivate Others – Constructive feedback - Sandwich feedback - Team Management – How to be a team player - Leadership qualities - Enhancing Creativity - Time & Stress Management - Enhancing Employability – What is the expectation of any organisation - Employee Engagement

Unit 3

Types of Business Organisation, Private Sector and Public Sector – Firms in the Private sector – Key Differences – Co-operatives – Franchises – Not for Profit Businesses - Writing Resume for different kind of organisation – Types of resumes

Unit 4

Group Discussion - Definition of Group Discussion - Prerequisites of a Group - Benefits in Group Discussion - Salient features – Effective communication – Non verbal Cues/Communication – How to take control of the discussion - Do's and Don'ts in Group Discussion - Important points in Group Discussion

Unit 5

Interview Techniques - Interviewing Methods – In-person Interview - Phone Interview – Panel Interview - Interview Problems – Interview Questions – Problem solving skill - How to give sensible and creative solutions for the questions - Interview Tips & Tricks - Panel Interviews - Confidence – Professional/Corporate Etiquette - Dress Code for a Job Interview

References

- M.S. Rao, "Soft Skills: Enhancing Employability: Connecting Campus with Corporate", I.K. International Publishing House PVT. Limited, 2010
- Beverly Amer, "New Perspective: Portfolio Projects for Soft Skills", Cengage Learning, 2011
- Beverly Amer, "Soft Skills at Work: Technology for Career Success", Cengage Learning, 2008

PRESENTATION TECHNIQUES

Unit 1

What is exhibition design - A brief history of exhibition design – Introduction to Different kind of Exhibition - Understand exhibit design construction and costs - Technologies and techniques

Unit 2

Visual Schematic Display- creating display to make audience understand the whole process of a project output from concept to end product - Design Boards creation - Display artefacts creation - Target Audience – Material and processing.

Unit 3

Communicating design ideas to target & others - pitch – presentation technique - communication theories, visual language - understanding human perception- Influence of culture in designing ideas.

Unit 4

Professional Display methods, Visible Display, Product Display – Installing, spatial perception and design - study of materials, processes, finishes, and structures

Unit 5

Exhibits space planning – Scheduling exhibit refurbishment before at after the show - Exhibit lighting - Exhibition skill for professional practice - Communicate design ideas visually & verbally to sell design idea

References

- Jan Lorenc, Lee Skolnick, Craig Berger, "What is exhibition design, RotoVision", 2007
- Brett Alexander Lipeles, "Professional Exhibit Manager's Handbook", ECKO House Publishing, 2006
- Conway Lloyd Morgan, "Expo: Trade Fair Stand Design", RotoVision, 1997

PORJECT WORK

- Project and viva voice

INTERNSHIP

- Report/Presentation and viva voice

ELECTIVE II – PROJECT MANAGEMENT

Unit 1

Project - Project Management - Concept and characteristics of a project - importance of project management - types of project - project life cycle - Stages of Project - Statement of Work - Work Breakdown Structure

Unit 2

Project Planning - Project Planning and Scheduling techniques - developing the project network - Limitations - Flow chart – Gantt Chart - budgeting – preparing estimates - Resource Scheduling - Resource allocation method - splitting and multitasking - Multi project resources scheduling

Unit 3

Project performance Measurement and Control - Monitor and assess project performance - schedule - and cost – performance measurement. methods to monitor - evaluate - and control planned cost and schedule performance

Unit 4

Managing Project Teams - Team development process - team building process - stages in developing a high performance project team - project team pitfalls – team role – team dynamics – communicating with Team – working within the organization

Unit 5

Project Quality Management - Concept of project quality - responsibility for quality in projects - quality management at different stages of project - tools and techniques - Quality Management Systems - TQM in projects

References

- Clifford F Gray, Erik W Larson, "Project Management-The Managerial Process" Tata Mcgraw-Hill Publishing Co Ltd
- Jack Meredith, Samuel J. Mantel Jr. "Project Management- A Managerial Approach" John Wiley and Sons
- John M Nicholas "Project Management For Business And Technology" Prentice Hall Of India Pvt Ltd
- James P Lewis "Project Planning, Scheduling And Control" Tata Mcgraw-Hill Publishing Co Ltd

ELECTIVE II - MULTIMEDIA AND INTERACTIVITY

Unit 1

What is interactive multimedia: multimedia- interaction- a brief history of computers & multimedia- a brief history of computers and interaction-what is IMM? Communicative interaction? Objects and agents-channels of communication-artificial language-natural communication-meta languages-components of interactive multimedia systems Knowledge: Introduction-why does knowledge matter-the basic idea of knowledge-a work definition-techniques of knowledge representation-techniques of knowledge elicitation

Unit 2

Understanding users: Why are users are important-things you might know about a user-how to apply user knowledge-how to acquire user knowledge-techniques of user profiling-techniques of user modelling Interaction and interface: Introduction-traditional HCI-modalities and interface-channels of communication and the interface-functionality and usability-visual appearance and graphic design. Semiotics: Multimedia content-what is semiotics- the idea of a sign- more complex signs-semiotics and media

Unit 3

Text: Visual perception of text-image on a page-meaning and text-the concept of readability-text and screen, Sound: Introduction-the modality-primary channels of communication-combining sound channels-the technology of sound. Still image: Psychology of vision-the diagram-representational images-juxtaposition of images

Unit 4

Moving images: Perception of motion-a brief history of film- constructing shot-shots into narrative-modern language of film and television. Stakeholders and team working: Team working-players-communication. Product design process: Standard design process-issues for multimedia-categories of multimedia systems-an integrated design process for interactive multimedia

Unit 5

Project design and management: Why-general approach-planning for-management-evolution-documentation-deployment and acceptance, Future trends: Conceptual-cultural-technological-hot topics- conclusion

References:

- Mark Elsom Cook, Principles of Interactive Multimedia, Tata McGraw-hill, 2001
- Fred T. Hofstetter, Multimedia literacy, Tata McGraw-hill, 2001
- Tay Vaughan, Multimedia making it work, Tata McGraw-hill, Seventh Edition, 2008
- John F. Koegel Buford, Multimedia systems, ACM Press, 1994

ELECTIVE III – AUDIO TECHNIQUE FOR POST LAB

- Convert the given file format to .mp3 format
- Convert stero to mon tracks
- Boost the volume of the given file
- Do a cross fade for the given file
- Trim the given audio into a one second folly from the given track
- Desing the audio by mixing various tracks for the given image
- Desing the audio by mixing various tracks for the given media

ELECTIVE III - GAME TESTING LAB

The students are expected to complete the following exercise and submit the record work

- Test the given 3 games and list the 10 Art and graphics errors in it and also post the nature of the bug, your points of consideration and steps to recreate them
- Test the given 3 games and list the 10 game play and game mechanics errors in it and also post the nature of the bug, your points of consideration and steps to recreate them
- Test the given 3 games and list the 10 performance and quality errors in it and also post the nature of the bug, your points of consideration and steps to recreate them
- Test the given 3 games and list the 10 functionality and flow errors in it and also post the nature of the bug, your points of consideration and steps to recreate them
- Test the given 3 games and list the 10 user control and user experience bugs in it and also post the nature of the bug, your points of consideration and steps to recreate them
- Test the given 3 games and list the 10 sound and packaging error in it and also post the nature of the bug, your points of consideration and steps to recreate them