

BHARATHIAR UNIVERSITY COIMBATORE-641 046**M.Sc., MULTIMEDIA**

(For the CPP/COP students admitted during the academic year 2014-2015 & onwards)

SCHEME OF EXAMINATIONS - (CBCS Pattern)

| Part | Course title | Inst hrs / week | Examination | | | Total | Credit |
|------|--|-----------------------|-------------|-----|------|-------|--------|
| | | | Dur | CIA | Mark | | |
| | Semester 1 | | | | | | |
| | Multimedia Fundamentals | 5 | 3 | 25 | 75 | 100 | 4 |
| | Communication Theories | 5 | 3 | 25 | 75 | 100 | 4 |
| | Visual Presentation | 5 | 3 | 25 | 75 | 100 | 4 |
| | Information Architecture | 5 | 3 | 20 | 55 | 75 | 3 |
| | Visual Art | 4 | 3 | 20 | 55 | 75 | 3 |
| | Image Editing - I (Practical I) | 3 | 3 | 40 | 60 | 100 | 4 |
| | Elective 1 | 3 | 3 | 25 | 75 | 100 | 4 |
| | Semester 2 | | | | | | |
| | Media Studies | 5 | 3 | 25 | 75 | 100 | 4 |
| | Photography | 5 | 3 | 25 | 75 | 100 | 4 |
| | 2D Graphics & Animation | 6 | 3 | 20 | 55 | 75 | 3 |
| | Programming Fundamentals | 5 | 3 | 20 | 55 | 75 | 3 |
| | 2D Graphics & Animation (Practical II) | 3 | 3 | 40 | 60 | 100 | 4 |
| | Image Editing – II (Practical III) | 3 | 3 | 40 | 60 | 100 | 4 |
| | Elective 2 | 3 | 3 | 25 | 75 | 100 | 4 |
| | Semester 3 | | | | | | |
| | Media Laws & Ethics | 4 | 3 | 20 | 55 | 75 | 3 |
| | Storyboarding & Cinematography | 6 | 3 | 25 | 75 | 100 | 4 |
| | Video & Audio Editing | 6 | 3 | 20 | 55 | 75 | 3 |
| | 3D Design Techniques | 6 | 3 | 25 | 75 | 100 | 4 |
| | Video & Audio Editing (Practical IV) | 4 | 3 | 40 | 60 | 100 | 4 |
| | Elective 3 | 4 | 3 | 25 | 75 | 100 | 4 |
| | Semester 4 | | | | | | |
| | Trends in Multimedia Technology | 5 | 3 | 25 | 75 | 100 | 4 |
| | Internship | - | - | - | - | 100 | 4 |
| | Project Study | - | - | - | - | 100* | 4 |
| | Elective 4 | 3 | 3 | 25 | 75 | 100 | 4 |
| | | Total | | | | 2250 | 90 |

***Project Report 80 Marks ; Viva-Voce 20 Marks**

List of electives:

| | |
|------------------|---------------------------------------|
| Group I | Animation & Visual Effects |
| | Advanced Art |
| | Modeling & Texturing |
| | Rigging & Animation |
| | Compositing Techniques |
| Group II | Advertising Design |
| | Advertising Fundamentals |
| | Graphic Design |
| | Editorial Design |
| | Television Commercial |
| Group III | Web Technology |
| | Web Designing |
| | E Learning Content Development |
| | Web Programming |
| | Search Engine Optimization |
| Group IV | Game Development |
| | Game Design |
| | Game Interface Design |
| | Game Engine |
| | Game Creation |

SEM -I

MULTIMEDIA FUNDAMENTALS

Unit-1

About Multimedia – Uses of Multimedia in Business, schools, Home, other places – Text – About Fonts and Faces – using text in Multimedia – Font editing & Design Tools – Using Hyper text – searching for words – Hypertext tools

Unit -2

Images – Bitmaps – Vector drawings – 3D Drawing & Rendering – Color – Image File formats – Sound – Digital Audio – Midi – Audio file formats – Adding sound to Multimedia projects – Animation – The power of Motion – Principles of Animation – Animation techniques – Animation file formats – Creating Animation

Unit-3

Video – Analog video – digital video – Codecs – video file formats – obtaining video clips – Shooting – storyboarding – lighting- chroma keys – titles & text – non linear editing – the stages of a Multimedia project – Hardware requirements – Software requirements – 3D modeling & animation tools, Image editing tools, sound editing tools, video editing tools- Authoring systems

Unit-4

Multimedia skills – project manager – designer – video specialist – audio specialist – Multimedia programmer – planning and costing – process of making Multimedia – Scheduling – Estimating – Bid proposals – Designing & producing – tracking – copyrights- acquiring content – Ownership of content created for a project

Unit-5

Internet & Multimedia – History – Internetworking – The World Wide Web and HTML – Multimedia on the web – Designing for the World wide web – Developing for the web – Text for the web – Images for the web – Sound for the web – Animation for the web - video for the web – Testing – Preparing for Delivery

References

1. Multimedia Making IT Work by Tay Vaughan, McGraw-Hill Osborne Media; 8 edition, 2010
2. Multimedia Foundations: Core Concepts for Digital Design by Vic Costello, Susan Youngblood and Norman E. Youngblood, Focal Press, 2012

COMMUNICATION THEORIES

Unit-1

Introduction to communication theory – need for communication – communication and language – types of communication – group communication – mass communication – mass-line communication – interactive communication – western models of communication – Indian communication theories – barriers to communication

Unit-2

The Mass media – Theories of Press/Media – Journalism – Journalism for Development – History of Journalism – News and news values – Cinema – The Pioneers – The Talkies – Sathyajit Ray – The Golden Age – Regional language cinema - -Documentary and Short films – Impact of Cinema on Society – Film censorship

Unit-3

Radio – Development of Radio as a Mass medium – Indian broadcasting – All India Radio at Independence – Radio Formats and Genres – FM Radio – Projected growth of Radio Industry – Digital Audio Broadcasting – Ethics of Broadcasting – Early experiments in Television – The Story of Indian Television- Advertising in the News – Music Industry – Book Publishing – Folk & Traditional media – Advertising & Public Relations

Unit-4

Psychology and Sociology of Media Audiences – The Audience as ‘Market’- The Public and Public opinion – Mass media and Politics – Audience Measurement – Audience Surveys – Mass Communication and Society : uses , Effects, Representations – Theories of Media Effects and Media Uses – The Mass Media and the Indian Family – Children and the Media – Representation of Women in the Mass media

Unit-5

Mass media, culture and development – Information Technology, Telecommunications and the Internet – history of Information Technology in India – The Information Revolution – The Internet in India – Family and Social Networks – E-Commerce, E-Banking and E-Governance- The Gaming industry – Mass media, Intellectual Property Rights and the Public domain

References

1. Mass Communication in India by Keval.J.Kumar, Jaico Publishing House, 1999
2. Mass Communication In India: A Sociological Perspective by J V Vilanilam, SAGE Publications, 2005

VISUAL PRESENTATION

Unit-1

Design fundamental – Basics of Design – Characteristics of a good design - visual composition – Elements of design – principles of design – creativity – fundamental of creativity – importance of creativity – developing creativity

Unit-2

Colour theory – basics of colour theory – attributes of colour –colour wheel – colour harmony – colour schemes – colour blending – additive model – subtractive model – colour contrast – colour psychology – colour strategy – colours in printing

Unit-3

Typography- typeface anatomy – measurements – typeface classifications – type families – spacing and alignment – selecting appropriate fonts – tips and techniques – Graphics – importance of graphics – major classifications – image manipulation

Unit-4

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

Unit-5

Planning the presentation – story telling – slide layout – Getting Audio & Visuals working together – Text vs. Graphics – Bullet Points – Problem solving with simple pictures – Charts – Animation -Fonts

References

1. Tina Sutton, Bride M. Whelan, The complete colour harmony, Leads Press, 2008
2. Dorothee Mella, The language of colour, Grand Central Publishing, 1988
3. David Jury, What is Typography? , RotoVision , 2006
4. Conway Lloyd Morgan, 20th Century Design: A Reader's Guide, Architectural Press; illustrated edition edition , 2000
5. Lois Fichner-Rathus, Foundations of Art and Design, Wadsworth Publishing; First edition , 2007

INFORMATION ARCHITECTURE

Unit-1

About Information Architecture – What is Information Architecture? – Information Architecture in a Project – Who does Information Architecture

Unit-2

Understanding People- Learning about Users – Analyzing user research – Communicating about users – How people look for information – How people think about categories

Unit-3

Understanding Content – The content you have – the content you need – communicating about content – content planning – classification schemes

Unit-4

Designing an Information Architecture – Information Architecture Patterns – Labels and languages – How to create Information Architecture – Testing Information Architecture – Communicating Information Architecture

Unit-5

Designing Navigation – Navigation core – Navigation extras – Designing navigation – Testing navigation – Communicating navigation

References

1. A Practical Guide to Information Architecture by Donna Spencer & Derek Featherstone, Five Simple Steps Ltd, 2010
2. Information Architecture for the World Wide Web: Designing Large-Scale Web Sites, 3rd Edition by Peter Morville & Louis Rosenfeld, O'Reilly Media; 3rd edition, 2006

VISUAL ART

Unit-1

Plane curves and free hand sketching: Basic Geometrical constructions - Construction of ellipse - parabola and hyperbola – Construction of cycloid – Drawing of tangents and normal to the curves- Scales- Visualization concepts and Free Hand sketching- Visualization principles –Representation of Three Dimensional objects – Layout of views- Free hand sketching of multiple views from pictorial views of objects

Unit-2

Projection of points, lines and plane surfaces: Orthographic projection- principles-Principal planes-First angle projection-Projection of points. Projection of straight lines (only First angle projections) inclined to both the principal planes- Projection of planes (polygonal and circular surfaces) inclined to both the principal planes by rotating object method.

Unit-3

Projection of solids: Projection of simple solids like prisms- pyramids- cylinder- cone and truncated solids when the axis is inclined to one of the principal planes by rotating object method and auxiliary plane method.

Unit-4

Isometric and perspective projections: Principles of isometric projection – isometric scale – Isometric projections of simple solids and truncated solids – Prisms- pyramids- cylinders- cones- combination of two solid objects in simple vertical positions and miscellaneous problems. Perspective projection of simple solids- Prisms- pyramids and cylinders by visual ray method and vanishing point method

Unit- 5

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 - quick sketches - study from live figure

REFERENCES-

1. Luzzader Warren.J. and Duff John M, Fundamentals of Engineering Drawing with an introduction to Interactive Computer Graphics for Design and Production, Prentice Hall of India Pvt Ltd, 2005
2. K.Venugopal and V.Prabhu Raja, Engineering Graphics, New Age International (P) Limited, 2008.
3. N.D.Bhatt and V.M.Panchal, Engineering Drawing, Charotar Publishing House, 2010
4. K. V.Natrajan, A text book of Engineering Graphics, Dhanalakshmi Publishers, 2009.

PRACTICALS I

LIST OF PRACTICAL'S

Movie Poster Production:

1. Design a movie poster emphasizing contrast in shape, color and size
2. Design a movie poster emphasizing proportion in shape, size
3. Design a movie poster for Horror Genre
4. Design a movie poster for Comedy Genre
5. Design a movie poster in Retro style

Greeting Card Production:

1. Design a greeting card for a five year old child's birthday
2. Design a professional greeting card
3. Design a festival greeting card

SEM II MEDIA STUDIES

Unit-1

The Importance of Stories- The Beginnings of Game Stories - Text Adventures and Interactive Fiction – 3 Act Play- The Hero's Journey and the Structure of Stories - Types of Stories - The Hero's Journey- Structure of the Hero's Journey - Common Themes and Cliche's in Game Storytelling - Why Cliche's Are Used - When to Use and When to Avoid Story Cliche'

Unit-2

The Story and the Characters- Story Flow and Progression - Pacing - Character Development - Common Character Archetypes - Advantages of Using Archetypes - Disadvantages of Using Archetypes - Making Characters Believable - Character Actions and Decisions - The Importance of Backstory - How to Tell the Backstory - Sometimes a Mystery Is Best - Making Stories Emotional - Connecting with the Characters - Drama and Melodrama

Unit-3

Role of the director – Responsibilities – understanding the film language – filmic space and filmic time – the basic units – shot, scene and sequences – The organic structure of screenplay, Idea, Theme, Plot, Character – dimensions of Character – Three act structure – conflict –types – crisis – climax resolution – Various stages of screenplay

Unit-4

The meaning of Media research – objectives of research – types of media research – significance of research – Media Research methods versus methodology – Research and scientific method – Importance –research process – criteria of good research – Problems faced

Unit-5

Define research problem – selecting a problem – defining the problem – Techniques in defining a problem – Meaning of research design – need for research design – features of good design - features – concepts of research design – different research designs – Study of media content and audience research

References

1. C.R. Kothari, research methodology: Methods and techniques, second edition, new age international LTD, 2004
2. The Hero with a Thousand Faces, Joseph Campbell, New World Library; Third edition, 2008
3. Lodge, David. The Art of Fiction, New York: Viking, 1992
4. McKee, Robert. Story: Substance, Structure, Style, and the Principles of Screenwriting. New York: ReganBooks. 1997

PHOTOGRAPHY

Unit – I

History of Photography – History of cameras - Holding camera –focal length - Basic camera settings - Types of image format – SLRs Vs DSLRs - Elements of Photography

Unit – II

Rule of Thirds - Shooting Vertical vs. Horizontal - Choosing a point of interest - Angle of view - Placing subjects off center – Backgrounds -□ Foregrounds -□ Composition– Light - Positive and negative space – Framing -□ Color vs. Black and White Photography
□ □ □ Symmetry Perspective - Assignment 1: Portraits.

Unit - III

Different kinds of aperture – Different type of shutter speed — Leading Lines - ISO speed – Flash light – Soft box light – Umbrella light – Cool light – Types of camera lenses - wide angle, telephoto - zoom lenses – macro lenses - fish eye lenses - tripod stand - lens hood – Camera Filters – Soft focus - Assignment 2: product photography.

Unit - V

Polarizing Filters - Soft Focus Filters - The Star Filter - The Fog Filter - Environmental Portraits - Short Lighting - Broad Lighting – Bounce – Diffuser - Key Light - fill light - back light - Snoot – Reflector - Working with cameras – Assignment 3: Fashion photography - Assignment 4: landscape photography - - Assignment 5: Still Life.

Unit - IV

Image editing software interface navigation – Layers – Tools – Adjustment – Color balance – Hue/Saturation – Photo Filter – Brightness Contrast – Black and White – Exposure – curves – levels – Filters – Bridge – Temperature – Tint – Fill light – Recovery – Vibrancies – Clarity – Blacks - Interpretative Assignment: CD or Album Design.

References

1. The Digital Photography Book by Scott kelby, Peachpit Press; 1 edition, 2006
2. Complete Digital Photography by Ben Long, Cengage Learning PTR; 7 edition, 2012
3. Master Your DSLR Camera: A Better Way to Learn Digital Photography by David Becker, Open Air Publishing, 2012

2D GRAPHICS & ANIMATION

Unit-1

Introduction to Animation – types of animation – traditional animation – stop motion animation – computer animation – the traditional process – principles of animation : stretch and squash – timing and motion – anticipation – staging – follow through and overlapping action – straight ahead action and pose to pose action – slow in and out – arcs – exaggeration – secondary action – appeal – solid drawing

Unit-2

Flash animation concepts: the timeline – symbols – tweening is only a tool – shape tweening – motion tweening – easing in and out – hinging symbols – script writing: importance of script – writing begins with an idea – conflict – anatomy of screenplay – scenes – slugline – action – dialogue

Unit-3

Storyboard - creating a story board – basic camera shots – the extreme long shot – the long shot – the mid long shot – the close up shot – the extreme close up – other useful camera shot – cutaway shot – cut in shot – over the shoulder – point of view shot – noddy shot – camera moves – zoom in/zoom out – truck in/truck out – camera transitions – the cut – fade in/fade out – dissolve – blur, pan or zip pan

Unit-4

Audio – creating and importing audio into Flash – sound recording tips – consider your sources – importing audio elements and managing audio files – editing audio in Flash – using outside software – preparing the timeline for Audio – lip synching – basic cartoon phonetics and vocalization – the vowels – consonant sounds – making words – Anime dialogue

Unit-5

Animation process– ball animation – animating the shadow – preparing the character for animation – dissecting the body parts into separate symbols – creating symbols – set pivot points – rigging – distribute to layers – creating the walk cycle – simple four leg walk animation – turn around animation - creating scenes for an animated story – special effects: special effects in Flash – flame effect – fire effect – simple water streams – rain

References

1. Bill Davis, Creating 2D animation in a small studio , GGC Publishing , 2006
2. Sandro Corsaro and Clifford J. Parrott, Hollywood 2D Digital Animation: The New Flash Production Revolution ,Course Technology PTR; 1 edition , 2004
3. Tony White, Animation from Pencils to Pixels: Classical Techniques for the Digital Animator , Focal Press; 1 edition, 2006
4. Steve Roberts, Character Animation: 2D Skills for Better 3D,Focal Press; Second edition, 2007
4. Hedley Griffin, The Animator's Guide to 2D Computer Animation, Focal Press, 2000

PROGRAMMING FUNDAMENTALS

Unit-1

Fundamentals of Computers : Introduction – History of Computers-Generations of Computers- Classification of Computers - Basic Anatomy of a Computer System-Input Devices-Processor - Output Devices-Memory Management – Types of Software - Overview of Operating System - Programming Languages-Translator Programs - Problem Solving Techniques

Unit-2

Programming Basics: Programming Hello world - Data types - Variables - Constants - Operators - Conditional Statements - Looping. Functions: Understanding Functions - pass values to functions - recursive functions

Unit-3

C++ Key Data Concepts: Arrays: One Dimensional - Two Dimensional - Multi Dimensional - Dynamic arrays. Pointers: - Pointers Advantage & disadvantage - Variable pointers ,Generating pointer to an array - Function Pointers - Array pointers - Pointers to Pointers - Functions - passing pointers to functions - returning pointers - passing Arrays to functions . User Defined Data types: Union & Enum - Structures

Unit-4

C++ and OOPS :Classes & Objects ; Encapsulation - Constructors & Destructors ; Polymorphism – Abstraction - Virtual Function - Function Overloading & Overriding ; Inheritance ; Constructors & Destructors ; Exception Handling - Templates

Unit-5

Standard Template Library: Containers - Sequences (vector, list, slist, deque) ; Container Adaptors (Stack, Queue), Algorithms - Mutating Algorithms (Swap, Replace, Remove) , Sorting (Sort, Binary Search, Merge) ; Function Object - Random Number Generator ; Iterators - Forward & Random Access.

REFERENCES

1. E. Balagurusamy, COMPUTING FUNDAMENTALS & C PROGRAMMING, Tata McGraw-Hill, Second Reprint, 2008
2. Essential Reading Herbert Scheldt, The Complete Reference C++, Tata McGraw Hill, 2002
3. Bjarene Stroustrup, Programming: Principles and practices using C++, Addison-Wesley Professional; 1 edition,2008
4. David Kruglinski .J, Programming with visual C++, fifth edition, Microsoft press, 1998

**SEMESTER II
PRACTICAL – II**

List of practical's

1. Create an appealing two leg walk cycle for a boy cartoon character
2. Create an appropriate background for the character to live in
3. Use the concept of panning and zooming to make the walk cycle realistic

PRACTICAL – III

List of practical's

1. Enhance the color in the given photograph
2. Crop the given photographs appropriately. Adjust the color if required
3. Correct the brightness and contrast in the given photograph
4. Restore and retouch the given photographs
5. Create a photo montage for the following themes – Cultures of India, Obey Traffic rules, Bio Diversity

SEM III
MEDIA LAWS & ETHICS

Unit - 1

Press Laws: National objectives, Responsibilities of the press, Rights and Privileges; Freedom of the press and Reasonable Restrictions; Defamation, Sedition, Obscenity, Press and registration of books act 1867 - Contempt of court act 1971.

Unit -2

Media Laws: Freedom of the Media- in India; The law of copyrights-Trade related Aspects of Intellectual Property Rights (TRIPS) & TRIMs; International Intellectual propriety of rights; The Contempt of Courts Act 1971; The India Penal Code, Sections 124-A, 495, 496 to 501; The Criminal procedure code, sections 108, 144; The India Telegraph Act

Unit -3

Right to information Act 2005 - Information Technology Act case studies; Laws related to consumer rights; Laws of Human Rights- Child labour Acts- Women's rights

Unit -4

Cyber Laws- Hackers, Cyber Terrorism, Cyber Stalking, spamming, cryptography and digital signature, computer viruses, child pornography, privacy and cyber crime, electronic governance Cyber Plagiarism;

Unit -5

Information Society-Information Legal Practices – Theft of Information-Scope of data protection-information technology copy right- Intellectual property – protection, patents, trademarks and data basis – Policies relevant to information technology Companies in India-

REFERENCES:

1. Global Journalism: Survey of International Communication. John Calhoun Merrill (Ed) (2nd ed).Longman, New York, 1991.
2. Press and Public: who reads what when where and why in American newspapers'.Bogart, Leo et al.
3. Lawrence Erlbaum Associates, New Jersey. 1981.
4. March of Journalism'. Herd. Greenwood press, Connecticut, 1976.
5. Popular media in China'. C. Chu. Univ. Press of Hawaii, Honolulu. 1978.
6. The Press and Broadcasting in Britain: James Curran & Seaton, Fontana Paper Backs, UK. 1981.
7. Characteristic of Japanese Press'. Susumu Ejiri, Nihon Shinbun Kyokai. 1972.
8. Press Commission reports'. Govt. of India Press.
9. Press, politics and public opinion in India ' BM Sankhder, Deep Pub. New Delhi, 1984.
10. History of press., Press laws and Communications'. BN Ahuja. Surjeet Pub. New Delhi. 1989.
11. Freedom of the press '. MK Joesph, Anmol pub. New Delhi, 1997
12. The press in India ' KA Padhy, Sahu, Kanishka pub. New Delhi. 1997.

STORYBOARDING & CINEMATOGRAPHY

Unit-1

Introduction to basic storyboard techniques – Importance of story boarding - Formulate story ideas – Types of script - Writing skill and process - Classical concept of writing - Elements of good writing - Process of writing - Instant script preparation - Design and create a flowchart - storyboard Proposal - Critique and evaluate storyboards – Visual Story Telling - Writing one line script – writing screenplay - Scene and shots split up - break down script - Analyze film continuity - Planning Budget - Scheduling

Unit-2

What is a Lens? – Convergence - Lens Speed - Field of View – Sharpness – Distortion - Guidelines for choosing a Lens – Types of lens

Unit-3

Camera Distance - Examining a Shot - Shot Types - Extreme Long Shot - Long Shot - Medium Long Shot - Medium Shot - Medium Close Up and Close Up - Extreme Close Up - Shot Size and Lenses - Over the Shoulder Shot - Two Shot - Camera Height - Eye Level Height - High Angle - Low Angle - Objective and Subjective Camera Work - Audience Viewpoint - First-Person Viewpoint - Third-Person Restricted Viewpoint - Point-of-View Shot - Camera blocking - Shot Composition - (Rules - 180 degree) - (30 degree rule) - The rule of thirds - Clap board - Editing report - Preview monitoring

Unit-4

Camera Movement Types - The Panning Shot - The Tilt Shot - The Tracking Shot - The Circular Move - The Push-In Shot - The Pull-Out Shot - The Crane Shot - The Handheld Shot - The Steadicam Shot - The Aerial Shot - Moving the Camera Successfully - Static Shots - Significant Camera Movement

Unit-5

Lighting - Three-Point Lighting - The Key Light - The Fill Light - The Back Light – Top light Low light Rim light - Practical Lighting Applications - Visual Intensity - Contrast and Affinity - Contrast in Color – Colour temperature

References

1. Film is Not Dead: A Digital Photographer's Guide to Shooting Film (Voices That Matter), Jonathan Canlas, Kristen Kalp, New Riders, 2012
2. Writing the Screenplay: TV and Film, 2/E, Alan.A.Armer, Waveland Pr Inc, 2002
3. Pre-Production Planning for Video, Film, and Multimedia, Steve Cartwright, Focal Press, 1996.
4. The Filmmaker's Eye: Learning (and Breaking) the Rules of Cinematic Composition, Gustavo Mercado, Focal Press, 2010

VIDEO & AUDIO EDITING

Unit-1

Online editing – time code – in and out point – elements of Premiere – commands and interface – non linear editing – non destructive editing – interlaced / progressive scan video – editing time base – monitor window controls – functions of the source view, program view, timeline – relationship between the timeline and the program view in the monitor window – editing clips into a sequence – selecting one or more clips

Unit-2

Splitting a clip – understanding title – title safe and action safe zone – previewing titles on an external monitor – editing interface: three point editing – overlay and insert edits – trimming using slip and slide edits – using the trim window – opening the trim window – finding edit you want to trim – transitions – displaying transitions – aligning transitions by dragging – replacing transitions – clip handles and transitions

Unit-3

Using workspaces – applying and controlling standard effects – removing multiple effects applied to a clip – animating effects – effects control window – reordering effects – showing or hiding keyframe area – showing or hiding the timeline beyond a clip's in and out point – playing audio in selected clip – applying video effects – changing filter effects and settings – change effects over time using keyframes – removing all keyframes of an effect

Unit-4

Customizing the project window display – adding clips from the project window automatically – generate a sequence automatically – working with the audio mixer window – creating a storyboard – setting a clip's thumbnail image - file export settings –codecs and compression

Unit-5

Sound Forge: sound – digital audio - sampling rate – bit – bit depth – hertz – sound card – amplitude – decibels – audio for the web – popular audio formats for the web – sound forge interface –recording with Sound Forge – the record dialog box – checking recording levels – adjusting the input levels – setting up the recording environment – takes, regions and files – effects – Delay/echo – reverb – chorus – pitch – changing mono to stereo

References

1. Adobe Creative Team, Adobe Premiere Pro CS5 Classroom in a Book, Adobe press, 2010
2. Keith Underdahl, Adobe Premiere Pro for Dummies, For Dummies, 2003
3. Adele Droblas and Seth Greenberg, Adobe Premiere Pro CS3 Bible, Wiley, 2007
4. Jeff Sengstack, Sams Teach Yourself Adobe Premiere Pro in 24 Hours, Sams, 2004
5. Scott R. Garrigus, Sound Forge 8 Power!: The Official Guide, Course Technology PTR, 2005

3D DESIGN TECHNIQUES

Unit-1

Introduction to user interface – working in 3D – views –the maya workspace - creating manipulating and moving objects – perspective and orthographic windows – creating curves – editing curves – attaching and detaching curves – inserting knots – reverse curve direction - – adding points to a curve – using curve editing tool

Unit-2

Editing nurbs - rebuilding surfaces – surface fillets – stitching surfaces – creating polygons – append polygon tools – combine – polygon Booleans – mirror geometry – polygon smooth tool –subdivision surfaces – polygon reduction – the cut face tool – extruding polygon faces and edges

Unit-3

Using Nurbs curves to create a model – creating Basic table top Props – the polygon robot modeling – Modeling an Exterior shot – hypershade - understanding Maya Materials and textures – texturing the Robot – texturing table top Props - texturing a sample of exterior element

Unit-4

Rigging – joints and tools -- ik - Fk – spline ik – Types of Constrains - Skinning – Primitive Rig - traditional animation fundamentals – the wave principle – overlap – using the time slider – setting playback range – setting playback speed – setting keyframes – auto key – keyframe options – channel control – editing keyframes – editing timing of keyframes – editing in-betweens – changing a key pose – moving and scaling keys – cutting, copying and deleting keys – using breakdowns – animation types – using graph editor – Basic character animation.

Unit-5

Adding lights – light theory – artistic theories – types of light – common attributes – ambient lights – spot lights – point lights – directional lights – area lights – volume lights – working with shadows – depth map shadows – baking shadows – raytraced shadows
creating cameras – focal length – cameras in Maya – types of cameras – resolution gate – safe display region – safe action – safe title – use background –converting 3d scenes to 2d images- the render view – navigating in the render view – keeping images in render view – rendering regions – snapshots – setting render global – image name and format – Batch Rendering.

References

1. Learning Autodesk Maya 2008, Foundation by Autodesk Maya Press, Sybex, 2007
2. Maya Professional Tips and Techniques by Lee Lanier, Sybex , 2007
3. Mastering Maya 2009 by Eric Keller, Eric Allen, and Anthony Honn, Sybex; Pap/DVD edition, 2009
4. Introducing Maya 2009 by Dariush Derakhshani, Sybex; Pap/Cdr edition , 2009
5. The Maya, Seventh Edition (Ancient Peoples and Places) by Michael D. Coe, Thames and Hudson; 7 edition, 2005

PRACTICAL IV - VIDEO & AUDIO EDITING

List of Practical's

1. Create a documentary about a city using the reverse editing techniques
2. Use audio video editing techniques to create a corporate presentation
3. Create a promo for any product or brand for a duration of 1 minute
4. Use audio video editing techniques to create a trailer of an upcoming 3D movie

SEM IV

TRENDS IN MULTIMEDIA TECHNOLOGY

Unit – 1

Blender Scene – Manipulating editor window – 3d window space navigation – Selecting, Moving, Rotating and Scaling object – File navigation – Blender units and scale - Pivot, layer, outliner, duplication - Camera view and orthographic view – Camera look to view – Vertices, edges and Faces – Subdivide – Knife cut – Extrude – Spin – Screw – Assignment 1 (creating the interior design).

Unit - 2

Materials – Material Shader - UV Textures – Multiple material – Transparency material – Image texture – Procedural texture – Bump Texture – Material Ramp – Render to Image file – Render slots - Point Lamp – Sun Lamp and sun lamp sky – Hemi Lamp – Area Lamp – Spot Lamp – Ambient Occlusion – Lamp constraints and Parenting – Assignment 2 (Creating the Primitive man modeling with texture).

Unit - 3

Basic key frame animation – Graph Editor – Cyclic Animation – Path Animation – Camera Path animation – Introduction to armature – Lattices - Alpha and color animation – Shape animation – Constraints - Rendering image and animation in different format – Introduction to dynamic – Assignment 3 (Walk cycle, Run cycle and action).

Unit – 4

Understanding virtual reality – Introduction to virtual reality (virtual world, immersion, sensory feedback, interactivity) - A history of Virtual Reality – Virtual reality systems – Interface to the virtual world (visual display, Aural display, Haptic displays – Rendering to the virtual world - Experience to the virtual Reality - The future of virtual reality.

Unit – 5

What is augmented reality – What Is the goal of AR – Augmented Reality Vs Virtual Reality – combining the real and virtual world – Realistic Merging – Components of an augmented reality system – Display Technology - Monitor Based Augmented reality – Optical see-through HMD – Video see-through HMD – AR Applications uses in different medium – Advantages of see-through HMD

References

1. Blender 3D Basics by Fisher Gordon
2. Blender Production: Creating Short Animations from Start to Finish by Roland Hess
3. Blender Foundations: The Essential Guide to Learning Blender 2.6 by Roland Hess
4. Blender Master Class: A Hands-On Guide to Modeling, Sculpting, Materials, and Rendering by Ben Simonds
5. Virtual Reality: The Revolutionary Technology of Computer-Generated Artificial Worlds - and How It Promises to Transform Society by Howard Rheingold
6. Prototyping Augmented Reality by Tony Mullen
7. Augmented Reality: Theory and Practice by Dieter Schmalstieg and Tobias Hollerer

PROJECT STUDY

Guidelines for Project Study for Post Graduation:

- i) Conceptualization of Subject and Research Problem (15marks)
- ii) Analytical Presentation of Review of Literature (20 marks)
- iii) Presentation of Methodology (20 marks)
- iv) Data Analysis and Discussion (10 marks)
- v) Final Draft and Presentation) (15 marks)

Total 80 marks

Chapters

1. Introduction
2. Review of Related Literature
3. Research Methodology
4. Analysis and interpretation
5. Discussion and Conclusion

Bibliography

Viva-voce

ELECTIVES: GROUP A

1. **Advanced Art**
2. **Modeling & Texturing**
3. **Rigging & Animation**
4. **Compositing**

SEMESTER I
PAPER-1: ADVANCED ART

Unit-1

Human anatomy - Line of action – Constructing stick figures - developing with geometric blocks – steps in full body finish – action poses – fore shortening – drawing figures in different perspectives – male body proportions - female body proportions – visualizing body forms in flow lines – Animal anatomy basics – Birds anatomy basics

Unit-2

Muscle study – Male body muscles - Female body muscles –Body muscles in profile views – Drawing arms and legs in different views – Drawing the Torso - Studying the muscles in various views - Head study – Drawing heads in various angles – Female heads - Hands and feet in various possible views - Details of facial features –Costume / Drapery study - Facial Expressions and emotions

Unit-3

Character design – Essentials of character designing – Aesthetic appeal, Functional, Distinct, Personality, Originality, Purpose, Target audience, Exaggerated characteristics, 3D Visualization etc. - Character types – Heavy villainous character, Pretty/Cute character, Mad/weird character. Ridiculous/ Humorous character – Alien Characters -Props and set design – Developing props diagrammatically

Unit-4

Developing BG - Over-lays and Under-lays – Creating panning BG – Drawing a location in different angles and different lightings- Art for Animation – Lip movements – Vowels and consonants - Character sheet/ Model sheet- Drawing a character in various action poses - Turnaround - developing a character in front, side and back views proportionately

Unit-5

Walk cycle drawings – Drawing 8 stages of a walk - Run cycle – Fly cycle – Four leg walks - Drawing animation sequences – Straight ahead vs. Pose-to-pose methods of animation drawings - Extremes, Break ups and In-between drawings - Concept art – Visual representation of an idea, design or mood.

References

1. Gottfried Bammes, The Artist's Guide to Human Anatomy , Dover Publications , 2004
2. Edouard Lanteri, Modelling and Sculpting the Human Figure , Dover Publications, 1985
3. Michael McKinley and Valerie O'Loughlin, Human Anatomy, McGraw Hill Higher Education; 2nd edition, 2007
4. Frederic H. Martini, Michael J. Timmons, and Robert B. Tallitsch, Human Anatomy, Benjamin Cummings; Sixth Edition, 2008
5. Paul Wells, Joanna Quinn, and Les Mills, Basics Animation: Drawing for Animation, AVA Publishing , 2008

SEMESTER II

PAPER-2: MODELING & TEXTURING

Unit-1

Intro to Maya and Interface navigation – Creating an Interior with units and scales – Assignment_1 (Research on old novel script) –Character concept Sketch -- character with props -- Perspective Sketch – scribbling – Color key of a Character and BG -- Model sheet - Character modeling basics with props and weapon - Proportion and layout - Character props and weapon topology - sculpting in detail

Unit-2

Next-Gen character unwrapping - Character texturing and material allocation - Introduction to Sculpting – Sculpting tools – Sculpting brushes – Alpha textures for Sculpting – Character sculpting – Symmetric and Asymmetric Sculpting -- Introduction to textures – Map Texture Creation

Unit-3

Introduction to Texturing - Unwrapping polygon before texturing – Texturing - Photograph manipulation – Baking Normal map,Color map Displacement map - Material - Shader Assigning maps in 3D application software–texturing and material allocation – Creating Texture maps using Photoshop

Unit-4

Introduction to light – principle of light – types of light – Light and Shadow – Types of Shadows -- Understanding material and lighting – Software Lighting , mental ray lighting -- Final Gather – Global illumination – Caustics -- Vray lighting – HDRI -- LDRI and Phical Lighting -- SSS Shader -- Displacement map for Mental ray lights

Unit-5

Introduction to Rendering – Render layers - basics Maya Software Rendering , mental ray Rendering and Vray Rendering – Types of Render passes – Diffuse Passes, Specular passes, Zdepth passes, Shadow passes, Occulusion passes and etc – Using Use BG Background matting – Advance passess – Key passess ,Fill passes, Rim passes and bounce passes

References

1. Edgeloop Character Modeling For 3D Professionals Only by Kelly L. Murdock & Eric Allen, Wiley, 2006
2. Maya Studio Projects Photorealistic Characters by Todd Palamar, Sybex, 2011
3. Digital Lighting and Rendering by Jeremy Birn, New Riders, 2013
4. Advanced Maya Texturing and Lighting by Lee Lanier, Sybex, 2008

SEMESTER III

PAPER-3: RIGGING & ANIMATION

Unit-1

Basic study Elements of Rigging tools – constrains and types – Deformers and types – usage of set driven key – Adding custom attributes – connecting multiple attributes -- Analysis of prop rig -- Approaching prop for animation – work flow with constrained objects – Prop rig for complex utilization – adding a prop in rig to space

Unit-2

Character Study (characteristics) – Character Anatomy study (skeleton system) – Preparing the scene – renaming structure – constructing Leg joints and foot controls – Adding knee controls – constructing spine joints – Adding spline ik system – upper body controls – finishing spine controls – constructing shoulder -- Adding finger joints – Adding elbow and ik control system – constructing Fk control system – Building Ik and Fk control system – Constructing finger controls – constructing neck and head bones – head controls – constructing facial joints – creating facial controls – creating eye controls – Skinning and adjusting paint weights and influences – Mirroring weights and finalizing the character weights

Unit-3

Introduction to Animation tools and Editors – Principle of Animations – Animating bouncing ball – ball with a tail motion – Assignment_1 (Tail ball with the concept) -- Chain action study -- ball with leg movement – Intro character controls – character walk cycle – Assignment_2 (walking with different styles) – character action with Props – Assignment_3 (action added with different props) – Performing with action and dialogue – Assignment_4 (Roles play for their characters)

Unit-4

Face controls checking for animation – Studying the facial references – Starting and Ending Extreme Passes -- Blocking the talking poses – Break down passes – Refining the eye and eye brow movements – Tweaking and finalizing animation -- Trax editor and its Tools -- Adding Character motion using Trax Editor – How animation layer works – Animation layers basics -- understanding animation layers – creating variations – Assignment_1 (Creating variation styles) – importing and exporting animation layers – Finalizing animation layers

Unit-5

Intro to Mo-cap data – source data preparation – source data and custom rig -- retargeting -- checking regarded animation – solving issues from source data and custom rig – correcting orientation issues – fine tuning retargeted animation – Camera Blocking for the action/animation -- Character Lighting setup – Adjusting MR Render parameters – Rendering Layers – Final output generation

References

1. Maya Feature Creature Creations by Todd Palamar, 2006
2. Stop Staring: Facial Modeling and Animation Done Right by Jason Osipa, 2010
3. Body Language: Advanced 3D Character Rigging by Eric Allen & Kelly L. Murdock, 2008

SEMESTER IV
PAPER-4: COMPOSITING TECHNIQUES

Unit - 1

Interface - The Nuke Work flow - Nuke Interface and different view ports - Node Behavior - What is a node – Toolbar - Creating different type of node tree structure – Node indicator – Properties panels - edit the multiple node - Work with time line controls – merging image - Rotoscopy Method - Bezier Node Drawing, node keys, node merging, node mastering - Introduction to Rotoscopy - Camera with character movement.

Unit - 2

Keying Method - Principle of keying method (color gradient wheel) - Keying different method using IBK Gizmo and IBK color - Clean plate using IBK Gizmo and IBK color - Keying using Prematte - Keying using key light - Using keyer and difference - 2d to 3d conversion – Creating Stereo Depth grade - Roto shape creating fallow focus depth - bump and displacement.

Unit - 3

One point tracking method - Four point tracking method - Manual tracking methods - Rig removal method - Creating clean plate using clone method - Stabilizing the footage - Manual Cropping footage - Auto Cropping footage - Color grading and color correction, gamma and gain - master, shadow, highlight, midtone - Creating 3d environment Lights (HDRI) – Using HDRI image creating lights - Wrapping images to camera - wire removal using different methods.

Unit - 4

Camera Projection Techniques - Creating the multiple cameras setup - Creating Planar Projection method -Spherical Projection method - Creating cylindrical projection -Adding the axis node - Apply texture to the planner - Matching the lights - Rendering sequence - 3d setup for nuke - Overview of 3d tools and setup - Navigating 3D View - Reading Geometrical node menu - Exploring different types of menu – Card, Cube, Cylinder, Sphere - 3D Camera attributes - Scan line Render & View Geometry -Add lights Scene element - Rendering different cameras.

Unit - 5

Animation and Shader - Explaining nodes - Different types of material node - Explaining about texture node -Creating displacement node -Environment light - 3d project node - Match moving concept - Using live footage multiple 2d tracking - 3d Solving - Creating gold track point - Testing rough geometry - Creating manual 2d tracks - Adjusting manual track points - Exporting track point to 3d application - Matching the object.

Reference books

1. Nuke 101: Professional Compositing and Visual Effects by Ron Ganbar (Apr 23, 2011)
2. Professional Digital Compositing: Essential Tools and Techniques by Lee Lanier (Dec 9, 2009)
3. The Art and Science of Digital Compositing, Second Edition: Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann (Jun 4, 2008)

ELECTIVES: GROUP B

1. Advertising Fundamentals
2. Graphic Design
3. Editorial Design
4. Television Commercial

SEMESTER I**PAPER-1: ADVERTISING FUNDAMENTALS****Unit-1**

Advertising as Communication, Marketing Mix , Status of Advertising industry in India, Socio economic effects of Advertising , Advertising in Global marketing context; Leading advertisers (national and international); Advertising theories: Hierarchy of needs; Stimulus-Response theory

Unit-2

Types of Advertising: Consumer, industrial, Corporate, Cooperative, Retail, Farm, Comparative, Public service, Life-style and Trade. Strategies, merits and demerits; Critical analysis of ads

Unit-3

Advertising Agency: Structure and functions, Types of Agencies , Agency selection, Advertiser- Agency –Media relationship, Profiles of leading international and Indian Agencies, diversifications and specializations , professional challenges and requirements

Unit-4

Advertising forms; Ad. production: Copy: copy platform , copy format , elements, appeals , visuals and other creative elements. Techniques of print ad. production. Audiovisual commercials: procedure and techniques. Media: Print, electronic, outdoor and new media: characteristics, cost and effectiveness. Media planning strategy and methods. Case study of print ads and commercials

Unit-5

Research: Measuring advertising effectiveness- Pre and post test , Research methods and techniques , Media and Market research. Cross-cultural and Lifestyle research, Trends in Advertising research in India. Professional Bodies: Advertising Agencies Association, Advertising Standards Council, Professional Ethics, issues and problems; Global marketing and advertising in future

References

1. Fundamentals of Advertising', Otto Kleppner, Prentice Hall, New Jersey, 1980.
2. Ogilvy on advertising'. David Ogilvy..
3. The Practice of Advertising' 3rd Fdn. Norman Hart, Heinemann Pub.London.1990.
4. Global Marketing and advertising: Understanding Cultural paradoxes' Marieke de Mooij, Sage, New Delhi, 1998.
5. Advertising worldwide' (2nd Edn). Marieke de Mooij, Prentice Hall, UK. 1994.
6. Promotional Culture: Advertising, Ideology, Symbolic Expression' , Andrew Wernick, Sage, London, 1994
7. Brand positioning' . Sen Gupta, Tata Mc Graw Hill. New Delhi. 1990
8. Advertising Management concepts and cases' M. Mohan, Tata Mc Graw Hill, 1989.
9. Successful advertising research methods' Haskins & Kendrick, NTC Business Books, 1991
10. Fundamentals of advertising research' Fletcher & Bowers, Grid Pub. 1979.

SEMESTER II
PAPER-2: GRAPHIC DESIGN

Unit-1

Using the painting and editing tools – using the brush tool – choosing colors – using the eyedropper tool – using the smudge tool – adjusting brush dynamics – Creating a collage using the selection tools- paths and clipping masks – understanding layer styles

Unit-2

Creating Advertisements – using the Actions panel – using filters – using adjustment layers - Creating layer masks – Layer blending mode – applying smart filters – defining patterns – adjustments – restoration and retouching - photomerge

Unit-3

Understanding the workspace of Illustrator – Changing the view of the artwork – Logo designing – Using the shape tools – Aligning objects – Using the pathfinder feature- Using the Attributes panel – Applying a gradient fill

Unit-4

Digital Illustration – using the pencil tool – About Symbols – Creating symbols – Using the Mesh tool – Advertisement designing – Using the Transform Again command – using Clipping mask – Poster designing – Creating a Opacity mask – Rasterization

Unit-5

Converting Type to Outlines – Using Appearance attributes – changing the units – using the Live Trace – using the live paint tool – menu card designing - Packaging

References

1. Adobe Photoshop CS5 Classroom in a Book by Adobe Creative Team, Adobe Press , 2010
2. Adobe Illustrator CS5 Classroom in a Book by Adobe Creative Team, Adobe Press , 2010

SEMESTER III
PAPER-3: EDITORIAL DESIGN

Unit-1

Understanding the interface- understanding and using the various panels – the document window – creating a newsletter – creating and applying paragraph styles – text wrapping

Unit-2

Book designing – understand Master page – change page margin and column settings – add guide to the master – specify spacing between columns

Unit-3

Displaying and hiding master page elements – fit an object to its frame – generate the Table of Contents – inserting pages

Unit-4

Digital portfolio – creating a new document – use the pathfinder panel – adding hyperlinks – exporting to PDF

Unit-5

Installing fonts – defining a book – creating individual chapters – creating a book file – setting the order and pagination – working with table of contents – generating the print ready document

References

1. Adobe InDesign CS5 Classroom in a Book by Adobe Creative Team, Adobe Press , 2010
2. InDesign CS5 For Dummies by Galen Gruman, For Dummies; 1 edition, 2010

SEMESTER IV
PAPER-4: TELEVISION COMMERCIAL

Unit-1

Introduction to Integrated Marketing Communications - Traditional advertising and promotion - integrated marketing communicate - Evaluating the Social, Ethical, and Economic Aspects of Advertising and Promotion - basic objectives of advertising - The Role of Ad Agencies - branding and positioning efforts - Perspectives on Consumer Behavior

Unit-2

Message and Channel Factors – Situational Analysis - Target Audience - Media Budget - Media Mix - Creative Objectives and Strategies - Implementation Schedule - Campaign Evaluation Plan - Promotion Campaign Guidelines - Establishing Objectives and Budgeting for the Promotional – Program co-ordination - Creative Strategy: Planning and Development - Brand Equity Restoration and Advertising Evolution - The Internet (social media) and Interactive Media

Unit-3

Competitor analyses - Regulation of Advertising and Promotion - Analyze the case study - Principles of Event Management - Event Planning & Team Management - Event Marketing and Advertising - Event Leadership & Communication - Event Safety and Security

Unit-4

Introduction to Communication Principles - Audio Production - Television Production - Advertising & PR - Media Research Methods - Scripting for Media - Ad Filmmaking and Ad Campaign Strategies - Fundamentals of Documentary & Corporate Presentation - Globalization & Communication - Research Project – (Documentary – Advertising)

Unit-5

TV as Broadcast Technology - TV as an Object of Study - TV as a Domestic Medium - TV as a Global Medium - TV as an Interactive Space - Understanding the equipment in a studio – Understanding a news show - how to maintain studio equipments and wires - shoot a shots - how to do an in camera edit - how to make up a treatment - a script - a shot sheet by location – Understanding the video edit - - light a scene for a video production - Understanding the soundtracks – Understanding stop motion video

References

1. Advertising, Commercial Spaces and the Urban (Consumption and Public Life) by Anne M. Cronin, 2010)
2. Commercial Advertising: Six Lectures at the London School of Economics and Political Science (Univer by Thomas Russell (10 April 2009)

ELECTIVES: GROUP C

1. **Web Design**
2. **E-Content Development**
3. **Web Programming**
4. **SEO**

**SEMESTER I
PAPER-1: WEB DESIGN****Unit-1**

Introduction to web design – about the work area – using the painting and editing tools – using the selection tools – using the hue/saturation command – using the image size command – creating the banner – clipping masks – creating patterns

Unit-2

Layer masking – brush shape dynamics and scattering – adjustment layers – understanding paths – setting layer blending mode – creating effects – creating animations – optimizing images for the web

Unit-3

HTML – adding a document title – basic text formatting – hyper links – inserting images – inserting tables – adding content to the cells – inserting objects – merging cells for table header

Unit-4

Introduction to CSS – Page formatting – text formatting properties – Difference between DIV and tables – creating layout using div and css – Site management – local and remote websites – Asset management

Unit-5

Creating the home page layout using DIV – linking pages – Creating the rollover behaviors – pop up message behavior – navigation bar – Dreamweaver templates - JQuery

References

1. Adobe Photoshop CS5 Classroom in a Book by Adobe Creative Team, Adobe Press , 2010
2. Adobe Flash CS5 Classroom in a Book by Adobe Creative Team, Adobe Press, 2010
3. Adobe Dreamweaver CS5 Classroom in a Book by Adobe Creative Team, Adobe Press, 2010
4. The Principles of Beautiful Web Design by Jason Beard, SitePoint; 1 edition, 2007)
5. Web Design For Dummies, 2nd Edition by Lisa Lopuck, For Dummies, 2006)

SEMESTER II
PAPER-2: E-LEARNING CONTENT DEVELOPMENT

Unit I

Designing the interface – adding layer styles – about action scripts and events – mouse and keyboard events – using the actions panel – tracking playback and downloading progression – preloader – using the enterFrame event – using the timer event –using the fsCommand

Unit II

Duplicating symbols – changing color dynamically – Use of time in Flash – creating arrays – determining the current date and time – using the conditional operator

Unit III

loading MP3s dynamically – loading external sound – using the sound class – using the soundChannel class – using the soundtransform class – reacting to dynamically loaded sound

Unit IV

Targeting parent movie – dynamically changing the cursor – creating movie slider – changing an instance's type – using the startDrag function – parameters of startDrag function – using the stopDrag function – using dynamic text – changing text dynamically – collision detection using hitTest – using the gotoAndPlay action

Unit V

XML- using xml with flash – Learning XML basics – XML document – using XML document – formatting XML – Parsing XML – Loading XML – Components – The components panel – connecting to external XML files – data integration – working with schemas in the schema tab – using the user interface components

References

1. William K. Horton, e-Learning by Design, Pfeiffer, 2006
2. Michael W. Allen and Michael Allen, Michael Allen's Guide to E-Learning, Wiley, 2002
3. Adobe Creative Team, Adobe Flash professional CS5 Classroom In A Book, Adobe Press, 2010

SEMESTER III
PAPER-3: WEB PROGRAMMING

Unit I

Server side scripting – Types of languages – Open source technology – Cross-platform compatibility – Introduction to web server: basics of Apache – Installing Apache- Basics of WAMP – Basics of XAMP

Unit II

Introduction to PHP – ASP style tags – Syntax – PHP and OOPS relationships – Data types: Scalar, Collection, Special, Constant and variables – Strings : String manipulation, Joining and splitting – Regular expressions – performing operations

Unit III

Conditional statements – Arrays: Single dimensional, Multi dimensional, List of Array functions using PHP- Functions: calling function, defining a function, returning values from user defined functions

Unit IV

Dynamic content using PHP- object oriented programming with PHP – PHP form – PHP with HTML – Working with controls – File management – Cookies – Sessions- Working with XML –PHP server variables

Unit V

Error handling using PHP – Upload file – Sending mail – Captcha Generations – Introduction to MYSQL – Creating and exporting database – PHP with MYSQL functions – Security – W3C Standards- browser compatibility – trouble shooting

References

1. Learning PHP, MySQL, JavaScript, and CSS: A Step-by-Step Guide to Creating Dynamic Websites by Robin Nixon, O'Reilly Media; Second Edition edition, 2012
2. PHP and MySQL Web Development by Luke Welling & Laura Thomson, Addison-Wesley Professional; 4 edition, 2008

SEMESTER IV
PAPER-4 : SEARCH ENGINE OPTIMIZATION

Unit I

How Search Engines work – Identifying search engine users – figuring out why people use search engines – discovering the necessary elements for getting high keyword ranking – getting to know the major engines

Unit II

Avoiding spam – using verticals to rank – knowing what drives the search results – keyword research techniques and tools - Selecting keywords – Assigning keywords to pages- adding and maintaining keywords

Unit III

Identifying the competitors – Basics of SEO web design – making the page search engine compatible – adding keyword specific content – optimizing the content

Unit IV

Employing linking strategies – obtaining links - structuring internal links – Connecting with social networks – domain names

Unit V

Using redirects for SEO – employing site analytics - Google Analytics- Create Account- Copy and Paste Google Tracking Code - View Reports- Date and Country Specifics

References

1. Search Engine Optimization For Dummies by Peter Kent, For Dummies; 5 edition, 2012
2. Search Engine Optimization: Your visual blueprint for effective Internet marketing by Kristopher.B.Jones, Visual; 3 edition, 2013

ELECTIVES: GROUP D

1. **Game Interface Design**
2. **Game Design**
3. **Game Creation**
4. **Game Engine**

**SEMESTER I
PAPER-1: GAME DESIGN****Unit I**

Fundamentals of game design – Definition of Game – Game taxonomy – Old games – Play – Why Play – Play types – Party – Co-op – single – versus – Traditional games – Game structure – Play and player actions – Challenge and goals – Conflict – Interactivity – Fun factor – Digital games – Deconstructing games – Learning curve

Unit II

Fundamentals of board game design – Idea generation – mind tools – brainstorming- idea tree – mind map – scamper- metaphors- visual metaphors- representation- board game study – deconstruction – dynamics – progression – mechanics – substitution- combination – innovation – materials – digital artefacts

Unit III

Fundamentals of exhibition design – skill sets – element of chance – element of skill – element of strategy – space planning – instruction design – visual design – theme design – ideation – prototyping – play testing – decoration – finalization - presentation

Unit IV

Fundamentals of Game story and book design – game story – Linear stories – non linear stories - interactive stories – story structure – story branching – best stories for games – Mono myth – Character Archetypes – branching – flow boarding – emergent stories

Unit V

Introduction to Digital games – types - genres – platforms – pipeline – development cycle – roles and responsibilities – industry – common players in industry – styles of development – Introducing InDesign – interface – layout and text styles – inserting images and text wrapping – master page setup – setting columns and margins – adding and removing pages – auto page numbering –link pages - exporting to different formats

References

1. Chris Crawford, Chris Crawford on Game Design, New Riders Publishing, 2003
2. Adobe Creative Team, Adobe InDesign CS6 Classroom in a Book, Adobe Press, First edition, 2012
3. Tracy Fullerton, Christopher Swain and Steven Hoffman, Game Design Workshop: Designing, Prototyping, and Playtesting Games, CMP Books, 2004
4. Tom Meigs, Ultimate Game Design: Building Game Worlds, McGraw-Hill Osborne Media, First edition, 2003

SEMESTER II
PAPER-2: GAME INTERFACE DESIGN

Unit I

Fundamentals of Computers Interface – Human Computer Interface – Types of Interface: Keyboard, mouse, and touch screen – Focus on user and task to be performed - usability measurement – Iterative design; Wireframe, design, test, analyse, repeat – Principles – Structure – Simplicity – Visibility – Feedback – Tolerance – Reuse – Visual metaphors and theme consistency

Unit II

Understanding Interface requirements – Studying PC hardware – Understanding Game requirements – Derive functionality of the UI – Structuring of the information – UI flow chart design – UI for Immersion – feedback planning – Selecting the theme and type – Understanding screens – Menus and HUD functions – layout and paper prototype – Visual elegance; bar vs numbers

Unit III

Visual composition – Selecting the colour scheme - Using Photoshop for layout planning - final design of buttons with rollover – button down – button over - Creating Bar sequence – Type selection and highlight – Converting text to raster images for Games – Understanding alphas – Making buttons translucent – Button Chart – Power of two and real resolution

Unit IV

Prototyping – Using Flash for prototyping – Making the Layout - Using Slices and for Photoshop for layout planning – adding graphics to the layout - Creating flash animation – Adding animation frames – maintain resolution – adding sounds and transition – Flash key frames – Integrating flash animations into the prototype – Adding audio for feedback – Audio for ambience – Audio for examination and query – publishing the prototype

Unit V

Designing for UI for non standard interfaces – Study Microsoft Kinect - Wave gestures – behaviour pattern – Guidelines for UI in Xbox - Design user interface for Microsoft Kinect – Study Nintendo Wii motion controller – object position and object motion tracking study – Design user interface for Nintendo Wii – Designing for AR – Study Project Glass – Design user interface for Project Glass

References

1. Brent Fox, Game Interface Design, Cengage Learning PTR, First edition, 2004
2. Kevin Saunders, Jeannie Novak, Game Development Essentials: Game Interface Design, Cengage Learning, First edition, 2006
3. Jeff Johnson, Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules, Morgan Kaufmann, First edition, 2010
4. Jenifer Tidwell, Designing Interfaces, O'Reilly Media, Second Edition, 2011

SEMESTER III
PAPER-3: GAME ENGINE

Unit I

Fundamentals of game engine – defining a game engine –analysis and exploration of concept – exiting game engines – philosophy and idea behind game engines – advantages of game engines – game engine development and framework – Game engines in industry today

Unit II

Game engine terminology – game graphic and common graphics terminology – learning features of game engines – comparing the game engines – common elements across the engines – rendering speed – fps – Mipmapping – LOD – Ambient light – Game editor – Procedural texture - shaders – Brushes and meshes – static meshes – particle system

Unit III

Introduction to scripting – difference of scripting and programming – scripting languages – Game engines and their scripting languages – Unity and Java script – About unity – Unity advantage – Unity interface – introduction to mono develop – other editors – UniSci – Unity pipeline – Art and script integration pipeline – Unity game execution architecture

Unit IV

Scripting fundamentals – Introduction to JavaScript for unity – Difference between JavaScript for unity and JavaScript for Web – Update function – Awake function – Start function – Console – debugging options – program structure – adding scripts new script – executing the scripts – variables and constants – writing the first program – explaining flow chart – execution procedure – understanding the operations

Unit V

Introduction to data types – understanding scope- control statements – looping statements – where loop is not allowed – why it is not allowed – message passing options – communicating to components – GUI text component – understanding dot syntax – access and change component name – script directives

References

1. Andrew Rollings, Dave Morris, Game Architecture and Design: A New Edition, New Riders Publishing, 2004
2. Adam Watkins, Creating Games with Unity and Maya: How to Develop Fun and Marketable 3D Games, Focal Press, First edition, 2011
3. Volodymyr Gerasimov, Devon Krazzla, Unity 3.x Scripting, Packt Publishing, 2012
4. Sue Blackman, Beginning 3D Game Development with Unity 4: All-in-one, multi-platform game development, Apress, Second edition, 2013

SEMESTER IV
PAPER-4: GAME CREATION

Unit I

Creating 2D games with GUI component – unity GUI component – Handling GUI applications – Handling visual feedback – Handling audio feedback – Handling sessions – Handling BG – Handling levels – Level art specification – Build settings – Timer script and Rollover script – control visibility – finalise and fix score

Unit II

Creating 2D games with 3D components – Understand DxBall – rigid body component – physics setup and preference – axis lock – physics material – Texture and shader sample – create instances – destroy and add score – create particle system – collision test – game end - saving high score

Unit III

Introduction to Unity3D and Game – understand pipeline – Game asset – texture – sound - Unity3D and Maya Integration for prefab – Using built-in components – modelling environment using terrain tool – terrain size and scale – map size and player size – adding trees and details

Unit IV

Creating models in Maya – Mesh and surface direction – polygon concepts and graphic card renders – creating static mesh – texturing and normal mapping – creating shaders in Unity and creating prefab – Giving meshes score value – handling triggers and colliders – placing object in Unity

Unit V

Unity finalisation – build setting correction – config dialog box – Icon editing - Audio editing – creating levels – moving player between levels – adding simple enemy characters – animating player character – splitting cycles for idle, run and walk – saving score and integrating GUI – publish settings

References

1. Adam Watkins, Creating Games with Unity and Maya: How to Develop Fun and Marketable 3D Games, Focal Press, First edition, 2011
2. Volodymyr Gerasimov, Devon Kraczla, Unity 3.x Scripting, Packt Publishing, 2012
3. Sue Blackman, Beginning 3D Game Development with Unity 4: All-in-one, multi-platform game development, Apress, Second edition, 2013
4. Michelle Menard, Game Development with Unity, Cengage Learning PTR, First edition, 2011